FPL

December 29, 2008

Trina Vielhauer
Department of Environmental Protection
Bureau of Air Regulation
111 South Magnolia St.
Tallahassee, FL 32399

Attention: Al Linero

Re: FPL Cape Canaveral Energy Center Project
Air Construction Permit Application

Dear Ms. Vielhauer:

Please find enclosed the Air Construction Permit Application prepared by Golder Associates for Florida Power & Light Company's (FPL) Cape Canaveral Energy Center Project (CCEC or Project) in Brevard County. FPL Check No. 1282729, made payable to the Department of Environmental Protection in the amount of $7,500.00 is also enclosed with this submittal.

The enclosed Application is being filed for the purpose of establishing federally enforceable emission limitations that ensure the Project will not result in a significant net increase in emissions of any regulated air pollutant, in accordance with the Department's federally approved minor source air construction permit program under Florida's federally required State Implementation Plan. FPL is separately filing an application for site certification of the Project pursuant to the Florida Electrical Power Plant Siting Act.

If you have any comments or questions regarding the attached, please feel free to contact me at (561) 691-7518. You may also contact Mr. Scott Osbourn of Golder Associates at (813) 287-1717 for technical questions.

Sincerely,

Barbara P. Linkiewicz

Barbara P. Linkiewicz
Director of Environmental Licensing

cc: Al Linero, FDEP BAR
Scott Osbourn, Golder Associates
Peter Cunningham, Hopping Green & Sams
Michael Halpin, FDEP Siting Office

RECEIVED

DEC 30 2008

BUREAU OF AIR REGULATION

AIR CONSTRUCTION PERMIT APPLICATION FOR THE FPL CAPE CANAVERAL ENERGY CENTER BREVARD COUNTY, FLORIDA

Prepared For:

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

Prepared By:

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

December 2008

0838-7633

APPLICATION FOR
AIR CONSTRUCTION PERMIT

Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

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DEC 30 2008

BUREAU OF AIR REGULATION

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit:

- For any required purpose at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air operation permit;
- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment new source review, or maximum achievable control technology (MACT);
- To assume a restriction on the potential emissions of one or more pollutants to escape a requirement such as PSD review, nonattainment new source review, MACT, or Title V; or
- To establish, revise, or renew a plantwide applicability limit (PAL).

Air Operation Permit – Use this form to apply for:

- An initial federally enforceable state air operation permit (FESOP); or
- An initial, revised, or renewal Title V air operation permit.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: **Florida Power & Light Company**	
2. Site Name: **Cape Canaveral Energy Center (CCEC)**	
3. Facility Identification Number: **0090006**	
4. Facility Location... Street Address or Other Locator: **6000 North US HWY 1** City: **Cocoa** County: **Brevard** Zip Code: **32927**	
5. Relocatable Facility? ☐ Yes ☒ No	6. Existing Title V Permitted Facility? ☒ Yes ☐ No

Application Contact

1. Application Contact Name: **Barbara Linkiewicz, Director of Environmental Licensing**
2. Application Contact Mailing Address... Organization/Firm: **Florida Power & Light Company** Street Address: **700 Universe Blvd.** City: **Juno Beach** State: **Florida** Zip Code: **33408**
3. Application Contact Telephone Numbers... Telephone: **(561) 691-7518** ext. Fax: **(561) 691-7070**
4. Application Contact E-mail Address: **Barbara.P.Linkiewicz@FPL.com**

Application Processing Information (DEP Use)

1. Date of Receipt of Application: 12\30\08	3. PSD Number (if applicable):
2. Project Number(s): 0090006-006-AC	4. Siting Number (if applicable):

APPLICATION INFORMATION

Purpose of Application

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

Air Construction Permit

☒ Air construction permit.

☐ Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL).

☐ Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL), and separate air construction permit to authorize construction or modification of one or more emissions units covered by the PAL.

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

Application for an air construction permit to convert the existing Cape Canaveral Plant to a 3-on-1 combined-cycle facility. The attached Air Report provides detailed information regarding the proposed project. The combustion turbines (CTs) being considered for this application include the Mitsubishi Power Systems (MPS) "G" Class CTs and the Siemens Power Generation, Inc. "H" Class CTs. The MPS "G" Class CTs consist of the 501G1, 501G1PLUS, and 501G3.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Processing Fee
1A - 1C	Three MPS 501G Class CTs/HRSGs	AC1A	
	- OR -		
1A - 1C	Three Siemens H CTs/HRSGs	AC1A	
	- AND -		
2	Auxiliary Boiler	AC1A	
3	Fuel Gas Heater	AC1A	
4	Emergency Diesel Generators	AC1A	
5	Compressor Station	AC1A	
6	Fire Pump Engine	AC1A	
7	Temporary Construction Boiler	AC1A	

Application Processing Fee

Check one: ☒ Attached - Amount: $ 7,500 ☐ Not Applicable

APPLICATION INFORMATION

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 E-mail Address: **Randall.R.LaBauve@FPL.com**
5.	Owner/Authorized Representative Statement: *I, the undersigned, am the owner or authorized representative of the corporation, partnership, or other legal entity submitting this air permit application. To the best of my knowledge, the statements made in this application are true, accurate and complete, and any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department.* Signature: [signature] Date: 12/29/08

APPLICATION INFORMATION

Application Responsible Official Certification

Complete if applying for an initial, revised, or renewal Title V air operation permit or concurrent processing of an air construction permit and revised or renewal Title V air operation 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, CAIR source, or Hg Budget 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 E-mail 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: **Scott Osbourn**
   Registration Number: **57557**
2. Professional Engineer Mailing Address...
   Organization/Firm: **Golder Associates Inc.****
   Street Address: **5100 West Lemon Street, Suite 114**
   City: **Tampa** State: **FL** Zip Code: **33609**
3. Professional Engineer Telephone Numbers...
   Telephone: **(813) 287-1717** ext. Fax: **(813) 287-1716**
4. Professional Engineer E-mail Address: **sosbourn@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.

Signature 12/16/08
Date

(seal)

SCOTT OSBOURN
LICENSE
NO. 57557
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

*** 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) **523.1** North (km) **3149**		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) **28/28/10** Longitude (DD/MM/SS) **80/45/51**	
3. Governmental Facility Code: **O**	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **49**	6. Facility SIC(s): **4911**
7. Facility Comment :			

Facility Contact

1. Facility Contact Name: **Brad Williams, Plant General Manager**
2. Facility Contact Mailing Address... Organization/Firm: **Florida Power & Light Company** Street Address: **6000 North US HWY 1** City: **Cocoa** State: **FL** Zip Code: **32927**
3. Facility Contact Telephone Numbers: Telephone: **(321) 637-2251** ext. Fax: **(321) 637-2232**
4. Facility Contact E-mail 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 E-mail 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:	

The proposed project is not subject to PSD for any pollutant. CT and HRSG Duct Burners are subject to NSPS Subpart KKKK.

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's 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: See Air 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: See Air 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: See Air Report ☐ Previously Submitted, Date:_________

Additional Requirements for Air Construction Permit Applications

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

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for FESOP Applications

1.	List of Exempt Emissions Units: ☐ 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 Onsite 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

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Facilities Subject to Acid Rain, CAIR, or Hg Budget Program

1. Acid Rain Program Forms:

   Acid Rain Part Application (DEP Form No. 62-210.900(1)(a)):
   ☒ Attached, Document ID:__________ ☐ Previously Submitted, Date:__________
   ☐ Not Applicable (not an Acid Rain source)

   Phase II NO_X Averaging Plan (DEP Form No. 62-210.900(1)(a)1.):
   ☐ Attached, Document ID:__________ ☐ Previously Submitted, Date:__________
   ☒ Not Applicable

   New Unit Exemption (DEP Form No. 62-210.900(1)(a)2.):
   ☐ Attached, Document ID:__________ ☐ Previously Submitted, Date:__________
   ☒ Not Applicable

2. CAIR Part (DEP Form No. 62-210.900(1)(b)):
   ☒ Attached, Document ID:__________ ☐ Previously Submitted, Date:__________
   ☐ Not Applicable (not a CAIR source)

3. Hg Budget Part (DEP Form No. 62-210.900(1)(c)):
   ☒ Attached, Document ID:__________ ☐ Previously Submitted, Date:__________
   ☐ Not Applicable (not a Hg Budget unit)

Additional Requirements Comment

Although this application is not for a PSD permit, it will require a PSD or Nonattainment Area (NAA) preconstruction review pursuant to Rule 62-212.400 or 62-212.500, F.A.C. Therefore, a fee of $7,500 is submitted with this application.

In addition, although both the CAIR and Hg Budget Part boxes are checked above, these programs are currently under litigation and the ultimate applicability to this project remains uncertain.

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 an initial, revised or renewal 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. 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 an 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 or 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. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes 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:
   Three CT/HRSGs; may be MPS 501G Class or Siemens H Class CTs.

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

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:
C	**2011**	**2013**	**49**

8. Federal Program Applicability: (Check all that apply)

   ☒ Acid Rain Unit

   ☐ CAIR Unit

   ☐ Hg Budget Unit

9. Package Unit:
   Manufacturer: **Mitsubishi Power Systems (MPS) or Siemens** Model Number: **MPS Frame G, Siemens H**

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:
    Combined cycle unit will have a nominal capacity of 1,250 MW consisting of 3 CT/HRSG trains.

Emissions Unit Control Equipment/Method: Control 1 of 2

1. Control Equipment/Method Description: **Natural Gas: Combined Cycle - SCR**	
2. Control Device or Method Code: **139**	

Emissions Unit Control Equipment/Method: Control 2 of 2

1. Control Equipment/Method Description: **Distillate Fuel Oil:** **Water Injection** **Combined Cycle - SCR**	
2. Control Device or Method Code: **25, 28**	

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:	
2. Control Device or Method Code:	

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:	
2. Control Device or Method Code:	

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: **See Tables A-1 501G Class and A-1 SH for maximum heat input when firing natural gas; and Tables A-5 501G Class and A-5 SH for maximum heat input when firing ultra low sulfur light oil.**		

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:	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 Air Report** Feet
8. Exit Temperature: **See Air Report**°F	9. Actual Volumetric Flow Rate: **See Air Report** acfm	10. Water Vapor: %

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

15. Emission Point Comment:
See Tables 2-1A, 2-2A, 2-1B, and 2-2B for the stack parameters associated with each CT when firing natural gas and ultra low sulfur light oil.

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type): **Distillate (No. 2) Fuel Oil [Ultra Low Sulfur (0.0015%) Light Oil]**		
2. Source Classification Code (SCC): **20100101**	3. SCC Units: **1,000 Gallons Used**	
4. Maximum Hourly Rate: **17.8**	5. Maximum Annual Rate: **16,753**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.0015**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **131**
10. Segment Comment: **Million British Thermal Units (Btu) per SCC unit = 130.5 (rounded to 131). Based on 7.1 pounds per gallon (lb/gal); LHV = 18,387 Btu/lb ISO conditions. Max hourly rate based on 35°F, max annual rate based on 59°F and 1,000 hours per year (hr/yr) operation per CT. Based on MPS 501G Units. See Air Permit Application Report for further details on MPS G and Siemens H models.**		

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: **2.7**	5. Maximum Annual Rate: **22,965**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **918**
10. Segment Comment: **Based on 918 Btu/cf (LHV). Max hourly rate based on 35°F. Max annual rate based on 59°F and 8,760 hr/yr operation. Based on MPS 501G Units. See Air Permit Application Report.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

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
SO_2			EL
NO_x	25, 28, 139		EL
CO			EL
VOC			EL

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Particulate Matter Total - PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **See Air Report** lb/hour **See Air Report** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See Air Report** Reference:	7. Emissions Method Code:
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **See Air Report, Appendix B for baseline emissions. Tables 2-1A, 2-2A, and 2-3A for MPS 501G Class and Tables 2-1B, 2-2B, and 2-3B for Siemens H; and Appendix A.**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **See Air Report; Table 4-1**	4. Equivalent Allowable Emissions: **See Air Report** lb/hour **See Air Report** tons/year
5. Method of Compliance: **See Air Report, Table 4-1**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Particulate Matter - PM_{10}**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **See Air Report** lb/hour **See Air Report** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See Air Report** Reference:	7. Emissions Method Code:
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **See Air Report, Appendix B for baseline emissions. Tables 2-1A, 2-2A, and 2-3A for MPS 501G Class and Tables 2-1B, 2-2B, and 2-3B for Siemens H; and Appendix A.**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **See Air Report; Table 4-1**	4. Equivalent Allowable Emissions: **See Air Report** lb/hour **See Air Report** tons/year
5. Method of Compliance: **See Air Report, Table 4-1**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Sulfur Dioxide - SO_2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **See Air Report** lb/hour **See Air Report** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See Air Report** Reference:	7. Emissions Method Code:
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **See Air Report, Appendix B for baseline emissions. Tables 2-1A, 2-2A, and 2-3A for MPS 501G Class and Tables 2-1B, 2-2B, and 2-3B for Siemens H; and Appendix A.**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code: **Other**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **See Air Report; Table 4-1**	4. Equivalent Allowable Emissions: **See Air Report** lb/hour **See Air Report** tons/year
5. Method of Compliance: **See Air Report, Table 4-1**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Nitrogen Oxides - NO_x**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **See Air Report** lb/hour **See Air Report** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See Air Report** Reference:	7. Emissions Method Code:
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **See Air Report, Appendix B for baseline emissions. Tables 2-1A, 2-2A, and 2-3A for MPS 501G Class and Tables 2-1B, 2-2B, and 2-3B for Siemens H; and Appendix A.**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **See Air Report; Table 4-1**	4. Equivalent Allowable Emissions: **See Air Report** lb/hour **See Air Report** tons/year
5. Method of Compliance: **See Air Report, Table 4-1**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

<u>Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions</u>

1. Pollutant Emitted: **Carbon Monoxide - CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **See Air Report** lb/hour **See Air Report** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See Air Report** Reference:	7. Emissions Method Code:
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:
See Air Report, Appendix B for baseline emissions. Tables 2-1A, 2-2A, and 2-3A for MPS 501G Class and Tables 2-1B, 2-2B, and 2-3B for Siemens H; and Appendix A.

11. Potential, Fugitive, and Actual Emissions Comment:

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **See Air Report; Table 4-1**	4. Equivalent Allowable Emissions: **See Air Report** lb/hour **See Air Report** tons/year
5. Method of Compliance: **See Air Report, Table 4-1**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Volatile Organic Compounds - VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **See Air Report** lb/hour **See Air Report** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See Air Report** Reference:	7. Emissions Method Code:
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **See Air Report, Appendix B for baseline emissions. Tables 2-1A, 2-2A, and 2-3A for MPS 501G Class and Tables 2-1B, 2-2B, and 2-3B for Siemens H; and Appendix A.**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **See Air Report; Table 4-1**	4. Equivalent Allowable Emissions: **See Air Report** lb/hour **See Air Report** tons/year
5. Method of Compliance: **See Air Report, Table 4-1**	
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):	

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 Subsection G 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(1).**	

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 emission limit for PM/PM_{10}.**	

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H 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: 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:	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: **See Air 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: **See Air 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: **See Air 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

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1.	Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): ☒ Attached, Document ID: **See Air Report** ☐ Not Applicable
2.	Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): ☒ Attached, Document ID: **See Air Report** ☐ Not Applicable
3.	Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only) ☒ Attached, Document ID: **See Air Report** ☐ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1.	Identification of Applicable Requirements: ☐ Attached, Document ID: ______
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

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 an initial, revised or renewal 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. 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 an 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 or 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. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes 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:
   Auxiliary Boiler

3. Emissions Unit Identification Number: **2**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:
C	**2011**	**2013**	**49**

8. Federal Program Applicability: (Check all that apply)

   ☐ Acid Rain Unit

   ☐ CAIR Unit

   ☐ Hg Budget Unit

9. Package Unit:
   Manufacturer: **Nebraska Boiler or equivalent** Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description: Low NOx burners	
2. Control Device or Method Code: 205	

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:	
2. Control Device or Method Code:	

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:	
2. Control Device or Method Code:	

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:	
2. Control Device or Method Code:	

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: **99.77** 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 **500** 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:	2. Emission Point Type Code:	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code:	6. Stack Height: **60** feet	7. Exit Diameter: **2.75** Feet
8. Exit Temperature: **296**°F	9. Actual Volumetric Flow Rate: **29,325** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: Feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: **See Table 2-4 in Air Permit Application Report.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type): **Natural gas**		
2. Source Classification Code (SCC):	3. SCC Units: **MMscf**	
4. Maximum Hourly Rate: **0.095**	5. Maximum Annual Rate: **47.5**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **1,055**
10. Segment Comment: **Maximum annual rate based on 500 hr/yr operation.**		

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	Fuel Quality		EL
PM_{10}	Fuel Quality		EL
SO_2	Fuel Quality		EL
NO_x	205		EL
CO	Good Combustion		EL
VOC	Good Combustion		EL

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Particulate Matter Total - PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.70** lb/hour **0.17** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.007 lb/MMBtu** Reference: **Emissions based on AP-42**	7. Emissions Method Code: **3**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

0.007 lb/MMBtu x 99.77 MMBtu/hr = 0.698 lb/hr = 0.7 lb/hr
0.7 lb/hr x 500 hr / 2,000 lb = 0.17 TPY

11. Potential, Fugitive, and Actual Emissions Comment:

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **10% Opacity**	4. Equivalent Allowable Emissions: **0.70** lb/hour **0.17** tons/year
5. Method of Compliance: **EPA Method 9**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Particulate Matter - PM_{10}**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.70** lb/hour **0.17** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.007 lb/MMBtu** Reference: **Emissions based on AP-42**	7. Emissions Method Code: **3**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

0.007 lb/MMBtu x 99.77 MMBtu/hr = 0.698 lb/hr = 0.7 lb/hr
0.7 lb/hr x 500 hr / 2,000 lb = 0.17 TPY

11. Potential, Fugitive, and Actual Emissions Comment:

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **10% Opacity**	4. Equivalent Allowable Emissions: **0.70** lb/hour **0.17** tons/year
5. Method of Compliance: **EPA Method 9**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Sulfur Dioxide - SO_2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.54** lb/hour **0.14** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **2 grains S/100 scf gas** Reference: **Emissions based on AP-42**	7. Emissions Method Code: **3**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions:	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **2 grains S/100 scf gas**	4. Equivalent Allowable Emissions: **0.54** lb/hour **0.14** tons/year
5. Method of Compliance: **Fuel Sampling and Analysis**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Nitrogen Oxides - NO_x**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **4.99** lb/hour **1.25** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.050 lb/MMBtu** Reference: **Emissions based on AP-42**	7. Emissions Method Code: **3**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:
0.050 lb/MMBtu x 99.77 MMBtu/hr = 4.988 lb/hr = 4.99 lb/hr
4.99 lb/hr x 500 hr / 2,000 lb = 1.25 TPY

11. Potential, Fugitive, and Actual Emissions Comment:

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.050 lb/MMBtu**	4. Equivalent Allowable Emissions: **4.99** lb/hour **1.25** tons/year
5. Method of Compliance: **EPA Method 7e**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Carbon Monoxide - CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **7.98** lb/hour **2.0** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.080 lb/MMBtu** Reference: **Emissions based on AP-42**	7. Emissions Method Code: **3**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **0.08 lb/MMBtu x 99.77 MMBtu/hr = 7.98 lb/hr** **7.98 lb/hr x 500 hr / 2,000 lb = 2.0 TPY**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.080 lb/MMBtu**	4. Equivalent Allowable Emissions: **7.98** lb/hour **2.0** tons/year
5. Method of Compliance: **EPA Method 10**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Volatile Organic Compounds - VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.52** lb/hour **0.13** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.005 lb/MMBtu** Reference: **Emissions based on AP-42**	7. Emissions Method Code:
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

0.0052 lb/MMBtu x 99.77 MMBtu/hr = 0.52 lb/hr
0.52 lb/hr x 500 hr / 2,000 lb = 0.13 TPY

11. Potential, Fugitive, and Actual Emissions Comment:

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.005 lb/MMBtu**	4. Equivalent Allowable Emissions: **0.52** lb/hour **0.13** tons/year
5. Method of Compliance: **EPA Method 25A; Initial only**	
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):	

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 Subsection G 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% opacity. Excess emissions provided by Rule 62-210.700(1) F.A.C.**	

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 emission limit for PM/PM_{10}.**	

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H 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: **See Air 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: **See Air 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: **See Air 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: **See Air Report** ☐ Not Applicable

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1.	Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): ☒ Attached, Document ID: See Air Report ☐ Not Applicable
2.	Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): ☒ Attached, Document ID: See Air Report ☐ Not Applicable
3.	Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only) ☒ Attached, Document ID: See Air Report ☐ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1.	Identification of Applicable Requirements: ☐ Attached, Document ID: ________
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

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 an initial, revised or renewal 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. 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 an 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 or 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. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes 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.

EMISSIONS UNIT INFORMATION
Section [3]
Fuel Gas Heater

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:
   Natural Gas Fuel Heater(s)

3. Emissions Unit Identification Number: **3**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:
C	**2011**	**2013**	**49**

8. Federal Program Applicability: (Check all that apply)

   ☐ Acid Rain Unit

   ☐ CAIR Unit

   ☐ Hg Budget Unit

9. Package Unit:
   Manufacturer: **Hanover Compression Company or equivalent** Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:
    See Air Permit application report.

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

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: 10 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:		2. Emission Point Type Code: **1**
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **30** feet	7. Exit Diameter: **1** Feet
8. Exit Temperature: **500**°F	9. Actual Volumetric Flow Rate: **4,950** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: Feet
13. Emission Point UTM Coordinates... Zone: East (km): North (km):		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)
15. Emission Point Comment: **See Table 2-6 in Air Permit Application Report.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type): **Natural gas**		
2. Source Classification Code (SCC):	3. SCC Units: **1,000,000 SCF**	
4. Maximum Hourly Rate: **0.01**	5. Maximum Annual Rate: **83.03**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **1,055**
10. Segment Comment: **Maximum annual rate based on 8,760 hr/yr operation.**		

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
CO			EL
PM/PM_{10}	Fuel Quality		EL
NO_x			EL
SO_2	Fuel Quality		EL
VOC			EL

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

<u>Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions</u>

1. Pollutant Emitted: **Carbon Monoxide - CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.8** lb/hour **3.49** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.08 lb/MMBtu** Reference: **Emissions based on AP-42**	7. Emissions Method Code: **3**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:
0.08 lb/MMBtu x 10 MMBtu/hr = 0.8 lb/hr
0.8 lb/hr x 8,760 hr/yr / (2,000 lb/ton) = 3.49 tons per year

11. Potential, Fugitive, and Actual Emissions Comment:

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **0.08 lb/MMBtu**	4. Equivalent Allowable Emissions: **0.8** lb/hour **3.49** tons/year
5. Method of Compliance: **Manufacturer Certification**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Nitrogen Oxides - NO_x**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.95** lb/hour **4.2** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.095 lb/MMBtu** Reference: **Emissions based on AP-42**	7. Emissions Method Code: **3**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **0.095 lb/MMBtu x 10 MMBtu/hr = 0.95 lb/hr** **0.95 lb/hr x 8,760 hr/yr / (2,000 lb/ton) = 4.2 tons per year**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **0.095 lb/MMBtu**	4. Equivalent Allowable Emissions: **0.95** lb/hour **4.2** tons/year
5. Method of Compliance: **Manufacturer Certification**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Sulfur Dioxide - SO_2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.054** lb/hour **0.237** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **2 gr / 100 SCF** Reference:	7. Emissions Method Code: **2**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions:	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **2 gr / 100 SCF**	4. Equivalent Allowable Emissions: **0.054** lb/hour **0.237** tons/year
5. Method of Compliance: **Fuel vendor information**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Particulate Matter - PM/PM_{10}**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.02** lb/hour **0.079** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.002 lb/MMBtu** Reference: **Emissions based on AP-42**	7. Emissions Method Code: **2**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **0.002 lb/MMBtu x 10 MMBtu/hr = 0.02 lb/hr** **0.02 lb/hr x 8,760 hr/yr / (2,000 lb/ton) = 0.079 tons per year**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **10% opacity**	4. Equivalent Allowable Emissions: **0.02** lb/hour **0.079** tons/year
5. Method of Compliance: **EPA Method 9**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Volatile Organic Compounds - VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.05** lb/hour **0.228** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.005 lb/MMBtu** Reference: **Emissions based on AP-42**	7. Emissions Method Code: **3**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **0.005 lb/MMBtu x 10 MMBtu/hr = 0.05 lb/hr** **0.05 lb/hr x 8,760 hr/yr / (2,000 lb/ton) = 0.228 tons per year**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **0.005 lb/MMBtu**	4. Equivalent Allowable Emissions: **0.05** lb/hour **0.228** tons/year
5. Method of Compliance: **Natural gas**	
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):	

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

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: **VE10**	2. Basis for Allowable Opacity: ☐ Rule ☒ Other
3. Allowable Opacity: Normal Conditions: **10** % Exceptional Conditions: **100** % Maximum Period of Excess Opacity Allowed: **60** min/hour	
4. Method of Compliance: **EPA Method 9**	
5. Visible Emissions Comment: **Excess emissions provided by Rule 62-210.700.**	

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 Subsection H 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: **See Air 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: **See Air 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: **See Air 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: **See Air Report** ☐ Not Applicable

EMISSIONS UNIT INFORMATION
Section [3]
Fuel Gas Heater

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1.	Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): ☒ Attached, Document ID: **See Air Report** ☐ Not Applicable
2.	Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): ☐ Attached, Document ID: ____ ☒ 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: ____
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

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 an initial, revised or renewal 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. 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 an 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 or 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. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes 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.

EMISSIONS UNIT INFORMATION
Section [4]
Emergency Diesel Generator

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:

Emergency generators (2) to supply power in the event power is not available.

3. Emissions Unit Identification Number: **4**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:
C	**2011**	**2013**	**49**

8. Federal Program Applicability: (Check all that apply)

☐ Acid Rain Unit

☐ CAIR Unit

☐ Hg Budget Unit

9. Package Unit:
Manufacturer: **Caterpillar** Model Number: **3516BTA**

10. Generator Nameplate Rating: **2.25** MW

11. Emissions Unit Comment:
Two 2,250-kW emergency generators (or equivalent). Information based on Caterpillar, 2,250 kW Diesel Generator Set.

Emissions Unit Control Equipment/Method: Control 1 of 1

1. Control Equipment/Method Description: **Good combustion practices - No. 2 fuel oil-fired.**	
2. Control Device or Method Code: **N/A**	

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:	
2. Control Device or Method Code:	

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:	
2. Control Device or Method Code:	

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:	
2. Control Device or Method Code:	

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: **21.01** 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 **160** hours/year
6. Operating Capacity/Schedule Comment: **The emergency generators will normally be operated 1 to 2 hours per month for testing and maintenance. The emergency generators will meet the requirements of 40 CFR Part 60 Subpart IIII.**	

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:	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **30** feet	7. Exit Diameter: **1.0** Feet
8. Exit Temperature: **916**°F	9. Actual Volumetric Flow Rate: **17,463** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: Feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: **See Table 2-5 in Air Permit Application Report.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type): **Diesel fuel combustion**		
2. Source Classification Code (SCC):	3. SCC Units: **1,000 gallons**	
4. Maximum Hourly Rate: **0.156**	5. Maximum Annual Rate: **24.9**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.0015**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **135.1**
10. Segment Comment: **Maximum annual rate based on 160 hr/yr operation.**		

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:		

EMISSIONS UNIT INFORMATION
Section [4]
Emergency Diesel Generator

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
CO			EL
PM/PM_{10}			EL
NO_x			EL
SO_2	Fuel Quality		EL
VOC			EL

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Carbon Monoxide - CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **60.0** lb/hour **4.8** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **8.5 grams per horsepower-hour (g/hp-hr)** Reference:	7. Emissions Method Code: **2**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Emissions are for one generator.**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **8.5 g/hp-hr**	4. Equivalent Allowable Emissions: **60.0** lb/hour **4.8** tons/year
5. Method of Compliance: **Manufacturer certification of Subpart IIII standards.**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Nitrogen Oxides - NO_x**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **48.7** lb/hour **3.9** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **6.9 g/hp-hr** Reference:	7. Emissions Method Code: **2**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Annual emissions for one generator.**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 6.9 g/hp-hr	4. Equivalent Allowable Emissions: 48.7 lb/hour 3.9 tons/year
5. Method of Compliance: Manufacturer certification of Subpart IIII standards.	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Sulfur Dioxide - SO_2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.03** lb/hour **0.003** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.0015% S fuel oil** Reference: **FPL, 2008**	7. Emissions Method Code: **2**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Annual emissions are for one generator.**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **0.0015% S fuel oil**	4. Equivalent Allowable Emissions: **0.03** lb/hour **0.003** tons/year
5. Method of Compliance: **Fuel vendor information**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Particulate Matter - PM/PM_{10}**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **2.8** lb/hour **0.23** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.4 g/hp-hr** Reference:	7. Emissions Method Code: **2**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Annual emissions are for one generator.**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **0.4 g/hp-hr**	4. Equivalent Allowable Emissions: **2.8** lb/hour **0.23** tons/year
5. Method of Compliance: **Manufacturer certification of Subpart IIII Standards.**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Volatile Organic Compounds - VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **7.1** lb/hour **0.56** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **1.0 g/hp-hr** Reference:	7. Emissions Method Code: **2**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Annual emissions are for one generator.**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **1.0 g/hp-hr**	4. Equivalent Allowable Emissions: **7.1** lb/hour **0.56** tons/year
5. Method of Compliance: **Manufacturer certification of Subpart IIII Standards.**	
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):	

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

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

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 _____ 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:	

EMISSIONS UNIT INFORMATION
Section [4]
Emergency Diesel Generator

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H 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: **See Air 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: **See Air 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: **See Air 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: **See Air Report** ☐ Not Applicable

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1.	Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): ☒ Attached, Document ID: See Air Report ☐ Not Applicable
2.	Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): ☐ Attached, Document ID: __________ ☒ 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: __________
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

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 an initial, revised or renewal 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. 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 an 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 or 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. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes 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:
   Compressor Engines

3. Emissions Unit Identification Number: **5**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:
C	**2011**	**2013**	**49**

8. Federal Program Applicability: (Check all that apply)

   ☐ Acid Rain Unit

   ☐ CAIR Unit

   ☐ Hg Budget Unit

9. Package Unit:
   Manufacturer: **Caterpillar - 4 Stroke Lean-Burn** Model Number: **G3516 (7-units)**

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:
    Includes 7 units rated at 1,340 hp.

Emissions Unit Control Equipment/Method: Control 1 of 1

1.	Control Equipment/Method Description: **Oxidation Catalyst**
2.	Control Device or Method Code: **039**

Emissions Unit Control Equipment/Method: Control ____ of ____

1.	Control Equipment/Method Description:
2.	Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1.	Control Equipment/Method Description:
2.	Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1.	Control Equipment/Method Description:
2.	Control Device or Method Code:

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: **10.11** 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:		2. Emission Point Type Code: **1**
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **40** feet	7. Exit Diameter: **1.0** Feet
8. Exit Temperature: **854**°F	9. Actual Volumetric Flow Rate: **7,651** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: Feet
13. Emission Point UTM Coordinates... Zone: East (km): North (km):		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)
15. Emission Point Comment: **See Table 2-8 in the Air Permit Application Report.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type): **Natural gas**		
2. Source Classification Code (SCC):	3. SCC Units: **MMscf**	
4. Maximum Hourly Rate: **0.0099**	5. Maximum Annual Rate: **86.83**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: **Maximum hourly and annual are per unit. Annual rate based on 8,760 hr/yr operation.**		

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
CO	039		EL
PM/PM_{10}			EL
NO_x			EL
SO_2			EL
VOC	039		EL

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Carbon Monoxide - CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.28** lb/hour **1.23** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.1 g/hp-h (with Oxidation Catalyst @ 95% control)** Reference: **Manufacturer's Specifications**	7. Emissions Method Code:
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **See Air Report; Table 2-8**	
11. Potential, Fugitive, and Actual Emissions Comment: **Emissions presented per unit.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **0.10 g/hp-h**	4. Equivalent Allowable Emissions: **0.28** lb/hour **1.23** tons/year
5. Method of Compliance: **Manufacturer certification**	
6. Allowable Emissions Comment (Description of Operating Method): **Emissions presented per unit.**	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

<u>Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions</u>

1. Pollutant Emitted: **Nitrogen Oxides - NO_x**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **4.43** lb/hour **19.41** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **1.5 g/hp-hr** Reference: **Manufacturer's Specifications**	7. Emissions Method Code:
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **See Air Report; Table 2-8**	
11. Potential, Fugitive, and Actual Emissions Comment: **Emissions presented per unit.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **1.5 g/hp-hr**	4. Equivalent Allowable Emissions: **4.43** lb/hour **19.41** tons/year
5. Method of Compliance: **Manufacturer certification**	
6. Allowable Emissions Comment (Description of Operating Method): **Emissions presented per unit.**	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Sulfur Dioxide - SO_2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.06** lb/hour **0.25** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **2 grains/100 scf** Reference: **FPL, 2008**	7. Emissions Method Code:
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **See Air Report, Table 2-8**	
11. Potential, Fugitive, and Actual Emissions Comment: **Emissions are presented per unit.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **2 grains/100 scf**	4. Equivalent Allowable Emissions: **0.06** lb/hour **0.25** tons/year
5. Method of Compliance: **Fuel vendor information**	
6. Allowable Emissions Comment (Description of Operating Method): **Emissions are presented per unit.**	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

<u>Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions</u>

1. Pollutant Emitted: **Particulate Matter - PM/PM_{10}**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.101** lb/hour **0.44** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.0099 lb/MMBtu** Reference: **Manufacturers Specificaitons**	7. Emissions Method Code:
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **See Air Report; Table 2-8**	
11. Potential, Fugitive, and Actual Emissions Comment: **Emissions are presented per unit.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **10% Opacity**	4. Equivalent Allowable Emissions: **0.101** lb/hour **0.44**tons/year
5. Method of Compliance: **EPA Method 9**	
6. Allowable Emissions Comment (Description of Operating Method): **Emissions are presented per unit.**	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Volatile Organic Compounds - VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.46** lb/hour **2.01** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.16 g/hp-hr (50% control with oxidation catalyst)** Reference: **Emissions based on EPA AP-42**	7. Emissions Method Code:
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **See Air Report; Table 2-8**	
11. Potential, Fugitive, and Actual Emissions Comment: **Emissions are presented per unit.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **0.16 g/hp-hr**	4. Equivalent Allowable Emissions: **0.46** lb/hour **2.01** tons/year
5. Method of Compliance: **Manufacturer certification**	
6. Allowable Emissions Comment (Description of Operating Method): **Emissions are presented per unit.**	

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 Subsection G 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 for PM/PM_{10} emissions.**	

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H 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: **See Air 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: **See Air 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: **See Air 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: **See Air Report** ☒ Not Applicable

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1.	Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): ☒ Attached, Document ID: **See Air Report** ☐ Not Applicable
2.	Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): ☐ Attached, Document ID: ____________ ☒ 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 – N/A

1.	Identification of Applicable Requirements: ☐ Attached, Document ID: ____________
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

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 an initial, revised or renewal 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. 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 an 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 or 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. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes 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.

EMISSIONS UNIT INFORMATION
Section [6]
Diesel Fire Pump Engine

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:

   Diesel fire pump engine for emergency usage.

3. Emissions Unit Identification Number: **4**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:
C	**2011**	**2013**	**49**

8. Federal Program Applicability: (Check all that apply)

   ☐ Acid Rain Unit

   ☐ CAIR Unit

   ☐ Hg Budget Unit

9. Package Unit:
   Manufacturer: **TBD** Model Number: **TBD**

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:
    One diesel fire pump engine rated at 300 hp. Manufacturer and model number to be determined (TBD).

Emissions Unit Control Equipment/Method: Control 1 of 1

1. Control Equipment/Method Description: **Good combustion practices - No. 2 fuel oil-fired.**
2. Control Device or Method Code: **N/A**

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

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: **2.32** 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 **80** hours/year
6.	Operating Capacity/Schedule Comment: **The diesel fire pump engine will normally be operated 1 to 2 hours per month for testing and maintenance. The fire pump engine will meet the requirements of 40 CFR Part 60 Subpart IIII.**

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:	2. Emission Point Type Code: **1**

3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:

5. Discharge Type Code: **V**	6. Stack Height: **17** feet	7. Exit Diameter: **0.79** Feet
8. Exit Temperature: **744**°F	9. Actual Volumetric Flow Rate: **1,750** acfm	10. Water Vapor: %

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

15. Emission Point Comment: **See Table 2-7 in Air Permit Application Report.**

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type): **Diesel fuel combustion**		
2. Source Classification Code (SCC):	3. SCC Units: **1,000 gallons**	
4. Maximum Hourly Rate: **0.017**	5. Maximum Annual Rate: **1.38**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.0015**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **135.1**
10. Segment Comment: **Maximum annual rate based on 80 hr/yr operation.**		

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
CO			EL
PM/PM_{10}			EL
NO_x			EL
SO_2	Fuel Quality		EL
VOC			EL

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Carbon Monoxide - CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **1.7** lb/hour **0.07** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **2.6 grams per horsepower-hour (g/hp-hr)** Reference:	7. Emissions Method Code: **2**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Emissions are for one engine.**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **2.6 g/hp-hr**	4. Equivalent Allowable Emissions: **1.7** lb/hour **0.07** tons/year
5. Method of Compliance: **Manufacturer certification of Subpart IIII standards.**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Nitrogen Oxides - NO_x**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **4.5** lb/hour **0.18** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **6.8 g/hp-hr** Reference:	7. Emissions Method Code: **2**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Annual emissions for one engine.**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **6.8 g/hp-hr**	4. Equivalent Allowable Emissions: **4.5** lb/hour **0.18** tons/year
5. Method of Compliance: **Manufacturer certification of Subpart IIII standards.**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Sulfur Dioxide - SO_2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.004** lb/hour **0.00014** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.0015% S fuel oil** Reference: **FPL, 2008**	7. Emissions Method Code: **2**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Annual emissions are for one engine.**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **0.0015% S fuel oil**	4. Equivalent Allowable Emissions: **0.0036** lb/hour **0.00014** tons/year
5. Method of Compliance: **Fuel vendor information**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Particulate Matter - PM/PM_{10}**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.26** lb/hour **0.011** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.4 g/hp-hr** Reference:	7. Emissions Method Code: **2**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Annual emissions are for one engine.**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **0.4 g/hp-hr**	4. Equivalent Allowable Emissions: **0.26** lb/hour **0.011** tons/year
5. Method of Compliance: **Manufacturer certification of Subpart IIII Standards.**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Volatile Organic Compounds - VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.66** lb/hour **0.026** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **1.0 g/hp-hr** Reference:	7. Emissions Method Code: **2**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Annual emissions are for one engine.**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **1.0 g/hp-hr**	4. Equivalent Allowable Emissions: **0.66** lb/hour **0.026** tons/year
5. Method of Compliance: **Manufacturer certification of Subpart IIII Standards.**	
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):	

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

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

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 _____ 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 Subsection H 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: **See Air 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: **See Air 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: **See Air 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: **See Air Report** ☐ Not Applicable

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1.	Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): ☒ Attached, Document ID: See Air Report ☐ Not Applicable
2.	Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): ☐ Attached, Document ID: ________ ☒ 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: ________
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

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 an initial, revised or renewal 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. 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 an 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 or 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. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes 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.

EMISSIONS UNIT INFORMATION
Section [7]
Temporary Construction Boiler

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:

Temporary Construction Boiler (to be used during construction period only).

3. Emissions Unit Identification Number: **2**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:
C		**October 1, 2008 through December 31, 2008**	**49**

8. Federal Program Applicability: (Check all that apply)

   ☐ Acid Rain Unit

   ☐ CAIR Unit

   ☐ Hg Budget Unit

9. Package Unit:
   Manufacturer: **Nebraska Boiler or equivalent** Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:

Emissions Unit Control Equipment/Method: Control 1 of 1

1. Control Equipment/Method Description: Low NOx burners	
2. Control Device or Method Code: 205	

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:	
2. Control Device or Method Code:	

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:	
2. Control Device or Method Code:	

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:	
2. Control Device or Method Code:	

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: **110** 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 **150** 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:	2. Emission Point Type Code:	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code:	6. Stack Height: 19 feet	7. Exit Diameter: Feet
8. Exit Temperature: °F	9. Actual Volumetric Flow Rate: acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: Feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: **This temporary emission unit will only be used during the project construction period. Once the CCEC commences commercial operation, this unit will no longer be operated.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type): **Natural gas**		
2. Source Classification Code (SCC):	3. SCC Units: **MMscf**	
4. Maximum Hourly Rate: **0.104**	5. Maximum Annual Rate: **15.64**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **1,055**
10. Segment Comment: **Maximum annual rate based on 150 hr/yr operation.**		

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:		

EMISSIONS UNIT INFORMATION
Section [7]
Temporary Construction Boiler

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	Fuel Quality		NS
PM_{10}	Fuel Quality		NS
SO_2	Fuel Quality		EL
NO_x	205		EL
CO	Good Combustion		NS
VOC	Good Combustion		NS

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Particulate Matter Total - PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.77** lb/hour **0.058** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.007 lb/MMBtu** Reference: **Emissions based on AP-42**	7. Emissions Method Code: **3**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **0.007 lb/MMBtu x 110 MMBtu/hr =0.77 lb/hr** **0.77 lb/hr x 150 hr/yr x 1 ton/2,000 lb = 0.058 TPY**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **10% Opacity**	4. Equivalent Allowable Emissions: **0.77** lb/hour **0.058** tons/year
5. Method of Compliance: **EPA Method 9**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Particulate Matter - PM_{10}**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.77** lb/hour **0.058** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.007 lb/MMBtu** Reference: **Emissions based on AP-42**	7. Emissions Method Code: **3**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **0.007 lb/MMBtu x 110 MMBtu/hr =0.77 lb/hr** **0.77 lb/hr x 150 hr/yr x 1 ton/2,000 lb = 0.058 TPY**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **10% Opacity**	4. Equivalent Allowable Emissions: **0.77** lb/hour **0.058** tons/year
5. Method of Compliance: **EPA Method 9**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Sulfur Dioxide - SO_2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.6** lb/hour **0.045** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **2 grains S/100 scf gas** Reference: **Emissions based on AP-42**	7. Emissions Method Code: **3**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions:	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **2 grains S/100 scf gas**	4. Equivalent Allowable Emissions: **0.6** lb/hour **0.045** tons/year
5. Method of Compliance: **Fuel Sampling and Analysis**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Nitrogen Oxides - NO_x**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **5.5** lb/hour **0.41** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.050 lb/MMBtu** Reference: **Emissions based on AP-42**	7. Emissions Method Code: **3**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **0.050 lb/MMBtu x 110 MMBtu/hr = 5.5 lb/hr** **5.5 lb/hr x 150 hr/yr x 1 ton/2,000 lb = 0.41 TPY**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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: **0.050 lb/MMBtu**	4. Equivalent Allowable Emissions: **5.5** lb/hour **0.41** tons/year
5. Method of Compliance: **EPA Method 7e or Vendor Certification**	
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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Carbon Monoxide - CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **8.8** lb/hour **0.66** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.080 lb/MMBtu** Reference: **Emissions based on AP-42**	7. Emissions Method Code: **3**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **0.080 lb/MMBtu x 110 MMBtu/hr = 8.8 lb/hr** **8.8 lb/hr x 150 hr/yr x 1 ton/2,000 lb = 0.66 TPY**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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:	4. Equivalent Allowable Emissions: **8.8** lb/hour **0.66** 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):	

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, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Volatile Organic Compounds - VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.55** lb/hour **0.041** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.005 lb/MMBtu** Reference: **Emissions based on AP-42**	7. Emissions Method Code:
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **0.005 lb/MMBtu x 110 MMBtu/hr = 0.55 lb/hr** **0.55 lb/hr x 150 hr/yr x 1 ton/2,000 lb = 0.041 TPY**	
11. Potential, Fugitive, and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 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:	4. Equivalent Allowable Emissions: **0.55** lb/hour **0.041** 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):	

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 Subsection G 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% opacity. Excess emissions provided by Rule 62-210.700(1) F.A.C.**	

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 emission limit for PM/PM_{10}.**	

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H 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: **See EU 2** ☐ 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: **See EU 2** ☐ 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: **See EU 2** ☐ 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: **See EU 2** ☐ Not Applicable

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1.	Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): ☒ Attached, Document ID: See EU 2 ☐ Not Applicable
2.	Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): ☒ Attached, Document ID: See EU 2 ☐ Not Applicable
3.	Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only) ☒ Attached, Document ID: See EU 2 ☐ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1.	Identification of Applicable Requirements: ☐ Attached, Document ID: ______
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

Additional Requirements Comment

AIR CONSTRUCTION PERMIT
APPLICATION REPORT

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LIST OF ACRONYMS

°C	degrees Celcius
°F	degrees Fahrenheit
μg/m³	micrograms per cubic meter
AAQS	Ambient Air Quality Standards
AERMOD	American Meteorological Society and U.S. Environmental Protection Agency Regulatory Model
AOR	Annual Operating Report
AQRV	air quality-related value
BACT	Best Available Control Technology
BPIP	Building Profile Impact Program
Btu/lb	British thermal unit per pound
CAA	Clean Air Act
CCEC	Cape Canaveral Energy Center
CEM	continuous emissions monitoring
cf/yr	cubic foot per year
CFR	Code of Federal Regulations
CO	carbon monoxide
CT	combustion turbine
DLN	dry low-NO_x
EPA	U.S. Environmental Protection Agency
F.A.C.	Florida Administrative Code
FDEP	Florida Department of Environmental Protection Agency
FPL	Florida Power & Light
g/bhp-hr	grams per brake horsepower-hour
g/s	grams per second
GEP	Good Engineering Practice
gr/100 scf	grains per 100 standard cubic feet
H	hydrogen
HAP	hazardous air pollutant
Hg	mercury
HHV	high heating value
hp	horsepower
hr/yr	hours per year
HRSG	heat recovery steam generator
HSH	highest, second-highest
KDAB	Daytona Beach International Airport
km	kilometer
L	liter

lb/hr	pound per hour
lb/MMBtu	pound per million British thermal unit
lb/MW-hr	pound per megawatt-hour
LHV	low heating value
m	meter
MACT	Maximum Available Control Technology
MMBtu/hr	million British thermal units per hour
MMcf/hr	million cubic feet per hour
MPS	Mitsubishi Power Systems
MW	megawatt
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_x	nitrogen oxide
NP	National Park
NSPS	New Source Performance Standards
NSR	New Source Review
NWA	National Wildlife Area
NWS	National Weather Service
O_2	oxygen
PM	particulate matter
PM_{10}	particulate matter less than 10 microns
ppb	parts per billion
ppm	parts per million
ppmvd	parts per million by volume dry
PSD	Prevention of Significant Deterioration
psia	pound per square inch absolute
psig	pound per square inch gauge
QA/QC	quality assurance/quality control
SAM	sulfuric acid mist
scf/yr	standard cubic foot per year
SCR	selective catalytic reduction
SCRAM	Support Center for Regulatory Air Models
SER	significant emission rate
SO_2	sulfur dioxide
TPY	tons per year
TSP	total suspended particulate
TTN	Technology Transfer Network
USGS	U.S. Geological Survey
WCEC	West County Energy Center

1.0 INTRODUCTION

Florida Power & Light's (FPL) existing Cape Canaveral Plant consists of two nominal 400 megawatt (MW) fossil-fuel fired steam generating units. The commercial in-service date for Unit 1 was April 1965 and the commercial in-service date for Unit 2 was May 1969. The units are authorized pursuant to Florida Department of Environmental Protection (FDEP) Final Title V Permit No. 009006-003-AV to operate on natural gas, No. 6 fuel oil, and No. 2 fuel oil. Each unit has a heat input of 4,000 million British thermal units per hour (MMBtu/hr) on oil and 4,180 MMBtu/hr on natural gas. The air emissions from each unit are exhausted through a 397-foot stack. The general location of the existing Plant is shown in Figure 1-1.

FPL proposes to convert the existing Cape Canaveral Plant into a modern, highly efficient, lower-emission next-generation clean energy center using the latest combined cycle technology. The converted Plant, referred to as the Cape Canaveral Energy Center (CCEC), will consist of a nominal 1,250-MW "3-on-1" combined cycle unit. CCEC will be located within the existing Site boundaries and use the existing cooling water intake and discharge infrastructure.

There will be significant benefits associated with CCEC. The converted Plant will be more energy efficient and provide cleaner energy to FPL's customers. The converted Plant will have a nominal generating capacity of 1,250 MW at a location where only 800 MW is now generated. CCEC will use at least 33 percent less fuel for an equivalent amount of energy production than the existing Plant. Moreover, CCEC will be capable of producing nearly 54 percent more power based on anticipated summer capacities.

With the converted Plant, there will also be significant net reductions in air emissions due to the retirement of Units 1 and 2. For example, actual emissions of sulfur dioxide (SO_2), particulate matter (PM), and nitrogen oxides (NO_x) emissions will be reduced by more than 90 percent. In addition, there will be significant benefits in ambient air quality as a result of these emission reductions.

Decommissioning and dismantlement of the existing generation units will be required prior to the construction of CCEC. Therefore, there will be no overlap of operation between the existing units and the converted Plant, which is anticipated to have an in-service date of June 2013.

This Air Construction Permit Application consists of the retirement of the existing Units 1 and 2 and conversion of the existing Plant into one nominal 1,250-MW "3-on-1" combined cycle unit. The "3-on-1" unit will consist of three nominal 250-MW advanced combustion turbines (CTs) and three heat recovery steam generators (HRSGs), which will utilize the waste heat from the CTs to produce steam to be utilized in a single steam turbine generator. The CTs being considered for the converted Plant include the Mitsubishi Power Systems (MPS) "G" Class CTs. The MPS "G" Class CTs consist of the 501G (M501G1 as authorized for the West County Energy Center), the updated MPS "G" Class CTs referred to as "G3" (501G3), and the MPS 501G1PLUS and the Siemens Power Generation, Inc. "H" Class CT. The information presented in this application for the MPS 501 "G" Class envelopes the performance and emissions for the three MPS CTs. Duct burners are 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.

Each CT will utilize evaporative cooling for inlet air cooling. Evaporative cooling systems achieve adiabatic cooling using water in the form of water evaporated from a treated paper material. The evaporated water extracts the latent heat of vaporization from the inlet air stream when the water droplet is converted to water vapor. Heat is removed at a rate of 1,075 British thermal units per pound (Btu/lb) of water. The result is a cooler, more dense and moisture-laden air stream. This allows additional power to be produced. The CTs will use natural gas as the primary fuel with ultra low-sulfur distillate "light oil" used as a backup fuel for up to the equivalent of 1,000 hours per year (hr/yr) per CT at baseload conditions. The HRSG duct burners will fire natural gas only. Gas for CCEC will be transported to the Site via pipeline. No onsite storage will be provided for natural gas. Gas compressors will be installed on the Site to raise the gas pressure to the appropriate level for the CTs. The natural gas heat content is typically about 21,000 Btu/lb [lower heating value (LHV)] with a maximum sulfur content of 2 grains per 100 standard cubic feet (gr/100 scf) of gas. The heat content of ultra low-sulfur light oil is typically about 18,400 Btu/lb (LHV) with a maximum sulfur content of 0.0015 percent by weight. Ultra low-sulfur light oil will be delivered to the Site by truck or barge and will be stored in the existing north fuel oil storage tank.

U.S. Environmental Protection Agency (EPA's) Prevention of Significant Deterioration (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. Under these requirements, the existing Cape Canaveral Plant is classified as an existing major facility. A modification to an existing major facility that results in a significant net emissions increase equal to or exceeding the significant emissions rates (SER) listed in the State of Florida regulations under Section 62-212.400, Table 62-212.400-2, F.A.C., is classified as a major modification and will be subject to the PSD preconstruction permitting program for those pollutants that exceed the PSD SERs.

The procedures for determining applicability of the PSD permitting program to CCEC are specified in Rule 62-212.400(2), F.A.C. For each regulated pollutant, PSD is triggered as a result of a modification at an existing facility if the difference between the projected actual emissions and the baseline actual emissions equals or exceeds the SER for that pollutant, as defined at Rule 62-210.200(243), F.A.C.

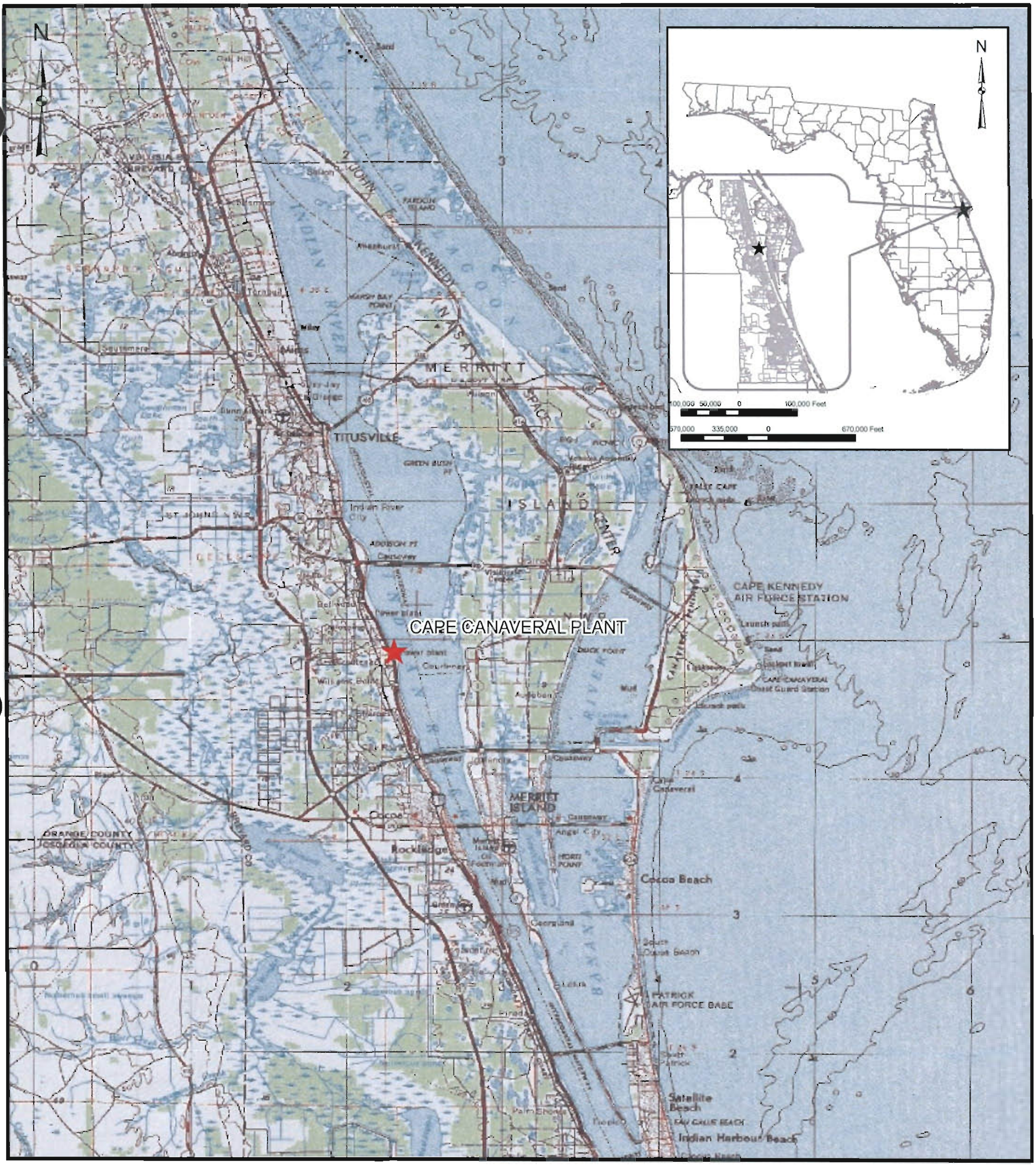
As discussed previously, there will be significant reductions in air emissions for the converted Plant. The net changes in air emissions, as presented in Section 2, will not exceed the PSD significant emission rates for any of the criteria pollutants subject to PSD review. Therefore, pursuant to Florida Rule 62-212.400, PSD review is not applicable for any air pollutants for the Project.

This Air Construction Permit Application Report is divided into six major sections. This Application is being filed for the purpose of establishing federally-enforceable emission limitations that insure the Project will not result in a significant net increase in emissions of any regulated air pollutant, in accordance with FDEP's federally-approved minor source air construction permit program under Florida's federally-required State Implementation Plan:

- Section 2.0 presents a description of CCEC, including air emissions and stack parameters.
- Section 3.0 provides a review of the regulatory analysis conducted, including PSD and nonattainment requirements, applicable to CCEC.
- Section 4.0 includes the control technology review.
- Section 5.0 discusses the ambient air monitoring analysis.
- Section 6.0 presents a summary of the air modeling approach and results used in assessing compliance of the existing and converted Plants with ambient air quality standards (AAQS).

Figure 1-1

Plant Site Location, FPL Cape Canaveral Energy Center, Brevard County, Florida



REFERENCE
1. Imagery, USA Imagery.lyr, ESRI, 2006

FPL

SCALE	AS SHOWN	TITLE	LOCATION OF THE FPL CAPE CANAVERAL PLANT IN BREVARD COUNTY, FLORIDA
DESIGN	RCM		
GIS	NRL		
CHECK	RCM	PROJECT	FPL CAPE CANAVERAL ENERGY CENTER
REVIEW	KFK		FIGURE 1-1

PROJECT No. 083-87633

FILE No. 08387633CA038 REV. 0

2.0 PROJECT DESCRIPTION

2.1 Site Description

The existing FPL Cape Canaveral Plant Site (Site), located on approximately 43 acres between Cocoa and Titusville, in Brevard County, Florida, will serve as the Site for the CCEC. The Site is bounded on the east by the Indian River Lagoon (Intracoastal Waterway), on the west by U.S. Highway 1, on the south by Cottrell Avenue, and on the north by a private medical/office facility. Figure 2-1 presents the Site plan for CCEC.

2.2 Proposed Combustion Turbines

CCEC will be configured as a 3-on-1 combined cycle unit for base load service. The CTs (any of the four models under consideration) will use dry low-NO_x (DLN) combustion technology when firing natural gas and water injection when firing light oil to minimize NO_x formation. Selective catalytic reduction (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 as a backup fuel. Light oil usage will be limited to the equivalent of 1,000 hr/yr per CT at full load.

The generating capacity of a combined cycle plant is affected by ambient temperature, with increased temperature resulting in less efficient electric production. Greater overall fuel consumption will occur at lower ambient temperatures. For the purpose of calculating maximum hourly fuel use quantities representative of a nominal 1,250-MW combined cycle unit, the following specific operating conditions were used for the CTs (see Appendix A):

- 35 degrees Fahrenheit (°F) dry-bulb turbine inlet temperature,
- 14.67 pound per square inch absolute (psia) barometric pressure, and
- 20,909-Btu/lb and 918 Btu/scf heating value (LHV) of natural gas and 18,387-Btu/lb and 129,900 Btu/gallon heating value (LHV) for ultra low-sulfur light oil.

The maximum heat input ranges from 2,421 MMBtu/hr (LHV) to 2,785 MMBtu/hr (LHV) for the CTs being considered for CCEC when firing natural gas (100-percent capacity, 35°F). The corresponding maximum fuel usage ranges from about 2.6 million to 2.7 million cubic feet per hour (MMcf/hr) of natural gas. Maximum potential fuel usage at 59°F turbine inlet temperature would range from about 6.6×10^{10} to 6.9×10^{10} cubic feet per year (cf/yr) of natural gas for three CTs for each of the four different model types under consideration.

The HRSG duct burners associated with each CT/HRSG train will have a maximum firing rate of 475 MMBtu/hr [high heating value (HHV)] or 428 MMBtu/hr (LHV). The HRSG duct burner maximum heat input rate will be the same for each CT being considered for the converted Plant. 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 standard cubic foot per year (scf/yr).

Ultra low-sulfur light oil use will be limited to the equivalent of 1,000 hr/yr per CT at full load. The maximum fuel use is up to 17,500 gallons/hr/CT at 59°F turbine inlet and would require an annual usage of about 52 million gallons for three CTs each operating for 1,000 hours and a turbine inlet temperature of 59°F.

2.3 Proposed Source Emission Units and Stack Parameters

CCEC's air emission units are:

- 3 CT/HRSGs, with duct burners when firing natural gas;
- Fuel heater;
- Emergency generators;
- Auxiliary boiler (for the MPS 501G CTs only);
- Fire pump engine;
- Fuel oil storage tank; and
- Compressor station.

Each of these emission units is discussed in the following paragraphs.

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. Tables 2-1 and 2-2 are presented as versions "A" and "B", which are representative of the MPS 501G and Siemens H Class CT models, respectively. Tables 2-1A and 2-1B also include emissions and exhaust information for duct firing. The data are presented for a turbine inlet temperature of 59°F. The performance and emissions data for the other 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 75-percent load operation applicable for each CT Class).

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, 7,760 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 1,000 hr/yr, it is assumed that the CTs are operated on light oil. Since the ultra low-sulfur content (0.0015 percent) light oil has lower fuel sulfur content than that assumed for natural gas (2 gr/100 scf), the maximum annual SO_2 and sulfuric acid mist (SAM) emissions are based on 8,760 hours of operation firing natural gas. Tables 2-3A and 2-3B present the maximum potential annual emissions for the range of operating conditions for each CT Class being considered for CCEC.

A process flow diagram of the proposed CT/HRSG configuration, operating at base load conditions with a compressor inlet temperature of 59°F, is presented in Figure 2-2.

During combustion, two primary types of NO_x are formed: fuel NO_x and thermal NO_x. Fuel NO_x emissions are formed through the oxidation of a portion of the nitrogen contained in the fuel. Thermal NO_x emissions are generated through the oxidation of a portion of the nitrogen contained in the combustion air. NO_x formation can be limited by lowering combustion temperatures (through water or steam injection) and/or staging combustion (a reducing atmosphere followed by an oxidizing atmosphere, known as dry NO_x control). Emissions of NO_x for the CTs are proposed at concentrations of 2.0 parts per million-dry conditions (ppmvd), corrected to 15-percent oxygen (O_2) or less when firing natural gas and 8 ppmvd corrected to 15-percent O_2 or less when firing ultra low-sulfur light oil.

Carbon monoxide (CO) is formed by incomplete combustion of fuel. High combustion temperatures, adequate excess air, and good fuel/air mixing during combustion will minimize CO formation. CO formation is limited by ensuring complete efficient combustion of the fuel in the turbines. Recent improvements in CT combustor technology allow for both reduced NO_x emissions and low CO emissions.

The proposed CO emission rates for the MPS CTs when firing natural gas are 4.1 ppmvd corrected to 15-percent O_2 at baseload operation and 7.6 ppmvd corrected to 15-percent O_2 with maximum duct firing. For the Siemens H CTs, the proposed CO emission rates when firing natural gas are 5 ppmvd corrected to 15-percent O_2 at baseload operation and 7.2 ppmvd corrected to 15-percent O_2 with maximum duct firing.

The proposed CO emission rates for oil-firing at baseload conditions are 8 ppmvd corrected to 15-percent O_2 for the MPS CTs and 10 ppmvd corrected to 15-percent O_2 for the Siemens H CTs.

SO_2 emission rates are controlled and minimized by the very low sulfur content in the fuels, which will be a maximum of 2 grains sulfur/100 scf for natural gas and 0.0015-percent sulfur by weight for ultra low-sulfur light oil.

An auxiliary boiler will be used with the MPS 501G1 and MPS 501G1PLUS CTs, as necessary, for startup. The combustor requires steam for combustor cooling, which normally comes from the HRSG. The limited-use auxiliary boiler will have a maximum heat input of 99.8 MMBtu/hr firing natural gas. Table 2-4 presents performance and emissions information for the auxiliary boiler.

CCEC will be equipped with two, 100-percent capability, 2,250-kW emergency generators firing ultra low-sulfur light oil. These emergency generators will be used when electric power is not available. This primarily would occur during catastrophic events such as hurricanes. Table 2-5 contains emissions and manufacturer's information for the emergency generators proposed for the converted Plant. Normally these emergency generators would be operated 1 to 2 hours per month for maintenance and reliability testing.

CCEC will include one natural gas-fired fuel heater and a spare. These heaters will utilize a heat transfer fluid for heating the natural gas and be fired with only natural gas. These heaters will have a maximum heat input rate of 10 MMBtu/hr or less and will be used as necessary to heat natural gas above the dew point. Only one fuel heater will be necessary for the operation of CCEC. Table 2-6 contains performance and emissions information for the fuel heaters.

CCEC will be equipped with a 300-horsepower (hp) fire pump engine using ultra low-sulfur light oil. This engine will be used when necessary during catastrophic events such as fires. Table 2-7 presents emissions and manufacturer's information for the fire pump engine proposed for the converted Plant. Normally, this fire pump engine would be operated only 1 to 2 hours per month for maintenance and reliability testing.

CCEC also includes a gas compressor station at the Site to increase pressure from the existing FGT lateral to the CTs. The gas compressor station will include up to 7 gas compressors, which will be fired by natural gas and be equipped with oxidation catalysts to reduce the emissions of CO and VOCs. Table 2-8 presents performance and emissions information for the gas compressors.

Ultra low-sulfur light oil will be either trucked or barged to the Site and stored in the existing north fuel oil tank. This tank is a vertical fixed roof design, with a rated storage capacity of approximately 11.3 million-gallons (268,000 barrels). Appendix A provides performance and emissions information for the fuel oil storage tank.

2.4 Annual Emissions for the Converted Plant Including Emission Reductions from the Existing Plant

The maximum annual potential emissions for CCEC include air emissions from the CT/HRSGs, fuel heater, emergency generators, auxiliary boiler, fire pump engine, fuel oil storage tank and gas compressor station. Tables 2-9A and 2-9B present the maximum annual potential CCEC emissions with the MPS 501G and Siemens H CTs, respectively. These tables address the criteria pollutants, as required under new source review.

In addition, maximum annual potential hazardous air pollutants (HAPs) emissions are presented in Table 2-10 for the MPS 501G and Siemens H CTs. Additional detail on the HAP emission calculations is also presented in Appendix A. CCEC will not be a major source of HAP emissions, since maximum potential emissions are not projected to exceed 10 tons per year (TPY) of a single HAP, nor exceed 25 TPY for all HAPs.

Annual emissions were based on maximum emissions for baseload operation and ambient temperatures of 59°F. The maximum emissions are based on 7,760 hours firing natural gas and 1,000 hours per year firing oil. Natural gas firing includes 2,880 hours with maximum duct firing. The potential emissions are based on the 59°F turbine inlet temperature at 100-percent load condition since it represents a conservative average when the annual average temperatures are slightly higher than 70°F.

Tables 2-9A and 2-9B compare the net emission changes due to the Project, reflecting the maximum CCEC emissions as well as the emission reductions from retirement of the existing Cape Canaveral Plant, to the PSD significant emission rates. The PSD significant emission rates are the emission thresholds to determine if PSD review will be required for modifications to major sources. The historical actual emissions for the existing Cape Canaveral Plant that are presented in these tables were determined pursuant to FDEP PSD Rules, specifically Rule 62-212.400 (2)(a)1., F.A.C. Five years (2003 through 2007) of historical emission data were evaluated to determine historical actual emissions using the highest 2-year average emissions for each pollutant. Historical actual emissions are based on past Annual Operating Reports (AORs), which are presented in a series of tables in Appendix B for each unit for each year. In Tables 2-9A and 2-9B, the net emission changes (i.e., projected maximum potential emissions minus historical actual emissions) are compared to the PSD significant emission rates. If the PSD significant emission rate for a pollutant is not exceeded by this comparison, PSD review is not required for that pollutant. This Application is being filed for the purpose of establishing federally-enforceable emission limitations that insure the Project will not result in a significant net increase in emissions of any regulated air pollutant, in accordance with FDEP's federally-approved minor source air construction permit program under Florida's federally-required State Implementation Plan.

As shown in these tables, there are significant emission reductions for most pollutants. For SO_2, PM, particulate matter less than 10 microns (PM_{10}), and NO_x, annual emissions will be reduced by more than 90 percent with the converted Plant. Although annual VOC emissions will increase slightly, the change will be less than the PSD significant emission rate.

The net emission changes for SO_2, NO_x, and PM_{10} as a result of this Project are also graphically depicted in Figures 2-3 and 2-4. Figure 2-3 provides a graphical comparison of historical actual annual emissions (i.e., TPY) from the existing Cape Canaveral Plant with the projected maximum potential emissions resulting from CCEC. Figure 2-4 compares the maximum potential emission rates for CCEC with historical actual emission rates based on the amount of energy produced [i.e., a comparison on a pound per megawatt hour (lb/MW-hr) basis].

Significant reductions are shown to result from the Project for emissions of SO_2, NO_x, and PM_{10}. This is in spite of the fact that historical actual emissions are based on a capacity factor of just over 50 percent, while projected emissions for CCEC are based on a 100 percent capacity factor. In addition, the converted Plant will have a nominal generating capacity of 1,250 MW at a location where only 800 MW is now generated. The plant will use at least 33 percent less fuel for an equivalent amount of energy production. Moreover, it will be capable of producing nearly 54 percent more power based on anticipated summer capacities.

Based on this evaluation, the net emission changes for the converted Plant are less than the PSD significant emission rates for all pollutants. As such, PSD review is not required for CCEC. Nevertheless, as discussed in Section 4.0, the air emission controls are representative of best available control technology (BACT) emission limits that have been determined under PSD regulations for other similar combined cycle units [e.g., PSD-FL-396, July 30, 2008, for West County Energy Center (WCEC) Unit 3].

2.5 Site Layout, Structures, and Stack Sampling Facilities

A plot plan of the proposed CCEC is presented in Figure 2-1 for the 3-on-1 combined cycle configuration. North-south and east-west profiles of the CT/HRSG train are presented in Figures 2-5 and 2-6, respectively. 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.

2.6 Excess Emissions

The startup and shutdown and fuel changes in combined cycle operation will require an excess emission allowance greater than the 2 hours provided under the FDEP rules. During cold startup, 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 CCEC that was authorized for the WCEC Project. The combined cycle units associated with these facilities have similar steam turbines that receive steam during startup (i.e., nominal 500 MW). The proposed condition follows:

> *"<u>Excess Emissions Allowed</u>: 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 1 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 2 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 eight (8) hours in any 24-hour period. Cold startup of the steam turbine system shall be completed within 12 hours. A cold "startup of the steam turbine system" is defined as startup of the 3-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 4 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 steam drum falls below 450 pound per square inch gauge (psig) for at least a 1-hour period.*

d. *For fuel switching excess emissions shall not exceed 2 hours 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.]"

2.7 Siemens H CT Commissioning

The regulatory requirement for initial compliance determinations for NSPS units is as follows:

Initial compliance tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup of the unit.

The proposed model turbine would be the first Siemens H turbine designed and manufactured for 60Hz operation. During commissioning of the Siemens H CTs for the Project, the first CT in the 3-on-1 configuration will undergo comprehensive commissioning and validation tests using a separate exhaust stack. This commissioning will require an extension of the requirements for initial testing of the first gas turbine to allow for an initial test period of up to three months. This first gas turbine will then be shut down for a month, undergo an inspection outage, and then may receive some new combustion components to be prepared for combined cycle operation. The entire 3-on-1 block will then go into normal startup activities that will be on the order of up to 180 days. Therefore, the maximum testing period required is three months, which would be in addition to normal start-up activities. Following testing, a short outage would occur for inspection and removal of the temporary stack, installation of the HRSG transition duct, then resumption of normal commissioning tests.

2.8 Construction Boiler

A temporary auxiliary boiler, rated at approximately 110 MMBtu/hr, will be brought onsite for use only during the construction of CCEC. The boiler will provide steam for HRSG cleaning and associated steam blows. The boiler will be fired with natural gas only and is expected to operate for no more than 150 hours per year. The boiler will be permanently shut down and removed once the CCEC commences commercial operation. As this boiler will have no affect on the total project emissions once commercial operation commences, its emissions are not included in any of the project emissions summary tables. However, the boiler is fully described as Emission Unit 7 in the attached air application forms.

TABLE 2-1A
STACK, OPERATING, AND EMISSION DATA FOR THE COMBUSTION TURBINES/HRSGS AND DUCT BURNERS -NATURAL GAS COMBUSTION, MPS 501G CLASS CT

		Operating and Emission Data [a] for Ambient Temperature							
		Combustion Turbine/ HRSG				Combustion Turbine/ HRSG/ Duct Burner			
Parameter		**35 °F**	**59 °F**	**75 °F**	**95 °F**	**35 °F**	**59 °F**	**75 °F**	**95 °F**
CT/HRSG Stack Data (feet)					Compressors				
Height		149	149	149	149	149	149	149	149
Diameter		22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0
100 Percent Load									
Temperature (°F)		196	195	195	195	186	185	185	184
Velocity (ft/sec)		63.1	60.9	59.1	57.3	62.6	60.3	58.6	56.7
Maximum Hourly Emissions per CT									
SO_2	lb/hr	15.6	15.0	14.5	14.0	18.3	17.6	17.1	16.6
PM/PM_{10}	lb/hr	8.1	7.4	7.2	6.9	11.7	11.0	10.8	10.5
NO_x	lb/hr	20.1	19.3	18.7	18.0	23.6	22.8	22.1	21.5
CO	lb/hr	25.1	24.1	24.0	23.0	54.5	52.7	52.0	50.3
VOC (as methane)	lb/hr	4.2	4.1	4.0	3.8	6.6	6.4	6.2	6.0
Sulfuric Acid Mist	lb/hr	3.0	2.9	2.8	2.7	4.0	3.8	3.7	3.6
75 Percent Load									
Temperature (°F)		184	185	186	187	NA	NA	NA	NA
Velocity (ft/sec)		50.4	48.7	47.4	46.0	NA	NA	NA	NA
Maximum Hourly Emissions per CT									
SO_2	lb/hr	12.0	11.5	11.1	10.6	NA	NA	NA	NA
PM/PM_{10}	lb/hr	6.2	6.0	5.9	5.8	NA	NA	NA	NA
NO_x	lb/hr	15.5	14.8	14.3	13.7	NA	NA	NA	NA
CO	lb/hr	48.0	45.5	44.0	42.0	NA	NA	NA	NA
VOC (as methane)	lb/hr	3.2	3.1	3.0	2.9	NA	NA	NA	NA
Sulfuric Acid Mist	lb/hr	2.34	2.23	2.16	2.06	NA	NA	NA	NA

[a] Refer to Appendix A for detailed information on basis of pollutant emission rates and operating data. Duct firing is assumed for 100% operating load. No duct firing is assumed for loads less than 100%.

Sources: MPS, 2008; Golder, 2008.

TABLE 2-1B
STACK, OPERATING, AND EMISSION DATA FOR THE COMBUSTION TURBINES/HRSGS AND DUCT BURNERS -NATURAL GAS COMBUSTION, SIEMENS H CT

		Operating and Emission Data [a] for Ambient Temperature							
		Combustion Turbine/ HRSG				Combustion Turbine/ HRSG/ Duct Burner			
Parameter		**35 °F**	**59 °F**	**75 °F**	**95 °F**	**35 °F**	**59 °F**	**75 °F**	**95 °F**
CT/HRSG Stack Data (feet)									
Height		149	149	149	149	149	149	149	149
Diameter		22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0
100 Percent Load									
Temperature (°F)		196	195	195	195	186	185	185	184
Velocity (ft/sec)		61.3	59.0	57.0	54.9	60.8	58.5	56.5	54.3
Maximum Hourly Emissions per CT									
SO_2	lb/hr	15.1	14.4	13.9	13.3	17.7	17.1	16.5	16.0
PM/PM_{10}	lb/hr	13.3	13.0	12.2	11.7	17.0	16.4	15.8	15.3
NO_x	lb/hr	20.0	19.1	18.4	17.6	23.5	22.6	21.9	21.1
CO	lb/hr	30.0	29.0	28.0	27.0	49.0	48.0	47.0	46.0
VOC (as methane)	lb/hr	5.1	4.8	4.7	4.5	7.4	7.2	7.0	6.8
Sulfuric Acid Mist	lb/hr	2.9	2.8	2.7	2.6	3.8	3.7	3.6	3.5
75 Percent Load									
Temperature (°F)		184	185	186	187	NA	NA	NA	NA
Velocity (ft/sec)		49.3	47.3	45.8	43.9	NA	NA	NA	NA
Maximum Hourly Emissions per CT									
SO_2	lb/hr	12.1	11.4	10.9	10.2	NA	NA	NA	NA
PM/PM_{10}	lb/hr	11.0	11.0	9.9	9.4	NA	NA	NA	NA
NO_x	lb/hr	16.1	15.0	14.4	13.5	NA	NA	NA	NA
CO	lb/hr	49.0	46.0	44.0	41.0	NA	NA	NA	NA
VOC (as methane)	lb/hr	4.1	3.8	3.6	3.4	NA	NA	NA	NA
Sulfuric Acid Mist	lb/hr	2.36	2.21	2.11	1.99	NA	NA	NA	NA

[a] Refer to Appendix A for detailed information on basis of pollutant emission rates and operating data. Duct firing is assumed for 100% operating load. No duct firing is assumed for loads less than 100%.

Source: Siemens, 2008; CT Performance Data; Golder, 2008.

TABLE 2-2A
STACK, OPERATING, AND EMISSION DATA FOR THE COMBUSTION TURBINES/HRSGS - ULTRA LOW-SULFUR LIGHT OIL COMBUSTION, MPS 501G CLASS CT

		Operating and Emission Data [a] for Ambient Temperature Combustion Turbine/ HRSG			
Parameter		**35 °F**	**59 °F**	**75 °F**	**95 °F**
CT/HRSG Stack Data (feet)					
Height		149	149	149	149
Diameter		22	22	22	22
100 Percent Load					
Temperature (°F)		359	357	355	354
Velocity (ft/sec)		79.4	75.6	72.9	69.6
Maximum Hourly Emissions per CT					
SO_2	lb/hr	3.8	3.6	3.4	3.2
PM/PM_{10}	lb/hr	38.8	36.7	35.3	33.4
NO_x	lb/hr	77.1	72.6	69.6	65.9
CO	lb/hr	47.0	44.2	43.0	40.1
VOC (as methane)	lb/hr	20.1	18.9	18.1	17.2
Lead	lb/hr	0.033	0.031	0.029	0.028
Sulfuric Acid Mist	lb/hr	0.74	0.69	0.67	0.63
75 Percent Load					
Temperature (°F)		350	348	346	345
Velocity (ft/sec)		75.9	73.0	70.9	68.2
Maximum Hourly Emissions per CT					
SO_2	lb/hr	3.0	2.8	2.7	2.6
PM/PM_{10}	lb/hr	37.7	36.1	34.9	33.3
NO_x	lb/hr	60.0	57.0	54.9	52.5
CO	lb/hr	228.3	217.0	209.0	200.0
VOC (as methane)	lb/hr	26.1	24.8	23.9	22.8
Lead	lb/hr	0.025	0.024	0.023	0.022
Sulfuric Acid Mist	lb/hr	0.58	0.55	0.53	0.50

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

Sources: MPS, 2008; Golder, 2008.

TABLE 2-2B
STACK, OPERATING, AND EMISSION DATA FOR THE COMBUSTION TURBINES/HRSGS - ULTRA LOW-SULFUR LIGHT OIL COMBUSTION, SIEMENS H CT

		Operating and Emission Data [a] for Ambient Temperature			
		Combustion Turbine/ HRSG			
Parameter		**35 °F**	**59 °F**	**75 °F**	**95 °F**
CT/HRSG Stack Data (feet)					Gas
Height		149	149	149	Compressors
Diameter		22	22	22	22
100 Percent Load					
Temperature (°F)		359	357	355	354
Velocity (ft/sec)		77.8	73.5	70.5	66.6
Maximum Hourly Emissions per CT					
SO_2	lb/hr	3.9	3.7	3.5	3.3
PM/PM_{10}	lb/hr	0.0	0.0	0.0	0.0
NO_x	lb/hr	85.3	80.0	76.2	71.4
CO	lb/hr	65.0	61.0	58.0	54.0
VOC (as methane)	lb/hr	7.4	7.0	6.6	6.2
Lead	lb/hr	0.036	0.034	0.032	0.030
Sulfuric Acid Mist	lb/hr	0.77	0.72	0.69	0.64
75 Percent Load					
Temperature (°F)		350	348	346	345
Velocity (ft/sec)		61.9	59.2	57.2	54.6
Maximum Hourly Emissions per CT					
SO_2	lb/hr	3.2	3.0	2.9	2.7
PM/PM_{10}	lb/hr	30.0	30.0	30.0	30.0
NO_x	lb/hr	69.1	64.8	61.9	58.1
CO	lb/hr	53.0	49.0	47.0	44.0
VOC (as methane)	lb/hr	6.0	5.6	5.4	5.1
Lead	lb/hr	0.029	0.028	0.026	0.025
Sulfuric Acid Mist	lb/hr	0.63	0.59	0.56	0.53

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

Source: Siemens, 2008; CT Performance Data; Golder, 2008.

TABLE 2-3A
SUMMARY OF MAXIMUM POTENTIAL ANNUAL EMISSIONS FOR THE CTS/HRSG, MPS 501G CLASS CT

	Maximum Hourly Emissions (lb/hr)[a] Combined Cycle (CC)			Maximum Emissions (tons/year) Operating Scenario	Operating Hours				
				CC/ NG 100 % Load	8,760	7,760	5,880	4,880	5,280
Fuel:	NG	NG	Oil	CC/ DB /NG100 % Load	0	1,000	2,880	2,880	2,480
Temp & Load:	59 °F, 100%	59 °F, 100% w/DB	59 °F, 100%	CC/ OIL 100 % Load[b]	0	0	0	1,000	1,000
Pollutant				TOTAL	8,760	8,760	8,760	8,760	8,760
One Combustion Turbine									
SO_2	15.0	17.6	3.6		65.6	66.9	69.5	63.7	63.2
PM/PM_{10}	7.4	11.0	36.7		32.5	34.3	37.7	52.4	51.6
NO_x	19.3	22.8	72.6		84.6	86.3	89.6	116.2	115.5
CO	24.1	52.7	44.2		105.6	119.8	146.7	156.7	151.0
VOC (as methane)	4.1	6.4	18.9		17.9	19.0	21.2	28.6	28.1
Sulfuric Acid Mist	2.9	3.8	0.7		12.8	13.2	14.1	13.0	12.8
HAPs	1.16	1.37	2.87		5.1	5.2	5.4	6.2	6.2
Lead	0.00	0.00	0.031		0.0	0.0	0.0	0.015	0.015
Three Combustion Turbines									
SO_2	44.9	52.9	11		197	201	208	191	190
PM/PM_{10}	22.3	33.1	110		97.6	103.0	113.1	157	155
NO_x	57.9	68.3	218		254	259	269	349	347
CO	72.3	158	133		317	359	440	470	453
VOC (as methane)	12.2	19.1	56.8		53.6	57.1	63.5	85.8	84.4
Sulfuric Acid Mist	8.7	11.5	2.1		38.3	39.7	42.2	38.9	38.3
HAPs	3.48	4.11	8.62		15.26	15.57	16.16	18.7	18.6
Lead	0.00	0.00	0.092		0.000	0.000	0.000	0.046	0.046

[a] Based on 59 °F ambient inlet air temperature .

[b] Based on oil-firing up to: 1,000 hours (maximum).

Sources: MPS, 2008; Golder, 2008.

TABLE 2-3B
SUMMARY OF MAXIMUM POTENTIAL ANNUAL EMISSIONS FOR THE CTS/HRSG, SIEMENS H CTS

	Maximum Hourly Emissions (lb/hr) [a]			Maximum Emissions (TPY)					
	Combined Cycle (CC)			Operating Scenario	Operating Hours				
				CC/ NG 100 % Load	8,760	7,760	5,880	4,880	5,280
Fuel:	NG	NG	Oil	(CC/ DB /NG100 % Load	0	1,000	2,880	2,880	2,480
Temp & Load:	59 °F, 100%	59 °F, 100% w/DB	59 °F, 100%	pr CC/ OIL 100 % Load [b]	0	0	0	1,000	1,000
Pollutant				TOTAL	8,760	8,760	8,760	8,760	8,760
One Combustion Turbine									
SO_2	14.4	17.1	3.7		63.3	64.6	67.1	61.7	61.2
PM/PM_{10}	13.0	16.4	0.0		56.9	58.6	61.8	55.3	54.6
NO_x	19.1	22.6	80.0		83.7	85.5	88.8	119.2	118.5
CO	29.0	48.0	61.0		127.0	136.5	154.4	170.4	166.6
VOC (as methane)	4.8	7.2	7.0		21.2	22.4	24.6	25.7	25.2
Sulfuric Acid Mist	2.8	3.7	0.7		12.3	12.8	13.6	12.6	12.4
HAPs	1.12	1.33	2.99		4.9	5.0	5.2	6.1	6.1
Lead	0.00	0.00	0.034		0.0	0.0	0.0	0.017	0.017
Three Combustion Turbines									
SO_2	43.3	51.3	11		190	194	201	185	184
PM/PM_{10}	39.0	49.2	0		170.8	175.9	185.5	166	164
NO_x	57.4	67.9	240		251	257	266	358	356
CO	87.0	144	183		381	410	463	511	500
VOC (as methane)	14.5	21.7	21.0		63.6	67.2	73.9	77.1	75.7
Sulfuric Acid Mist	8.4	11.2	2.2		36.9	38.3	40.9	37.7	37.2
HAPs	3.36	3.98	8.96		14.70	15.01	15.60	18.4	18.3
Lead	0.00	0.00	0.101		0.000	0.000	0.000	0.050	0.050

[a] Based on 59 °F ambient inlet air temperature .

[b] Based on oil-firing up to 1,000 hours (maximum).

Sources: Siemens, 2008; Golder, 2008.

TABLE 2-4
PERFORMANCE, STACK PARAMETERS, AND EMISSIONS FOR THE AUXILIARY BOILER

Parameter	Auxiliary Boiler
Performance	
Heat Input (MMBtu/hr-HHV)[a]	99.77
Fuel	Natural gas
Heat Content (HHV-Btu/scf)	1,055
Fuel Usage (scf/hr-boiler)	94,569
Rating (lb steam/hr-boiler)[a]	85,000
Maximum Hours per Year	500
Maximum Fuel Usage (scf/yr)	47,284,360
Exhaust Flow[a]	
Mass Flow (lb/hr)	88,066
Molecular Weight	27.62
Moisture (%)	18.17
Stack Parameters[a]	
Diameter (ft)	2.75
Height (ft)	60
Temperature (°F)	296
Velocity (ft/sec)	82
Flow (acfm)	29,325
Emissions	
SO_2 -Basis (grains S/100 scf-gas) [b]	2
(lb/hr)	0.54
(tpy)	0.14
NO_x - (lb/MMBtu) [a]	0.050
(lb/hr)	4.99
(tpy)	1.25
CO - (lb/MMBtu) [a]	0.080
(lb/hr)	7.98
(tpy)	2.00
VOC - (lb/mmBtu) [c]	0.005
(lb/hr)	0.52
(tpy)	0.13
PM/PM10 - (lb/mmBtu) [c]	0.007
(lb/hr)	0.70
(tpy)	0.17

[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 2-5
PERFORMANCE AND EMISSION DATA FOR THE EMERGENCY GENERATORS

Parameter			Emergency Generator
Performance			
Number of Units			2
Rating (kW)			2,250
Rating (hp)			3,200
Fuel			Diesel
Fuel Heat content (Btu/lb) (HHV)			19,300
Fuel density (lb/gal)			7.0
Heat input (MMBtu/hr) (HHV)			21.01
Fuel usage (gallons/hr)			155.5
Maximum operation (hours)			160
Maximum fuel usage (gallons/yr)			24,880
Emissions			
SO_2 -	Basis (%S)		0.0015%
	Conversion of S to SO_2		100
	Molecular weight SO_2/ S (64/32)		2
	Emission rate (lb/hr)		0.03
		(tpy)- one unit	0.003
		(tpy)- total units	0.005
NO_x -	Basis (g/hp-hr)		6.9
	Emission rate (lb/hr)		48.7
		(tpy)- one unit	3.89
		(tpy)- total units	7.79
CO -	Basis (g/hp-hr)		8.5
	Emission rate (lb/hr)		60.0
		(tpy)- one unit	4.80
		(tpy)- total units	9.59
VOC -	Basis (g/hp-hr)		1.0
	Emission rate (lb/hr)		7.1
		(tpy)- one unit	0.56
		(tpy)- total units	1.13
PM/PM_{10} -	Basis (g/hp-hr)		0.4
	Emission rate (lb/hr)		2.8
		(tpy)- one unit	0.23
		(tpy)- total units	0.45

Sources: FPL, Golder; 2008.

TABLE 2-6
PERFORMANCE, STACK PARAMETERS, AND EMISSIONS FOR THE NATURAL GAS FUEL HEATER

	Natural Gas Heater
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	1
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
(lb/MMBtu)	0.0054
(tpy) - one unit	0.24
(tpy) - total units	0.24
NO_x - (lb/MMscf)[c]	100
(lb/hr)	0.95
(lb/MMBtu)	0.095
(tpy) - one unit	4.2
(tpy) - total units	4.2
CO - (lb/MMscf)[c]	84
(lb/hr)	0.80
(lb/MMBtu)	0.080
(tpy) - one unit	3.49
(tpy) - total units	3.49
VOC - (lb/MMscf)[c]	5.5
(lb/hr)	0.05
(lb/MMBtu)	0.005
(tpy) - one unit	0.23
(tpy) - total units	0.23
PM/PM10 - (lb/MMscf)[d]	1.9
(lb/hr)	0.02
(lb/MMBtu)	0.002
(tpy) - one unit	0.079
(tpy) - total units	0.079

Note: Project will also have spare heater.

[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 2-7
ESTIMATED PERFORMANCE AND EMISSION DATA FOR THE FIRE PUMP ENGINE

Parameter			Fire Pump Engine
Performance			
Number			1
Rating (hp)			300
Fuel			Diesel
Fuel Heat content (Btu/lb) (HHV)			19,300
Fuel density (lb/gal)			7.0
Heat input (MMBtu/hr)[a] (HHV)			2.32
Fuel usage (gallons/hr)			17.2
Maximum operation (hours)			80
Maximum fuel usage (gallons/yr/unit)			1,376
Maximum fuel usage (gallons/yr)			1,376
Stack Parameters			
Number of Stacks			1
Exhaust Flow (cfm)			1,750
Stack Velocity (ft/sec)			60
Exhaust Temperature (^oF)			744
Stack Height (ft)			17
Stack Diameter (ft)			0.79
Emissions			
SO_2 -	Basis (%S)		0.0015%
	Conversion of S to SO_2		100
	Molecular weight SO_2/ S (64/32)		2
	Emission rate (lb/hr)		0.0036
		(tpy/diesel engine)	0.00014
		(tpy)	0.00014
NO_x -	Basis (g/hp-hr)[b]		6.8
	Emission rate (lb/hr)		4.50
		(tpy/diesel engine)	0.180
		(tpy)	0.180
CO -	Basis (g/hp-hr)[b]		2.6
	Emission rate (lb/hr)		1.7
		(tpy/diesel engine)	0.069
		(tpy)	0.069
VOC -	Basis (g/hp-hr)[b]		1.0
	Emission rate (lb/hr)		0.66
		(tpy/diesel engine)	0.026
		(tpy)	0.026
PM/PM_{10} -	Basis (g/hp-hr)[b]		0.4
	Emission rate (lb/hr)		0.26
		(tpy/diesel engine)	0.011
		(tpy)	0.011

[a] 2000 gpm fire pump; 300 ft head NFPA 20 Certified; Fairbanks Morse Fire Pumps, 200

[b] Emissions based on 40 CFR Part 60 Subpart IIII.

TABLE 2-8
PERFORMANCE AND EMISSION DATA FOR THE GAS COMPRESSORS

Parameter			
Performance			
Engine Make/Model		Caterpillar/ G3516	Total
Number of Units		1	7
Engine Configuration		4 Stroke Lean-Burn	
Design Rating (hp) - provided		1,340	9,380
Fuel		Natural Gas	
Fuel Heat Content (Btu/scf) (HHV)		1,020	
Engine Heat Rate (Btu/hp-hr) - provided		7,545	
Heat input (MMBtu/hr) (HHV)		10.11	70.77
Maximum operation (hours)/engine		8,760	
Maximum Fuel Usage (MMscf/hr)		0.0099	0.0694
Maximum Fuel Usage (MMscf/yr)		86.83	607.8
Stack Parameters			
Height (ft)		40	
Diameter (ft)		1.00	
Temperature (°F)		854	
Flow (acfm)		7,651	
Velocity (ft/sec)		162.4	
Emissions			
SO_2 -	Basis (grains/100 scf)	2	
	Conversion of S to SO_2	100	
	Ratio Molecular weight SO_2/ S (64/32)	2	
	Emission rate (lb/hr)	0.057	0.40
	(tpy)	0.248	1.74
NO_x -	Basis (g/hp-hr) [a]	1.5	
	Emission rate (lb/hr)	4.43	31.02
	(tpy)	19.41	135.9
CO -	Basis (g/hp-hr)- Uncontrolled [a]	1.90	
	- Controlled	0.10	
	Control- oxidation catalyst: efficiency	95%	
	Emission rate (lb/hr)	0.28	1.96
	(tpy)	1.23	8.60
VOC -	Basis (g/hp-hr)- Uncontrolled [a]	0.31	
	- Controlled	0.16	
	Control- oxidation catalyst: efficiency	50%	
	Emission rate (lb/hr)	0.46	3.21
	(tpy)	2.01	14.04
PM/PM_{10} -	Basis (lb/MMBtu) [b]	0.00999	
	Emission rate (lb/hr)	0.101	0.71
	(tpy)	0.44	3.10

Sources: FPL, 2008; Golder; 2008.

[a] Manufacturer's specification

[b] Based on EPA AP-42, Volume I, August 2000. Table 3.2-2; Uncontrolled Emission Factors for 4-Stroke Lean-Burn Engines.

TABLE 2-9A

SUMMARY OF MAXIMUM POTENTIAL ANNUAL EMISSIONS FOR THE CCEC CONVERSION PROJECT, MPS 501G CLASS CTS

Pollutant	3 CTs/HRSGs with Duct Burners [b]	Auxiliary Boiler [c]	2 Emergency Generators	1 Natural Gas Heater	7 Gas Compressors	Fuel Oil Storage Tank	Fire Pump Engine	TOTAL	Maximum 2-Year Average from Existing Units [a] (TPY)	Change (TPY)	PSD Significant Emission Rate (TPY)
	CCEC Conversion Project Maximum Potential Annual Emissions (TPY)								Netting Calculations		
SO_2	208	0.14	0.005	0.24	1.74	NA	0.00014	210	11,140	-10,930	40
PM	157	0.17	0.45	0.08	3.10	NA	0.011	161	918	-757	25
PM_{10}	157	0.17	0.45	0.08	3.10	NA	0.011	161	918	-757	15
NO_x	349	1.25	7.79	4.15	135.9	NA	0.18	498	7,725	-7,228	40
CO	470	2.00	9.59	3.49	8.6	NA	0.069	494	703	-209	100
VOC (as methane)	85.8	0.13	1.13	0.23	14.0	2.40	0.026	103.8	68.4	35.4	40
Sulfuric Acid Mist	42.2	Neg.	Neg.	Neg.	Neg.	NA	Neg.	42.2	495.5	-453	7
Lead	0.046	Neg.	Neg.	Neg.	Neg.	NA	Neg.	0.046	0.11	-0.067	0.6

[a] Based on actual emissions from Annual Operating Reports from 2003-2007.

[b] Based on oil-firing for: 1,000 hours.

[c] An auxiliary boiler is only required to supply steam to the MPS 501G1 CT during startup.

Note: Neg.= negligible; NA= not applicable

Source: Golder, 2008.

TABLE 2-9B
SUMMARY OF MAXIMUM POTENTIAL ANNUAL EMISSIONS FOR THE CCEC CONVERSION PROJECT, SIEMENS H CTS

	CCEC Conversion Project Maximum Potential Annual Emissions (TPY)							Netting Calculations		
Pollutant	3 CTs/HRSGs with Duct Burners [b]	2 Emergency Generators	1 Natural Gas Heater	7 Gas Compressors	Fuel Oil Storage Tank	Fire Pump Engine	TOTAL	Maximum 2-Year Average from Existing Units [a] (TPY)	Change (TPY)	PSD Significant Emission Rate (TPY)
SO_2	201	0.005	0.24	1.74	NA	0.00014	203	11,140	-10,937	40
PM	185	0.45	0.08	3.10	NA	0.011	189	918	-729	25
PM_{10}	185	0.45	0.08	3.10	NA	0.011	189	918	-729	15
NO_x	358	7.8	4.15	135.9	NA	0.18	506	7,725	-7,220	40
CO	511	9.6	3.49	8.6	NA	0.069	533	703	-170.3	100
VOC (as methane)	77.1	1.13	0.23	14.0	2.40	0.026	95.0	68.4	26.6	40
Sulfuric Acid Mist	40.9	Neg.	Neg.	Neg.	NA	Neg.	40.9	495	-455	7
Lead	0.050	Neg.	Neg.	Neg.	NA	Neg.	0.050	0.11	-0.062	0.6

[a] Based on actual emissions from Annual Operating Reports from 2003-2007.

[b] Based on oil-firing for: 1,000 hours.

Note: Neg.= negligible; NA= not applicable

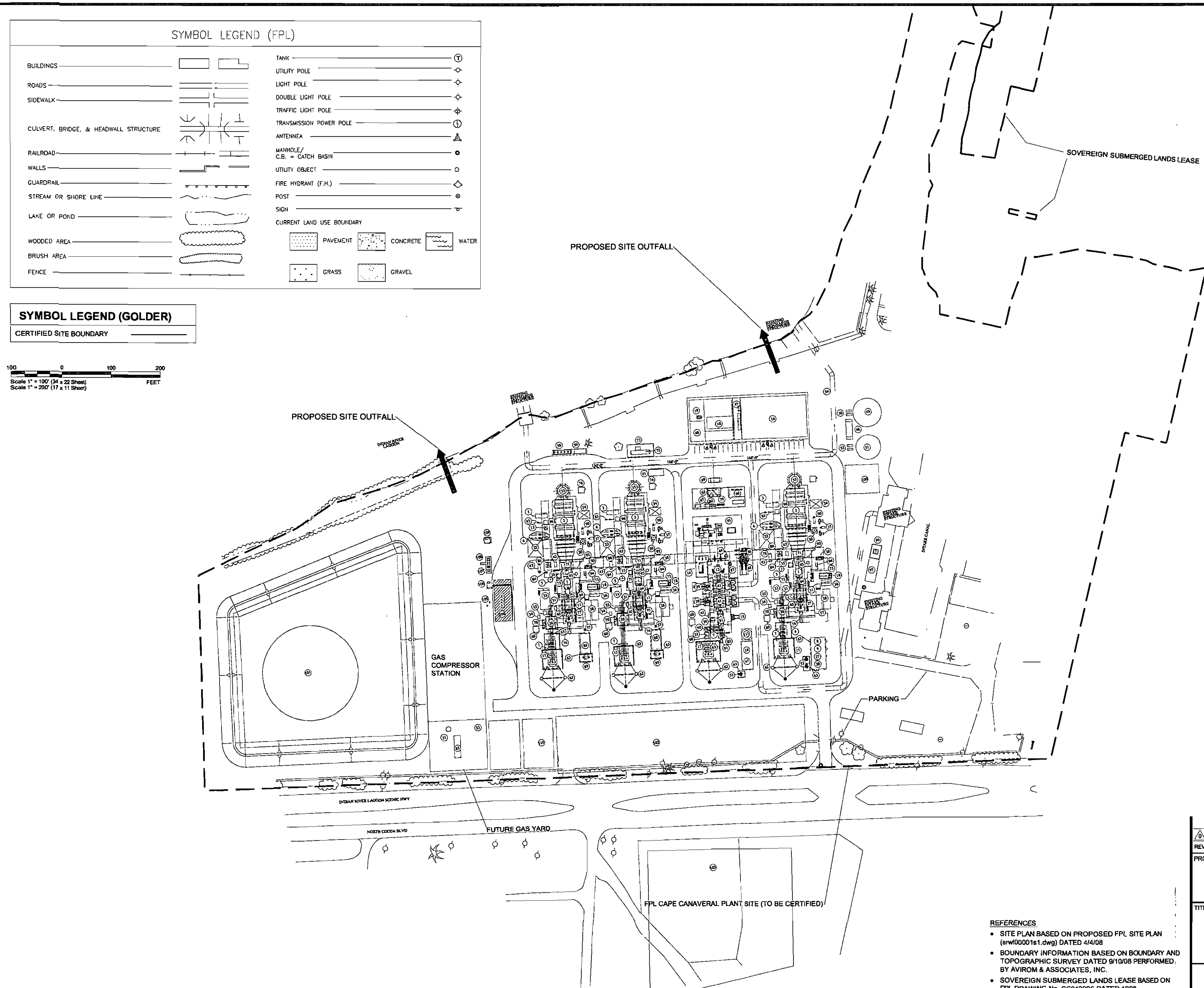
Source: Golder, 2008.

TABLE 2-10
SUMMARY OF MAXIMUM POTENTIAL ANNUAL HAP EMISSIONS FOR CCEC

	Maximum Potential Annual Emissions (TPY)								
Pollutant	**3 CTs/HRSGs with Duct Burners**	**Auxiliary Boiler**	**2 Emergency Generators**	**1 Natural Gas Heater**	**7 Gas Compressors**	**Fuel Oil Storage Tank**	**Fire Pump Engine**	**TOTAL**	**HAP Major Source Threshold (TPY)**
MPS 501G CTs									
Total HAPs	18.70	0.0021	0.005	0.004	1.13	NA	0.00014	19.84	25
Single HAP	7.92	0.0018	0.0003	0.003	0.82	NA	0.00001	8.74	10
Siemens H CTs									
Total HAPs	18.40	NA	0.005	0.004	1.13	NA	0.00014	19.54	25
Single HAP	7.71	NA	0.0003	0.003	0.82	NA	0.00001	8.53	10

Note: NA= not applicable.

Source: Golder, 2008.



LEGEND

1. GAS TURBINE AND GENERATOR
2. HRSG
3. BOILER FEEDWATER PUMP
4. UNIT AUX TRANSFORMER
5. COMBUSTION TURBINE TCA COOLER
6. FUEL GAS PERFORMANCE HEATER
7. ISOPHASE BUS DUCT
8. ELECTRICAL EQUIPMENT BUILDING
9. BATTERY ROOM
10. ADMINISTRATION BUILDING
11. GT WASHWATER SUMPS
12. STEAM TURBINE
13. HRSG BLOWDOWN TANK
14. STEAM LUBE OIL UNIT
15. CONDENSATE PUMPS
16. WAREHOUSE BUILDING
17. GENERATOR STEP-UP TRANSFORMER
18. CT LIQUID FUEL ATOMIZING AIR MODULE (LFAA)
19. DCS EQUIPMENT
20. AIG SKID
21. FUEL GAS DRAINS TANK (FUTURE)
22. MAINTENANCE LAYDOWN AREA
23. FUEL GAS YARD (FUTURE)
24. SCR REMOVAL AREA
25. CT GENERATOR EXCITATION TRANSFORMER
26. COMBUSTION TURBINE EXCITATION COMPARTMENT
27. 480v SWITCHGEAR TRANSFORMER
28. 480v SWITCHGEAR
29. CONDENSER TUBE REMOVAL AREA
30. CAUSTIC FEED TANK
31. ELECTRIC FUEL OIL HEATER
32. ST EXCITATION TRANSFORMER
33. COMBUSTION TURBINE ELECTRICAL PACKAGE
34. COMBUSTION TURBINE SURGE PT & SA CUBICLE
35. COMBUSTION TURBINE 2C COOLER
36. GT CO2 FIRE PROTECTION SKID
37. AMMONIA DILUTION AIR FANS
38. GT LUBE OIL UNIT
39. ST GENERATOR SEAL OIL UNIT
40. NGR CUBICLE
41. STEAM TURBINE CONDENSER
42. GT WASH UNIT
43. WASH WATER DRAINS TANK
44. STEAM TURBINE AREA BLOWDOWN TANK
45. STEAM JET AIR EJECTOR
46. FIRE PUMPS
47. 4160v/480v DRY TYPE TRANSFORMER/MCC/SWITCHGEAR
48. CONTROL ROOM
49. RAW WATER STORAGE TANK
50. RAW WATER PUMPS
51. DEMINERALIZED WATER STORAGE TANK
52. DEMINERALIZED WATER PUMPS
53. 4160v/480v S.U.S. TRANSFORMER
54. CIRCULATING WATER LINES
55. STACK
56. ACW CLOSED CYCLE COOLING WATER PUMPS
57. GT AIR INLET FILTER
58. HYDROGEN BULK STORAGE
59. CO2 STORAGE CYLINDERS
60. DELUGE HOUSE
61. OIL/WATER SEPARATOR
62. DEADEND STRUCTURE
63. FIREWALL
64. FUEL OIL INLET FILTER
65. CYCLE CHEMICAL FEED EQUIPMENT
66. CHEMICAL LAB/SAMPLE PANEL
67. AIR COMPRESSORS
68. ACW CLOSED CYCLE COOLING WATER HEAT EXCHANGERS
69. EMERGENCY DIESEL GENERATOR
70. EXCITATION PACKAGE COOLING UNIT
71. CT ENCLOSURE VENT FAN
72. AMMONIA TANK
73. AMMONIA VAPORIZING SKID
74. CT ROTOR REMOVAL
75. CT TURBINE ENCLOUSRE
76. CEMS
77. CT SEAL OIL UNIT
78. PIPE RACK
79. AIR DRYERS
80. AIR RECEIVER
81. STEAM TURBINE GENERATOR
82. ST STATOR COOLING UNIT
83. FUEL GAS METERING (FUTURE)
84. FUEL GAS FILTER/SEPARATOR
85. START UP GAS HEATER
86. FUEL GAS COALESCING FILTER
87. EHC UNIT
88. COMBUSTION TURBINE SFC
89. COMBUSTION TURBINE SFC TRANSFORMER
90. DUCT BURNER MANAGEMENT SKID
91. ST ROTOR REMOVAL AREA
92. EXPANSION JOINT REMOVAL
93. COMBUSTION TURBINE PURGE AIR RECEIVER
94. FUEL OIL MANAGEMENT SPOOL PIECE
95. AUXILIARY BOILER
96. HRSG BLOWDOWN SUMP
97. CIRCULATING WATER CHEMICAL FEED
98. STEAM TURBINE EXCITATION PACKAGE
99. SULFURIC ACID STORAGE TANK
100. DEMINERALIZER WATER TRAILER AREA
101. EXISTING FUEL OIL TANK
102. 138kv SWITCHYARD
103. 230 kv SWITCHYARD
104. FUEL OIL UNLOADING STATION
105. FUEL OIL LEAK DETECTION
106. FUEL OIL AREA SUMP
107. FUEL OIL UNLOADING PUMPS
108. FUEL OIL FORWARDING PUMPS
109. FOAM SUPPRESSION SYSTEM
110. EXISTING GAS YARD
111. CIRCULATING WATER DISCHARGE CHEM FEED TANK

REFERENCES

- SITE PLAN BASED ON PROPOSED FPL SITE PLAN (srwl00001s1.dwg) DATED 4/4/08
- BOUNDARY INFORMATION BASED ON BOUNDARY AND TOPOGRAPHIC SURVEY DATED 9/10/08 PERFORMED BY AVIROM & ASSOCIATES, INC.
- SOVEREIGN SUBMERGED LANDS LEASE BASED ON FPL DRAWING No. CC042096 DATED 1998
- STORMWATER BASED ON BOYLE ENGINEERING CORP. POST DEVELOPMENT DETENTION AREA SITING EXHIBIT, DATED 9/3/08

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW
0	01/01/01	XXX	REV_DESC	XXX		

PROJECT

FPL
CAPE CANAVERAL ENERGY CENTER

TITLE

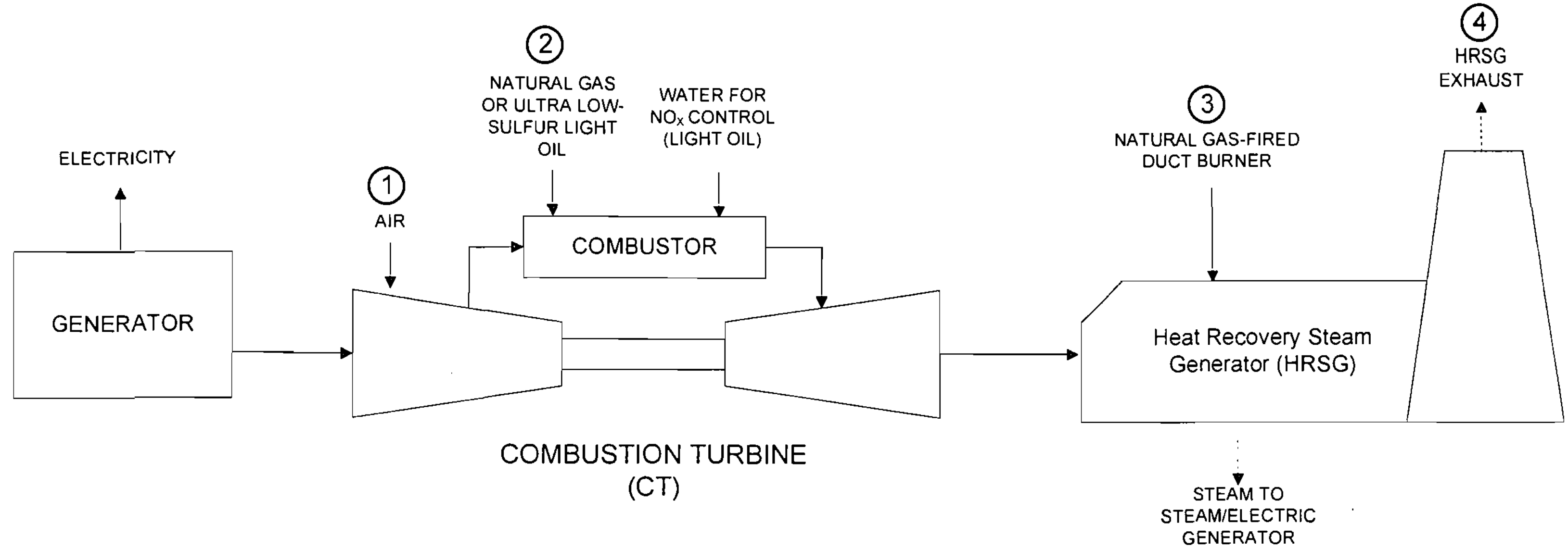
FACILITY PLOT PLAN

FPL

PROJECT No.		083-87633
DESIGN	-	-
CADD	NRL	12/15/08
CHECK	RCM	12/15/08
REVIEW	KFK	12/15/08

FILE No.	08387633A037
SCALE	AS SHOWN
REV.	1

FIGURE 2-1



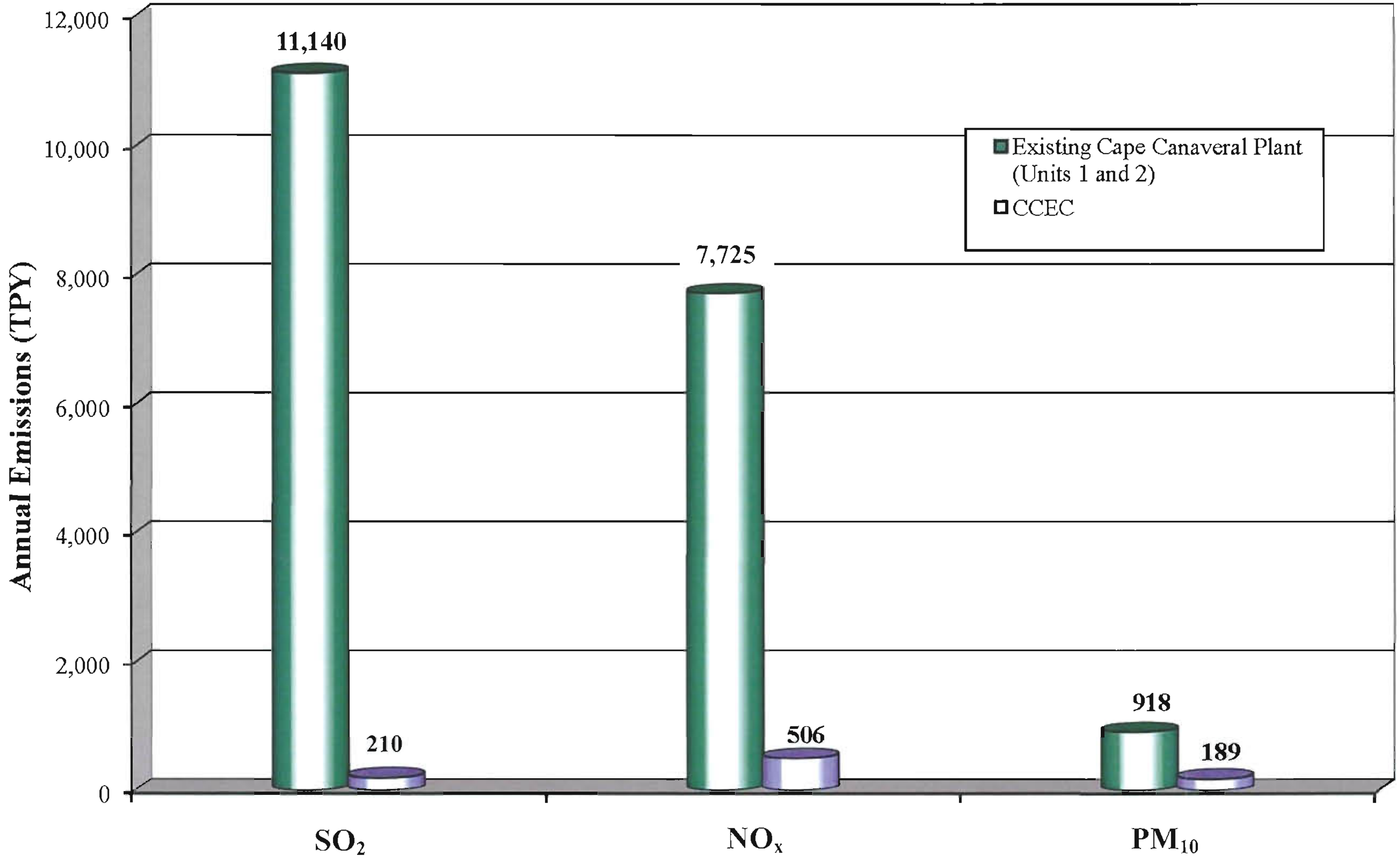
	Parameters	Units	Fuel	MPS 501G Class	Siemens H
1	Inlet Air	lb/hr	Gas	4,928,000	4,769,000
		lb/hr	Oil	4,948,500	4,814,400
2	CT Heat Input	MMBtu/hr (HHV)	Gas	2,671	2,577
		MMBtu/hr (HHV)	Oil	2,318	2,404
3	DB Heat Input	MMBtu/hr (HHV)	Gas (Only)	475	475
4	HRSG Velocity	ft/sec w/o DB	Gas	60.9	59.0
		ft/sec w/o DB	Oil	75.6	74
4	HRSG Temperature	°F	Gas	195	195
		°F	Oil	357	357
4	HRSG Stack Height	feet	Gas/Oil	149	149
4	HRSH Stack Diameter	feet	Gas/Oil	22	22

Figure 2-2. Process Flow Diagram for Each CT/HRSG Train
Baseload Operation, Turbine Inlet Temperature of 59°F
FPL Cape Canaveral Energy Center, Brevard County, Florida
08387633/Cape Canaveral/SCA/Final/Appendix 10.2.5/Figure 2-2.vsd

Source: MPS, 2008; Golder, 2008.

Process Flow Legend
Solid/Liquid
Gas
Steam

FPL



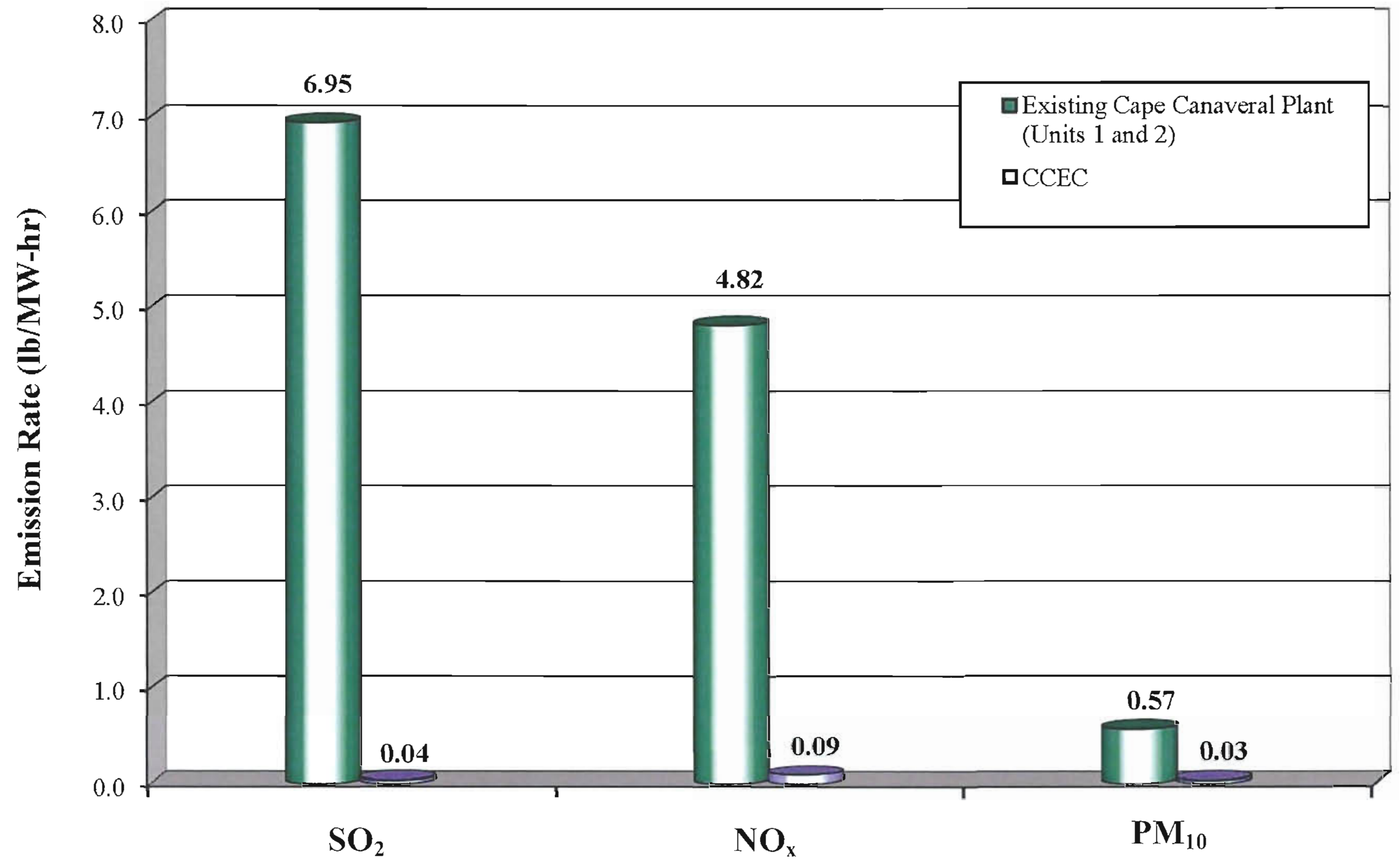
Notes: Emissions for the existing Cape Canaveral Plant based on 2003 and 2004 operation and AOR data (50.1% capacity factor) .
Emissions for CCEC based on 100% capacity factor on firing natural gas and light oil; 7,760 hours on gas and 1,000 hours of oil at full load. Based on proposed performance and emission limits.
Nominal generating capacity: existing Plant = 800 MW; CCEC plant = 1,250 MW

Figure 2-3
Comparison of Historical Actual SO_2, NO_x, and PM_{10} Annual Emissions (TPY) for the Existing Cape Canaveral Plant Compared to Projected Maximum Potential Annual Emissions (TPY) for CCEC

08387633/Reports/SCA/Final/Chapter 10 Appendices/10.2.5/Figure 2-3.docx

Source: Golder, 2008.

FPL.



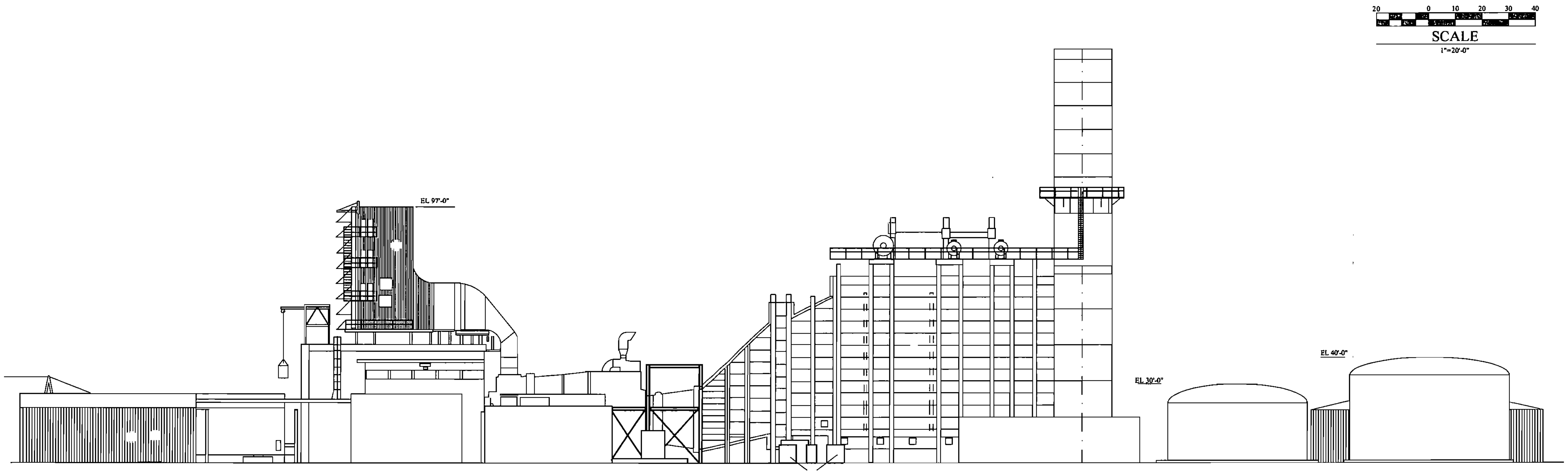
Notes: Emissions for the existing Cape Canaveral Plant based on 2003 and 2004 operation and AOR data (50.1% capacity factor).
Emissions for CCEC based on 100% capacity factor on firing natural gas and light oil; 7,760 hours on gas and 1,000 hours of oil at full load. Based on proposed performance and emission limits.

Figure 2-4
Comparison of Historical Actual SO_2, NO_x, and PM_{10} Emission Rates (lb/MW-hr) for the Existing Cape Canaveral Plant Compared to Projected Maximum Potential Emission Rates (lb/MW-hr) for CCEC

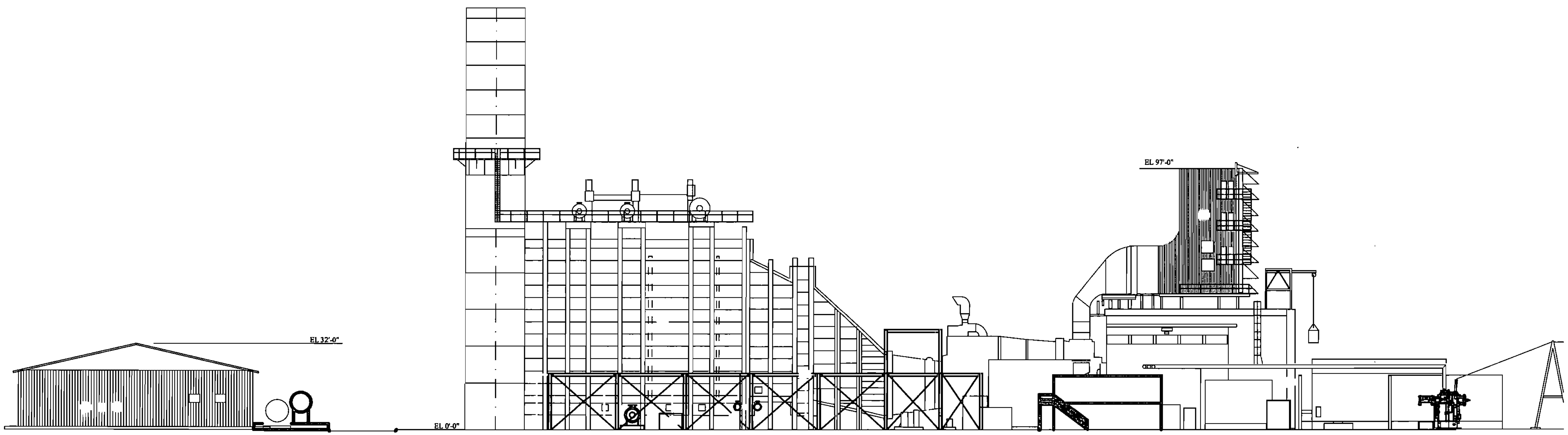
08387633/Reports/SCA/Final/Chapter 10 Appendices/10.2.5/Figure 2-4.docx

Source: Golder, 2008.

FPL



SOUTH ELEVATION
LOOKING NORTH



NORTH ELEVATION
LOOKING SOUTH

GENERAL NOTES

1. ALL SIZES AND ELEVATIONS ARE APPROXIMATE.
2. ANTICIPATED STACK HEIGHT NOT TO EXCEED 200'; AS DETERMINED BY ENVIRONMENTAL REGULATIONS.

REFERENCE DRAWINGS

1. SITE RELATED WORK - 3x1 COMBINED CYCLE - 501G GENERAL ARRANGEMENT - PLAN D013454-SRWL00001 SH01
2. SITE RELATED WORK - 3x1 COMBINED CYCLE - 501G EAST/WEST ELEVATIONS D013454-SRWL00004 SH01
3. SITE RELATED WORK - 3x1 COMBINED CYCLE - M501G NORTH/SOUTH ELEVATIONS D013454-SRWL00004 SH01

FPL

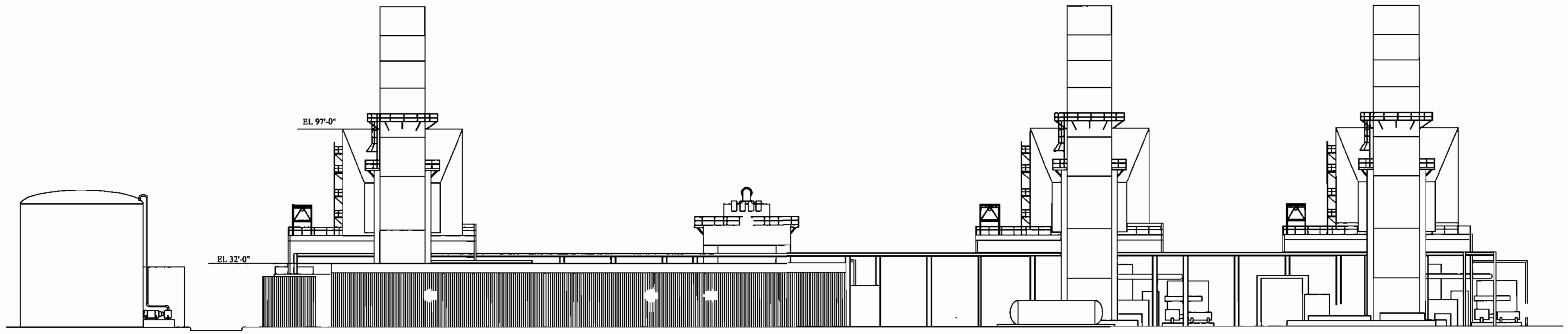
PROJECT
FPL
CAPE CANAVERAL ENERGY CENTER

TITLE
NORTH / SOUTH ELEVATIONS
(TYPICAL PROFILES FOR THE COMBINED CYCLE TECHNOLOGIES CONSIDERED)

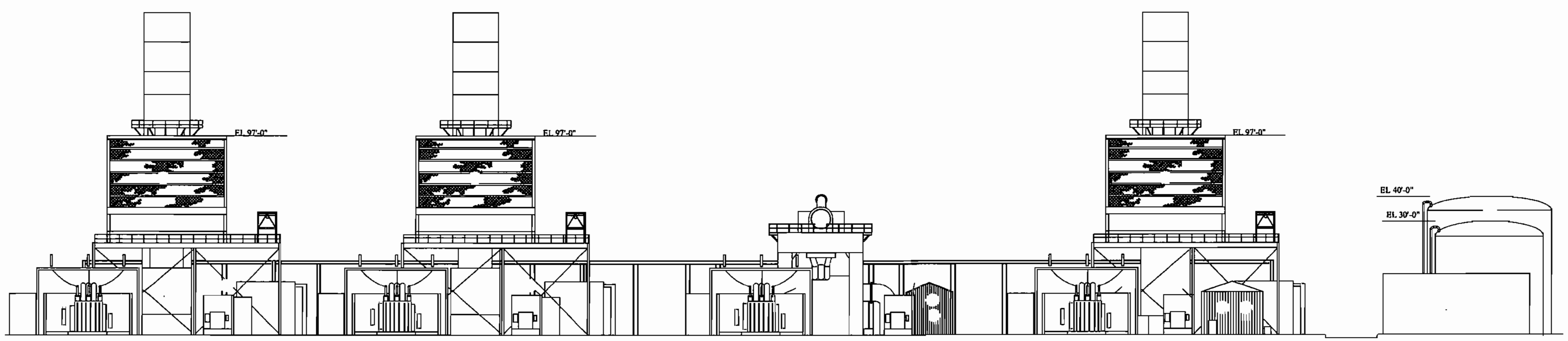
PROJECT No. 083-87633		
FILE No. 08387633CB005		
REV. 0	SCALE AS_SHOWN	
DESIGN	-	-
CADD	NRL	10/16/08
CHECK	RCM	10/24/08
REVIEW	KFK	12/09/08

FIGURE 2-5

Drawing file: 08387633CB005_NSElevation.dwg Oct 16, 2008 - 11:03am



EAST ELEVATION
LOOKING WEST



WEST ELEVATION
LOOKING EAST

SCALE
1"=30'-0"

GENERAL NOTES

1. ALL SIZES AND ELEVATIONS ARE APPROXIMATE.
2. ANTICIPATED STACK HEIGHT NOT TO EXCEED 200'; AS DETERMINED BY ENVIRONMENTAL REGULATIONS.

REFERENCE DRAWINGS

1. SITE RELATED WORK - 3x1 COMBINED CYCLE - 501G GENERAL ARRANGEMENT - PLAN D013454-SRWL00001 SH01
2. SITE RELATED WORK - 3x1 COMBINED CYCLE - 501G EAST/WEST ELEVATIONS D013454-SRWL00004 SH01
3. SITE RELATED WORK - 3x1 COMBINED CYCLE - M501G NORTH/SOUTH ELEVATIONS D013454-SRWL00004 SH01

FPL

PROJECT
FPL
CAPE CANAVERAL ENERGY CENTER

TITLE
EAST / WEST ELEVATIONS
(TYPICAL PROFILES FOR THE COMBINED CYCLE TECHNOLOGIES CONSIDERED)

PROJECT No. 083-87633		
FILE No. 08387633CB004		
REV. 0	SCALE AS_SHOWN	
DESIGN	–	–
CADD	NRL	10/16/08
CHECK	RCM	10/24/08
REVIEW	KFK	12/09/08

FIGURE 2-6

Drawing file: 08387633CA036_EWElevation.dwg Oct 16, 2008 - 11:45am

3.0 AIR QUALITY REVIEW REQUIREMENTS AND APPLICABILITY

The following discussion pertains to federal, State, and local air regulatory requirements and their applicability to CCEC.

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 or modified sources 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 federally approved 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.

PSD is applicable to a "major facility" and certain "modifications" that occur at a major facility. 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. Net emission increases from a modification at a major facility that exceed the PSD significant emission rates are also subject to PSD review.

EPA has promulgated regulations providing that certain increases above an air quality baseline concentration level of SO_2, PM_{10}, and nitrogen dioxide (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. The State of Florida's PSD regulations are found in Rule 62-212.400, F.A.C. Major new facilities and major modifications 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 major facility or major modification made to an existing major facility also must be reviewed with respect to Good Engineering Practice (GEP) stack height regulations. Discussions concerning each of these requirements for a new major facility or major modification are presented in the following sections. It is important to note that the emission reductions available from the retirement of the existing Plant allow the converted Plant to be a minor modification, exempt from PSD review (see Sections 2.4 and 3.5).

3.2.2 Control Technology Review

A new major facility or major modification must perform a control technology review, which requires 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(40), F.A.C., as:

(a) An emission limitation, including a visible emissions standard, based on the maximum degree of reduction of each pollutant emitted, which the Department, on a case-by-case basis, 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 each such pollutant taking into account:

1. Energy, environmental and economic impacts, and other costs;

2. All scientific, engineering, and technical material and other information available to the Department; and

> 3. *The emission limiting standards or BACT determinations of Florida and any other State.*
>
> (b) *If the Department determines that technological or economic limitations on the application of measurement methodology to a particular part of an emissions unit 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.*
>
> (c) *Each BACT determination shall include applicable test methods or shall provide for determining compliance with the standard(s) by means which achieve equivalent results.*
>
> (d) *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, 61, and 63.*

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).

3.2.3 Source Impact Analysis

A source impact analysis must be performed for a new major facility or major modification to a major source for each pollutant, subject to PSD review, for which net 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 that are approved by FDEP 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 area. 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. 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.

3.2.4 Air Quality Monitoring Requirements

In accordance with requirements of Rule 62-212.400(5)(f), F.A.C., PSD review for a new major facility or major modification must consider an analysis of continuous ambient air quality data in the area affected by the proposed major PSD source or major modification. For a new major facility or major modification, the affected pollutants are those that the facility potentially would emit above the significant emission rates.

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 or major modification subject to PSD review.

The 1977 CAA Amendments require that the degree of emission limitation required for control of any pollutant cannot 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:

$$Hg = H + 1.5 L$$

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 kilometers (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, State of Florida PSD regulations require analyses for applicable pollutants of the impairment to visibility and the impacts on soils and vegetation that would occur as a result of a new major facility or major modification subject to PSD review [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 for projects for those pollutants undergoing PSD review to assess the potential impact on AQRVs in PSD Class I areas. The nearest Class I areas to the Site are the Chassahowitzka National Wilderness Area (NWA), located about 182 km (109 miles) from the Site, and the Everglades National Park (NP), located about 292 km (175 miles) from 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 NP 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 new major facilities or major modifications to major facilities located in a nonattainment area. In addition, for these 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. CCEC is located in Brevard County, which is classified as an attainment area for all criteria pollutants. Therefore, nonattainment New Source Review (NSR) 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."

CCEC will be subject to one or more NSPS. EPA recently promulgated 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 and duct burners, respectively, 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

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 are limited per 40 CFR 60 Subpart KKKK. NO_x emissions for these proposed CTs (i.e., >850 MMBtu/hr) are limited by Subpart KKKK to 15 ppmvd corrected to 15-percent O_2 and 42 ppmvd corrected to 15-percent O_2 for gas and oil-firing, respectively. SO_2 emissions are limited to using a fuel with a sulfur content of no greater than 0.05 percent and 20 grains of sulfur per 100 standard cubic feet for oil and gas-firing, respectively. In addition to emission limitations, there are requirements for performance testing and monitoring in 40 CFR Subpart KKKK. There are also applicable notification, reporting, and recordkeeping requirements in the general provisions of 40 CFR Subpart A. 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 startup - 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 startups, shutdowns, and malfunctions.

- *(c) Excess emissions reports – semi-annually by the 30th day following 6-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 startup.*
- *(d) Notification of Performance tests at least 30 days prior to them occurring.*

Duct Burner

As stated previously, the Subpart KKKK requirements have replaced the Subpart Da requirements for duct burners associated with a combined cycle project. NO_x emissions are limited to 54 parts per million (ppm) at 15 percent O_2 or 0.86 lb/MW for gas-firing.

Other Emission Units

NSPS are also applicable to the auxiliary boiler, fuel heaters, gas compressors, fire pump engine, and emergency generators. The EPA NSPS Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, applies to the auxiliary boiler and fuel heaters. For the emergency generators, gas compressors and fire pump engine, NSPS Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, is applicable.

3.4.2 National Emission Standards for Hazardous Air Pollutants

EPA has promulgated maximum achievable control technology (MACT) standards under the National Emissions Standards for Hazardous Air Pollutants (NESHAPs) regulations for combustion turbines. The MACT standard limits formaldehyde emissions to 91 parts per billion (ppb) by volume (dry) corrected to 15-percent O_2, which is equivalent to about 220 lb/10^{12} Btu when firing natural gas and about 240 lb/10^{12} Btu when firing ultra low-sulfur light oil (see Appendix A). The MACT standard does not apply to CCEC since it is not a major source of HAPs.

3.4.3 Florida Rules

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, 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.

This Application is being filed for the purpose of establishing federally-enforceable emission limitations that insure the Project will not result in a significant net increase in emissions of any regulated air pollutant, in accordance with FDEP's federally-approved minor source air construction permit program under Florida's federally-required State Implementation Plan

3.4.5 Local Air Regulations

Brevard County has established certain performance standards as part the Land Development Regulations that are related to air emissions that are applicable to CCEC. These performance standards are Section 62-2254 Smoke; Section 62-2255 Dust and Particulate Matter; and Section 62-2265 Airborne Emissions. Section 62-2254 Smoke establishes an opacity standard that is equivalent to 40 percent opacity. Section 62-2255 Dust and Particulate Matter requires that there is no significant offsite deposition of dust or PM. Section 62-2265 Airborne Emissions requires an FDEP permit be obtained, if applicable.

3.5 Source Applicability

3.5.1 Area Classification

CCEC is located in Brevard County, which has been designated by EPA and FDEP as an attainment area (includes unclassifiable) for all criteria pollutants. Brevard County and surrounding counties are designated as PSD Class II areas for SO_2, PM [total suspended particulate (TSP)], and NO_2. The nearest Class I areas to the Site are the Chassahowitzka NWA, located about 182 km (109 miles) from the Site, and the Everglades NP, located about 292 km (175 miles) from the Site.

3.5.2 PSD Review

Pollutant Applicability

The emission reductions available from the retirement of the existing Units 1 and 2 classify CCEC as a minor modification of a major source. PSD review is not applicable since the net emissions do not exceed the PSD significant emission rates (see Tables 2-9A and 2-9B in Section 2.0 and Table 3-3). Since the existing units will be permanently retired, the converted Plant will use emissions reductions from Units 1 and 2 to net out of PSD review for all PSD pollutants. (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).

Emission Standards

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 are limited per 40 CFR 60 Subpart KKKK. NO_x emissions for these proposed CTs (i.e., >850 MMBtu/hr) are limited by Subpart KKKK to 15 ppmvd corrected to 15-percent O_2 and 42 ppmvd corrected to 15-percent O_2 for gas and oil-firing, respectively. SO_2 emissions are limited to using a fuel with a sulfur content of no greater than 0.05 percent and 20 grains of sulfur per 100 standard cubic feet for oil and gas-firing, respectively. These requirements are summarized in Section 4.2. In addition to emission limitations, there are requirements for performance testing and monitoring in 40 CFR Subpart KKKK. There are also applicable notification, reporting, and recordkeeping requirements in the general provisions of 40 CFR Subpart A. The proposed emissions for CCEC will be well below the specified limits (see Section 4.0).

NSPS are also applicable to the auxiliary boiler, fuel heater, gas compressors, fire pump engine, and emergency generators. The EPA NSPS Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, applies to the auxiliary boiler and fuel heaters. For the emergency generators, gas compressors and fire pump engine, NSPS Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, is applicable.

The NESHAPs Subpart YYYY does not apply to the converted Plant. However, information available from the equipment vendors indicate that CCEC will meet the proposed MACT of 91 parts per billion volume dry (ppbvd) corrected to 15-percent O_2 for formaldehyde.

Ambient Monitoring

For the converted Plant, the net emissions changes will be less than the PSD significant emission rates. As a result, an air quality monitoring impact analysis is not required by NSR under FDEP air regulations. As a supplement to the air permit application, air quality monitoring data are provided, which demonstrate that Brevard County is in attainment of the AAQS for all criteria pollutants. These data are presented in Section 5.0 of this application.

GEP Stack Height Impact Analysis

The GEP stack height regulations allow any stack to be at least 65 m (213 feet) high. The stacks for HRSG stacks will be 149 feet. 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 and duct burner emissions caused by nearby structures are included in the modeling analysis.

3.5.3 Local Air Regulations

CCEC will comply with the Brevard County Land Development Regulations described in Section 3.4.5. The opacity for each CT/HRSG will not exceed 10 percent when operating on either natural gas or ultra low-sulfur light oil. The proposed opacity for CCEC is much lower than the 40 percent required by Brevard County regulations. CCEC operations will not generate dust or PM that will deposit on neighboring areas, meeting the requirements of the Land Development Regulations. CCEC will obtain a minor source air construction permit for which this application is applicable. Once operational, CCEC will obtain a Title V air operating permit.

3.5.4 Other Clean Air Act Requirements

The 1990 CAA Amendments established a program to reduce potential precursors of acidic deposition. The Acid Rain Program was delineated in Title IV of the CAA Amendments and required EPA to develop the program. EPA's final regulations were promulgated on January 11, 1993, and included permit provisions (40 CFR 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 CCEC 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 KKKK. 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	National AAQS (μg/m³) [a] Primary Standard	National AAQS (μg/m³) [a] Secondary Standard	Florida AAQS [a] (μg/m³)	PSD Increments (μg/m³) [a] Class I	PSD Increments (μg/m³) [a] Class II	Significant Impact Levels (μg/m³) [b] Class I	Significant Impact Levels (μg/m³) [b] Class II
Particulate Matter [c] (PM_{10})	Annual Arithmetic Mean	NA	NA	50	4	17	0.2	1
	24-Hour Maximum	150	150	150	4	30	0.3	5
Particulate Matter [c] ($PM_{2.5}$)	Annual Arithmetic Mean	15	15	NA	NA	NA	NA	NA
	24-Hour Maximum	35	35	NA	NA	NA	NA	NA
Sulfur Dioxide	Annual Arithmetic Mean	80	NA	60	2	20	0.1	1
	24-Hour Maximum	365	NA	260	5	91	0.2	5
	3-Hour Maximum	NA	1,300	1,300	25	512	1.0	25
Carbon Monoxide	8-Hour Maximum	10,000	10,000	10,000	NA	NA	NA	500
	1-Hour Maximum	40,000	40,000	40,000	NA	NA	NA	2,000
Nitrogen Dioxide	Annual Arithmetic Mean	100	100	100	2.5	25	0.1	1
Ozone [d]	1-Hour Maximum [d]	NA	NA	235	NA	NA	NA	NA
	8-Hour Maximum [e]	147	147	NA	NA	NA	NA	NA
Lead	Calendar Quarter Arithmetic Mean	1.5	1.5	1.5	NA	NA	NA	NA

Note: Particulate matter (PM_{10}) = particulate matter with aerodynamic diameter less than or equal to 10 micrometers.
Particulate matter ($PM_{2.5}$) = particulate matter with aerodynamic diameter less than or equal to 2.5 micrometers.
NA = Not applicable, i.e., no standard exists or not promulgated yet.

[a] Short-term maximum concentrations are not to be exceeded more than once per year, except for PM_{10}, $PM_{2.5}$, and O_3 AAQS which are based on a number of expected exceedances.

[b] Maximum concentrations are not to be exceeded.

[c] $PM_{2.5}$: 24-hour standard based on the 3-year averages of the 98th percentile values; annual standard based on 3-year average at community monitors. These standards must be implemented in the 2007-2008 timeframe. On October 17, 2006, EPA finalized the PM AAQS (71 FR 61236). The 24-hour $PM_{2.5}$ standard was changed to 35 μg/m³. Annual PM_{10} standard was revoked by EPA. The FDEP has not yet adopted the revised PM_{10} or $PM_{2.5}$ standards.

[d] 1-hour standard of 0.12 ppm was revoked by EPA on June 15, 2005; FDEP has not yet adopted this change.

[e] 8-hour standard was lowered by EPA from 0.08 to 0.075 ppm on March 27, 2008, achieved when the 3-year average of 99th percentile values is 0.075 ppm or less. FDEP had not yet adopted the revised standard.

Sources: Federal Register, Vol. 43, No. 118, June 19, 1978; 40 CFR 50; 40 CFR 52.21; Florida Chapter 62.204, F.A.C.
Golder, 2006.

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

[a] Short-term concentrations are not to be exceeded.
[b] No *de minimis* concentration; an increase in VOC or NO_x 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 EMISSION CHANGES DUE TO CCEC, INCLUDING EMISSION REDUCTIONS DUE TO THE EXISTING PLANT, COMPARED TO THE PSD SIGNIFICANT EMISSION RATES

Pollutant	Pollutant Emissions		
	Net Emission Changes[a]	Significant Emission Rate	PSD Review
Sulfur Dioxide	-10,930	40	No
Particulate Matter [PM (TSP)]	-729	25	No
Particulate Matter (PM_{10})	-729	15	No
Nitrogen Dioxide	-7,220	40	No
Carbon Monoxide	-170	100	No
Volatile Organic Compounds	35.4	40	No
Lead	-0.06	0.6	No
Sulfuric Acid Mist	-453	7	No
Total Fluorides	NEG	3	No
Total Reduced Sulfur	NEG	10	No
Reduced Sulfur Compounds	NEG	10	No
Hydrogen Sulfide	NEG	10	No
Mercury	NEG	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 – 1,000 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 emissions from the fuel heater, emergency generators, auxiliary boiler, fire pump engine, fuel oil storage tank, and gas compressor station (see Tables 2-9A and B, which present the maximum potential emissions for CCEC) and emission reductions from the existing Plant.

4.0 CONTROL TECHNOLOGY DESCRIPTION

4.1 Applicability

The PSD regulations require new major stationary sources or major modifications to existing major sources to undergo a control technology review for each pollutant that may potentially be emitted above significant amounts. As discussed in previous sections, PSD review is not required for CCEC and the control technology review requirements of the PSD regulations are not applicable. There are some NSPS regulations which are applicable. Notwithstanding, the emission levels and control technologies proposed for CCEC are consistent with emission levels established as BACT by the FDEP in recent projects. This section presents the proposed emission rates for each pollutant and each proposed emission unit.

4.2 Overview of Proposed Control Technology

The use of clean fuels (i.e., natural gas and ultra low-sulfur light oil), combustion controls, and air pollution control equipment will minimize air emissions and ensure compliance with applicable emission-limiting standards. Using clean fuels will minimize emissions of SO_2, PM/PM_{10}, and other fuel-bound contaminants. Combustion controls will minimize the formation of NO_x and the formation of CO and VOCs by combustor design. Further NO_x reduction will be achieved by SCR. The combination of these techniques has been determined to represent BACT on previous projects based on an evaluation of economic, energy, and environmental impacts. The following subsection presents a summary of the Air Pollution Control Technology proposed for CCEC.

EPA updated NSPS for Stationary Combustion Turbines that will commence construction after February 18, 2005. The Subpart KKKK requirements apply to units with a gross capacity of greater than 1 MW. The Subpart KKKK requirements applicable to combustion turbines greater than 30 MW apply to CT/HRSG trains associated with CCEC. The NO_x emissions are limited to 15 ppm corrected to 15-percent O_2 or 0.43 lb/MW-hr for gas-firing and 42 ppm corrected to 15-percent O_2 or 1.3 lb/MW-hr for light oil firing. For SO_2 emissions, Subpart KKKK requirements limit emissions to 0.9 lb/MW-hr or a potential total sulfur content equivalent to 0.06 pound per million British thermal units (lb/MMBtu) if multiple fuels are fired.

NSPS are also applicable to the auxiliary boiler, fuel heaters, emergency generators, and fire pump engine. The EPA NSPS Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, applies to the auxiliary boilers and fuel heaters. For the emergency generators and fire pump engine, NSPS Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, is applicable.

The remainder of this section briefly describes those control technologies that are proposed for CCEC.

4.2.1 Nitrogen Oxides

There will be a net emissions decrease of more than 7,000 tons/year for NO_x emissions (i.e., 93-percent reduction from historical actual emissions) with CCEC. PSD review, including a BACT determination, is not applicable. However, the NO_x control technology and emission limits proposed for CCEC are equal to or more stringent than BACT determinations made in Florida and EPA Region IV for similarly designed projects. As proposed for the CTs, the use of DLN combustors and SCR has been established as BACT on combined cycle units with NO_x to low emission levels of 2.0 ppmvd corrected to 15-percent O_2 when firing natural gas and 8.0 ppmvd corrected to 15-percent O_2 when firing ultra low-sulfur light oil. These emission levels are equal to or lower than BACT determinations made in Florida and EPA Region IV for similarly designed projects. Similarly, the NO_x emission rates proposed for the auxiliary boiler, fuel heaters, emergency generators, and gas compressors have been established as BACT in previous PSD permits.

DLN combustor technology has been offered and installed by CT manufacturers to reduce NO_x emissions by inhibiting thermal NO_x formation through premixing fuel and air prior to combustion and providing pre-mix combustion to reduce flame temperatures. The DLN combustors have premixed fuel zones plus a standard diffusion flame pilot burner for startup. Low-NO_x levels are achieved by introducing fuel primarily to the pre-mix zones and reducing the amount of fuel being combusted from the pilot nozzle.

When firing natural gas, NO_x emissions will be controlled using DLN combustors. NO_x emissions will be further controlled by SCR systems when firing either natural gas or ultra low-sulfur light oil. 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. The reaction occurs typically between about 320 and 400 degrees Celsius (°C) (600 and 750°F). These temperatures occur within the HRSG where the SCR catalyst and ammonia injection grid is installed. Ammonia will be stored onsite in tank(s). The SCR system will be designed for additional NO_x reduction. Flue gas NO_x emissions when firing natural gas will be reduced to 2.0 ppmvd, corrected to 15-percent O_2. When firing ultra low-sulfur light oil, SCR will reduce NO_x emissions by 80 percent or more to 8 ppmvd corrected to 15-percent O_2 or less.

The NO_x emissions from the auxiliary boiler, fuel heaters, emergency generators, fire pump engine, and gas compressors will be limited using combustion techniques. The auxiliary boiler will be equipped with low-NO_x burners to limit NO_x emissions to 0.05 lb/MMBtu. The fuel heaters will use combustion controls to limit NO_x emissions to 0.095 lb/MMBtu. The emergency generators will meet the NSPS Subpart IIII NO_x emission requirements of 6.9 grams per brake horsepower-hour (g/bhp-hr). The gas compressors will be lean burn engines with a NO_x emission rate of 1.5 g/bhp-hr. The fire pump engine will have a NO_x emission rate of 6.8 g/bhp-hr.

4.2.2 Carbon Monoxide

There will be a net CO emissions decrease of 170 tons per year (i.e., 24-percent decrease from historical actual emissions) with the converted Plant. PSD review, including a BACT determination, is not applicable. As proposed for this Project, the use combustion controls to limit CO emissions in the range proposed for natural gas and ultra low-sulfur light oil firing has been established as BACT.

The proposed emission rates are based upon the CTs being considered for the converted Plant. The CTs will utilize advanced combustion technology and the proposed emission rates are consistent with those established as BACT for these turbines. The proposed CO emission rates for the MPS 501G Class CTs when firing natural gas are 4.1 ppmvd corrected to 15-percent O_2 at baseload operation and 7.6 ppmvd corrected to 15-percent O_2 with maximum duct firing. When firing oil the CO emissions from the MPS 501G Class CTs will be limited to 8 ppmvd corrected to 15-percent O_2. The Siemens H CTs CO emissions will be limited to 5 ppmvd corrected to 15-percent O_2 when firing natural gas at baseload operation and 7.2 ppmvd corrected to 15-percent O_2 when duct firing. For the Siemens H CTs when firing oil, the CO emissions will be limited to 10 ppmvd corrected to 15-percent O_2.

Combustion techniques will be used to limit the CO emissions from the auxiliary boiler, fuel heaters, fire pump engine, and emergency generators. Oxidation catalysts will be installed in the gas compressors to control CO emissions. The auxiliary boiler will be equipped with low-NO_x burners designed to limit CO emissions to 0.08 lb/MMBtu. The fuel heaters will use combustion controls to limit CO emissions to 0.08 lb/MMBtu. The emergency generators will meet the NSPS Subpart IIII CO emission requirements of 8.5 g/bhp-hr. Each gas compressor will be equipped with an oxidation catalyst to reduce CO emissions by 95 percent and have an emission rate of 0.1 g/bhp-hr. The fire pump engine will have a CO emission rate of 2.6 g/bhp-hr.

The CO emission rates proposed for the auxiliary boiler, fuel heaters, and emergency generators have also been established as BACT in previous PSD permits (e.g., PSD-FL-354 for WCEC Units 1 and 2; PSD-FL-396 for WCEC Unit 3).

4.2.3 Sulfur Oxides (SO_2 and H_2SO_4 Mist)

There will be a net emissions decrease of more than 10,000 tons/year for SO_2 emissions and 400 tons/year for H_2SO_4 mist (i.e., more than 95-percent and 90-percent decreases, respectively, from historical actual emissions) with the converted Plant. PSD review, including a BACT determination, is not applicable. The only feasible control for the combined cycle unit, auxiliary boiler, fuel heaters, emergency generators, gas compressors, and fire pump engine is combustion of clean fuels. Natural gas and ultra low-sulfur light oil are the cleanest fuels available with maximum sulfur contents of 2 grains/100 scf for natural gas and 0.0015 percent sulfur for ultra low-sulfur light oil proposed for CCEC. Additionally, sulfuric acid mist (SAM) emissions will be minimized by the use of low-sulfur fuels. Natural gas and ultra low-sulfur light oil have been established as BACT in previous PSD permits.

4.2.4 Particulate Matter and Other Regulated Pollutants

There will be a net emissions decrease of more than 700 tons/year for PM/PM_{10} (i.e., 76-percent decrease from historical actual emissions) with CCEC. PSD review, including a BACT determination, is not applicable. The use of clean fuels, characterized by low PM and trace contaminant contents, and advanced combustion techniques result in minimal PM and PM_{10} emissions from the combined cycle unit, auxiliary boiler, fuel heaters, emergency generators, gas compressors, and fire pump engine. The use of clean fuels (i.e., natural gas and ultra low-sulfur light oil) have been established as BACT for PM/PM_{10} emissions in previous PSD permits.

4.2.5 Volatile Organic Compound

There will be a net emissions increase of less than 40 tons/year for VOC with the converted Plant. Therefore, PSD review, including a BACT determination, is not applicable. Combustion techniques will be used to limit the VOC emissions from the CTs/HRSG duct burners, auxiliary boiler, fuel heaters, emergency generators, gas compressors, and fire pump engine. The CTs will utilize advanced combustion technology, and the proposed emission rates are consistent with those established as BACT for these turbines.

The proposed VOC emission rates for the MPS 501G Class CTs when firing natural gas are 1.2 ppmvd corrected to 15-percent O_2 at baseload operation and 1.6 ppmvd corrected to 15-percent O_2 with maximum duct firing. When firing oil, the VOC emissions from the MPS 501G Class CTs will be limited to 6 ppmvd corrected to 15-percent O_2. The Siemens H CTs VOC emissions will be limited to 1.5 ppmvd (corrected to 15-percent O_2) when firing natural gas at baseload operation and 1.9 ppmvd (corrected to 15-percent O_2) when duct firing. For the Siemens H CTs when firing oil, the VOC emissions will be limited to 2 ppmvd corrected to 15-percent O_2.

The auxiliary boiler is designed with proper combustion techniques to limit VOC emissions to 0.005 lb/MMBtu. The fuel heaters will use combustion controls to limit VOC emissions to 0.005 lb/MMBtu. The emergency generators will meet the NSPS Subpart IIII VOC emission requirements of 1 g/bhp-hr as total hydrocarbons. Each gas compressor will be equipped with an oxidation catalyst to reduce VOC emissions 50 percent and an emission rate of 0.16 g/bhp-hr. The fire pump engine will have a VOC emission rate of 1 g/bhp-hr.

TABLE 4-1
PROPOSED EMISSION LIMITS FOR CTS/HRSGS AND DUCT BURNERS FOR CCEC

Pollutant	CT(s)	Fuel	Operating Mode	Proposed Emission Limits	Compliance Methods
NO_x	G and H	Natural Gas	All	2 ppmvd at 15% O_2	Initial: EPA Methods- 7E or 20, Continuous: CEM 30-day rolling average
	G and H	ULSLO	All	8 ppmvd at 15% O_2	Initial: EPA Methods- 7E or 20, Continuous: CEM 30-day rolling average
CO	G	Natural Gas	CT Only	4.1 ppmvd at 15% O_2	Initial: EPA Method 10 (baseload)
		Natural Gas	CT & DB	7.6 ppmvd at 15% O_2	Initial: EPA Methods 10 (baseload and duct firing)
		ULSLO	CT Only	8 ppmvd at 15% O_2	Initial: EPA Method 10 (baseload)
	H	Natural Gas	CT Only	5 ppmvd at 15% O_2	Initial: EPA Method 10 (baseload)
		Natural Gas	CT & DB	7.2 ppmvd at 15% O_2	Initial: EPA Methods 10 (baseload and duct firing)
		ULSLO	CT Only	10 ppmvd at 15% O_2	Initial: EPA Method 10 (baseload)
VOC	G	Natural Gas	CT Only	1.2 ppmvd at 15% O_2	Initial Only: EPA Methods 18 or 25a (baseload)
		Natural Gas	CT & DB	1.6 ppmvd at 15% O_2	Initial Only: EPA Methods 18 or 25a (baseload and duct firing)
		ULSLO	CT Only	6 ppmvd at 15% O_2	Initial Only: EPA Methods 18 or 25a (baseload)
	H	Natural Gas	CT Only	1.5 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)
		ULSLO	CT Only	2 ppmvd at 15% O_2	Initial Only: EPA Methods 18 or 25a (baseload)
PM/PM_{10}	G and H	Natural Gas	CT, CT & DB	10% Opacity	Initial/Annual: EPA Method 9
	G and H	ULSLO	CT	10% Opacity	Initial/Annual: EPA Method 9
SO_2 and SAM	G and H	Natural Gas	CT, CT & DB	2 grains S/100 scf	Initial/Annual: 40 CFR Part 75 Fuel Sampling
	G and H	ULSLO	CT	0.0015% S	Initial/Annual: 40 CFR Part 75 Fuel Sampling

Note: CT = combustion turbine; G = MHI 501G Class CT; H = Siemens H CT; DB = duct burners; ULSLO = ultra low-sulfur light oil.

5.0 AMBIENT MONITORING ANALYSIS

If PSD review is required, FDEP's PSD regulations require that an air quality monitoring analysis be conducted for each criteria and non-criteria pollutant subject to regulation under the Act before a major stationary source or major modification at 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.

For CCEC, the net emissions changes will be less than the PSD significant emission rates. As a result, an air quality monitoring impact analysis is not required by new source review under FDEP air regulations. As a supplement to the Air Construction Permit Application, air quality monitoring data are provided, which demonstrate that Brevard County is in attainment of the AAQS for all criteria pollutants. A summary of the maximum pollutant concentrations representative of air quality in Brevard County from 2005 through 2008 is presented in Table 5-1. These data indicate that the maximum air quality concentrations measured in the region are well below applicable standards.

The monitoring data are also used to estimate background concentrations that are added to the maximum concentrations predicted for the existing Cape Canaveral Plant and CCEC to provide total air quality impacts that can be compared to the AAQS (see Section 6.1).

TABLE 5-1
SUMMARY OF MAXIMUM MEASURED SO_2, NO_2, PM_{10}, $PM_{2.5}$, O_3, AND CO CONCENTRATIONS
REPRESENTATIVE OF CCEC PROJECT, 2005 THROUGH 2008

Pollutant/ AIRS Site No.	Location	County	Measurement Period Year	Measurement Period Months	Measured Concentration 1-Hour Highest	1-Hour 2nd Highest	3-Hour Highest	3-Hour 2nd Highest	8-Hour Highest	8-Hour 2nd Highest	8-Hour 3-year Average 4th Highest	24-Hour Highest	24-Hour 2nd Highest	Annual Average
Sulfur dioxide	**Florida AAQS**				**NA**	**NA**	**NA**	**0.5 ppm**	**NA**	**NA**	**NA**	**NA**	**0.1 ppm**	**0.02 ppm**
12-009-0011	Cocoa/ 6315 Depot Ave.	Brevard	2008	Jan-Mar	NA	NA	0.006	0.005	NA	NA	NA	0.002	0.002	0.0011
			2007	Jan-Dec	NA	NA	0.029	0.024	NA	NA	NA	0.006	0.005	0.0012
			2006	Jan-Dec	NA	NA	0.007	0.003	NA	NA	NA	0.002	0.002	0.0011
Nitrogen dioxide	**Florida AAQS**				**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**0.053 ppm**
12-095-2002	Winter Park/ Morris Blvd.	Orange	2008	Jan-Mar	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0078
			2007	Jan-Dec	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0069
			2006	Jan-Dec	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0085
			2005	Jan-Dec	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0086
PM_{10} [a]	**Florida AAQS**				**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**150 $\mu g/m^3$**	**50 $\mu g/m^3$**
12-009-0011	Cocoa/ 6315 Depot Ave.	Brevard	2008	Jan-Mar	NA	NA	NA	NA	NA	NA	NA	32	24	14.6
			2007	Jan-Dec	NA	NA	NA	NA	NA	NA	NA	74	34	15.6
			2006	Jan-Dec	NA	NA	NA	NA	NA	NA	NA	27	26	14.1
12-009-0004	Titusville/ Tico Airport		2005	Jan-Dec	NA	NA	NA	NA	NA	NA	NA	60	48	15.5
$PM_{2.5}$ [a]	**Florida AAQS**				**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**(35 $\mu g/m^3$)**	**(15 $\mu g/m^3$)**
12-009-0007	Melbourne/ 401 Florida Ave.	Brevard	2008	Jan-Mar	NA	NA	NA	NA	NA	NA	NA	16.0	15.3	7.36
			2007	Jan-Dec	NA	NA	NA	NA	NA	NA	NA	23.5	21.9	7.29
			2006	Jan-Dec	NA	NA	NA	NA	NA	NA	NA	36.0	34.7	8.99
			2005	Jan-Dec	NA	NA	NA	NA	NA	NA	NA	31.5	30.3	11.4
Ozone [b]	**Florida AAQS**				**NA**	**0.12 ppm**	**NA**	**NA**	**NA**	**NA**	**0.08 ppm**	**NA**	**NA**	**NA**
12-009-0007	Melbourne/ 401 Florida Ave.	Brevard	2008	Jan-Jun	0.084	0.074	NA	NA	NA	NA	0.069	NA	NA	NA
			2007	Jan-Dec	0.079	0.077	NA	NA	NA	NA	0.069	NA	NA	NA
			2006	Jan-Dec	0.094	0.083	NA	NA	NA	NA	0.069	NA	NA	NA
			2005	Jan-Dec	0.081	0.077	NA	NA	NA	NA	0.068	NA	NA	NA
12-009-4001	Cocoa Beach/ 400 South 4th Street	Brevard	2008	Jan-Jun	0.105	0.070	NA	NA	NA	NA	0.071	NA	NA	NA
	Freedom 7 Elementary School		2007	Jan-Dec	0.085	0.080	NA	NA	NA	NA	0.072	NA	NA	NA
			2006	Jan-Dec	0.091	0.089	NA	NA	NA	NA	0.072	NA	NA	NA
			2005	Jan-Dec	0.082	0.081	NA	NA	NA	NA	0.070	NA	NA	NA
Carbon monoxide	**Florida AAQS**				**NA**	**35 ppm**	**NA**	**NA**	**NA**	**9 ppm**	**NA**	**NA**	**NA**	**NA**
12-095-2002	Winter Park/ Morris Blvd.	Orange	2008	Jan-Mar	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
			2007	Jan-Dec	1.6	1.5	NA	NA	1.0	1.0	NA	NA	NA	NA
			2006	Jan-Dec	2.5	2.3	NA	NA	1.7	1.5	NA	NA	NA	NA
			2005	Jan-Dec	2.2	2.1	NA	NA	2.0	1.8	NA	NA	NA	NA
12-095-1005	Orlando/ No. 1 Orange Ave.	Orange	2008	Jan-Mar	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
			2007	Jan-Dec	4.2	4.1	NA	NA	2.3	1.7	NA	NA	NA	NA
			2006	Jan-Dec	3.0	2.3	NA	NA	1.6	1.5	NA	NA	NA	NA
			2005	Jan-Dec	8.6	7.8	NA	NA	5.2	2.6	NA	NA	NA	NA

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

[a] On October 17, 2006, EPA promulgated revised PM_{10} and $PM_{2.5}$ AAQS; the $PM_{2.5}$ AAQS had been promulgated on July 18, 1997. For PM_{10}, the annual standard was revoked and the 24-hour standard was retained.
The 24-hour $PM_{2.5}$ standard was revised to 35 $\mu g/m^3$ based on the 3-year averages of the 98th percentile values. The annual $PM_{2.5}$ standard of 15 $\mu g/m^3$, 3-year averages at community monitors, was retained.
As of August 2008, Florida DEP has not yet adopted the revised standards.

[b] 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.
On March 27, 2008, EPA revised the 8-hour average ozone AAQS to 0.075 ppm, effective May 27, 2008. The format of the standard remained the same as the previous promulgation.
As of August 2008, Florida DEP has not yet adopted the revised standards.

6.0 AIR QUALITY IMPACT ANALYSIS

In general, CCEC will significantly improve air quality in the vicinity of the Site. CCEC will reduce actual emissions of air pollutants by more than 19,000 TPY from the existing operation or more than a 90-percent reduction, while improving the general air quality in the vicinity of the Site.

For the CCEC Project, the net emissions changes will be less than the PSD significant emission rates. As a result, an air quality impact analysis is not required by NSR under FDEP air regulations. However, as a supplement to the Air Construction Permit Application, air quality impacts were estimated for the existing Plant and CCEC in the vicinity of the Site for comparison to the AAQS. The general modeling approach followed EPA and FDEP modeling guidelines.

As shown in Table 6-1 and Figure 6-1, the maximum total air quality impacts for both the existing Units 1 and 2 and CCEC are predicted to be well below the AAQS and, therefore, comply with the AAQS. Total air quality impacts include the maximum impacts predicted for the existing Plant or CCEC added to background concentrations. Background concentrations are based on the maximum measured concentration from representative air quality data for the Site (see Section 5.0).

For SO_2, the predicted maximum total impacts for the existing Plant are 40 percent or less of the AAQS. By comparison, predicted maximum total impacts for CCEC will be less than 10 percent of the AAQS.

For PM_{10}, the predicted maximum total impacts for the existing Plant are less than 40 percent of the AAQS. By comparison, the predicted maximum total impacts for CCEC will be 35 percent or less of the AAQS. However, as shown in Table 6-1, the predicted maximum impacts for CCEC are less than 50 percent of those from the existing Plant. Background concentrations are the major contributors to the maximum total air quality impacts.

For NO_2 and CO, the predicted maximum total air quality impacts are also primarily due to background concentrations. For both the existing Plant and CCEC, the predicted maximum total NO_2 impacts are 25 percent or less of the AAQS. The maximum NO_2 impacts for CCEC are predicted along the Site boundary nearest the compressor station, with more than 60 percent due to background concentration. The predicted maximum total CO impacts are predicted to be 30 percent or less of the AAQS, with more than 95 percent due to background concentration.

6.1 Air Modeling Analysis Approach

6.1.1 Air Modeling Scenarios

Several air quality analyses were performed to assess the maximum impacts for the existing Plant and CCEC. For the existing Plant, air quality impacts were predicted for the existing Units 1 and 2, which were added to non-modeled background concentrations (see Section 6.1.8) to produce total air quality impacts. These impacts were then compared to the AAQS for SO_2, NO_2, PM_{10}, and CO.

Similarly, CCEC air quality impacts were predicted for each of the CT vendors and other air emission units for CCEC, such as the fuel heater, gas compressor station, and auxiliary boiler, to produce total air quality impacts, which were then compared to the AAQS for SO_2, NO_2, PM_{10}, and CO.

6.1.2 General Modeling Approach

In general, when model predictions are used to determine compliance with AAQS, current policies stipulate that the highest annual and the HSH short-term (i.e., 24 hours or less) concentrations are compared to the applicable AAQS when using 5 years of meteorological data for the analysis. 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, which generally allows a short-term average concentration to be exceeded once per year at each receptor.

The AAQS analysis performed for the Project is a source analysis that evaluates whether the concentrations from sources will comply with the AAQS. These concentrations include the modeled impacts from sources at the Site added to a background concentration. The background concentration accounts for sources not included in the modeling analysis.

6.1.3 Model Selection

The selection of air quality models to calculate air quality impacts for the existing Cape Canaveral Plant and CCEC must be based on the models' ability to simulate impacts in the vicinity of the Site. The American Meteorological Society and EPA Regulatory Model (AERMOD) dispersion model was used to evaluate the pollutant impacts due to the proposed sources at CCEC. AERMOD (Version 07026) is available on the EPA's Internet web site, Support Center for Regulatory Air Models (SCRAM), within the Technology Transfer Network (TTN). A listing of AERMOD model features is presented in Table 6-2.

The EPA and FDEP recommend that AERMOD be used to predict pollutant concentrations at receptors located within 50 km from a source. AERMOD calculates hourly concentrations based on hourly meteorological data. AERMOD is applicable for most analyses since it is recognized as containing the latest scientific algorithms for simulating plume behavior in all types of terrain.

AERMOD was used to predict the maximum pollutant concentrations due to the existing Plant and converted Plant in nearby areas surrounding the Site.

For modeling analyses that will undergo regulatory review, such as determining compliance with AAQS, the following model features are recommended by EPA for rural mode and are referred to as the regulatory default options in AERMOD:

1. Final plume rise at all receptor locations;
2. Stack-tip downwash;
3. Buoyancy-induced dispersion;
4. Default wind speed profile coefficients for rural mode;
5. Default vertical potential temperature gradients; and
6. Calm wind processing.

The EPA regulatory default options were used to address maximum impacts.

6.1.4 Meteorological Data

Meteorological data used in AERMOD to determine air quality impacts consisted of a concurrent 5-year period of hourly surface weather observations and upper air sounding data collected from the National Weather Service (NWS) stations located at the at the Daytona Beach (KDAB) and Jacksonville International Airports, respectively. The 5-year period of the meteorological data was from 2001 through 2005. The NWS office at KDAB is located approximately 80 km (50 miles) north-northwest of the Site and is the closest primary weather station to the study area considered to have meteorological data representative of the Site.

Since the KDAB meteorological station is only 80 km from the Site and the terrain between the two sites is mostly flat, the wind direction and wind speed frequencies that are experienced at KDAB are considered to be very similar to that experienced at the Site. As such, the KDAB wind direction and wind speed frequencies are considered to be representative of the Site.

A comparison of the average land use parameters at KDAB and the Site was performed using the AERSURFACE program. AERSURFACE reads land use files developed by the U.S. Geological Survey (USGS) and provides average land use values for albedo, Bowen Ratio, and surface roughness within a specified radius based on EPA guidance (i.e., 10 km for albedo and Bowen Ratio; 1 km for surface roughness). The average land uses values of each site were estimated as follows:

Average land use around KDAB:

- Albedo – 0.15;
- Bowen ratio – 0.361; and
- Surface roughness – 0.316 m.

Average land use around the Site:

- Albedo – 0.13;
- Bowen ratio – 0.204; and
- Surface roughness – 0.341 m.

As indicated, the average albedo, Bowen ratio, and surface roughness for the two sites are considered similar. However, values for certain areas around the Plant are somewhat different, particularly for surface roughness over water near the Site. Therefore, while the wind direction and wind speed frequencies are considered quite representative of the Site, the surface roughness value at KDAB is considered to be less representative for certain directions than that at the Site. It should be noted that in spite of the very flat terrain that is characteristic of south Florida, such differences in land use within even 30 km, are not uncommon or unexpected in this area. Since all of south Florida's major airports are located within the fringe of the large urbanized area, the average surface roughness at these areas can be greater than those found in similar areas, but located closer to large water bodies, such as the Site. Consequently, unless a project site is very close to where surface observations are measured, the two sites are not necessarily going to share all of the same meteorological and land use characteristics.

As such, the KDAB meteorological data were selected for the Site, and, in spite of some data differences noted previously, the KDAB data are considered the most representative and are readily available for modeling of the Sitė. It should be noted that the KDAB 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 Brevard County.

To assess the potential effect that the differences in land use values between the KDAB and Site may have on the maximum predicted concentrations in the vicinity of the Site, the KDAB meteorological data were processed with the land use values developed for the Site. An air modeling analysis was then performed using these data and the results compared with those predicted using the KDAB land use values. The results of this analysis are presented in Appendix C.

These results indicate that, for the Site, incorporation of the Site's land use parameters in the air modeling analysis result in predicted air quality impacts that are lower than those predicted with the KDAB land use parameters.

6.1.5 Emission Inventory

Existing FPL Units- The emissions and stack parameters for the existing Units 1 and 2 at the Cape Canaveral Plant are presented in Table 6-3. As discussed in Section 1.0, Units 1 and 2 will be retired prior to CCEC operation.

The operating data for exit gas flow rate and temperature are based on stack tests performed for both units in 2007. Because the operating data were similar for each unit, the values for each unit were averaged together to produce one value for flow rate and temperature for both units. The flow rate was adjusted from the heat input rate from the stack test to the maximum heat input for each unit.

The pollutant emission rates were based on the maximum rate allowed by the permit for each unit (Permit No. 090006-003-AV), EPA AP-42 emission factors for combustion of fuel oil, or, in the case of SO_2, the maximum historical sulfur content of 1 percent used over the last 5 years. It should be noted that the existing units are authorized to use fuel oil with a maximum sulfur content of 2.5 percent.

CCEC Sources- Summaries of the criteria pollutant emission rates, physical stack and stack operating parameters for the CTs for CCEC that were used in the air modeling analysis are presented in Tables 2-1 and 2-2, as well as Appendix A.

The maximum air quality impacts for CCEC were predicted for a range of possible operating conditions. The emission and stack operating parameters for the CTs are presented for two operating loads and 35°F, 59°F, and 95°F ambient temperatures for the CTs firing both natural gas and oil. A total of 12 modeling scenarios were considered for combined cycle configurations with the CTs operating in the following conditions:

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

To determine the operating load that produced the maximum impacts from the CTs, an emission rate of 79.365 pounds per hour (lb/hr) or 10 grams per second (g/s) was initially used for the Power Block. Each CT was modeled with 1/3 of these emissions. These modeling results produced relative concentrations as a function of the modeled emission rate (i.e., $\mu g/m^3$ per 10.0 g/s). 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., 79.365 lb/hr (10.0 g/s)].

For these analyses, as a conservative estimate of impacts during natural gas-firing, the pollutant emissions at 100 percent load included duct-firing for every hour in the year even though duct-firing will be limited to 2,880 hr/yr.

The load analysis was performed using the exit gas operating data for the MPS 501G Class CT and Siemens H CT. Once the worst-case operating condition was determined for each CT, subsequent analyses were performed with exit gas operating data specific to each CT vendor.

Additional analyses were performed for SO_2, NO_x, PM_{10}, and CO emissions to address the combined impact of the CTs and other CCEC sources. As noted previously, the exit gas operating data specific to each CT vendor were used. Modeling was performed that included the CTs and fuel heater with the CTs operating load that produced the maximum CT impact from the generic impact analysis. Modeling was also performed that included the CTs, fuel heater, and gas compressor station, again based on the CTs operating load that produced the maximum CT impact from the generic impact analysis.

A separate air quality analysis was performed for the auxiliary boiler alone, which will be used to assist in startup for one of the CTs. As discussed previously, the combustor for the CTs requires steam for combustor cooling, which normally comes from the HRSG. For startup, an auxiliary boiler is required to supply steam for the combustion process for only one CT. Once sufficient quality and quantity of steam is available from the HRSG, steam from the auxiliary boiler is not required for the other CTs. It was conservatively assumed that the annual operation of the auxiliary boiler would be 500 hr/yr for the startup of the CT.

Detailed descriptions of the other CCEC sources are presented in Tables 2-3 through 2-8 in Section 2.0 and Appendix A.

The proposed CTs will have a HRSG stack height of 149 feet and an inner stack diameter of 22 feet. Because the proposed stack heights are less than GEP, building downwash effects were included in the modeling analysis (see following section on building downwash). In addition, since the stack heights for the other CCEC sources are also less than GEP, building downwash effects were included in the modeling analysis for these sources.

6.1.6 Building Downwash Effects

All significant building structures for CCEC were identified by the Site plot plan (see Figure 2-1). The following building structures were processed in the EPA Building Profile Input Program [(BPIP), Version 04274] 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:

Structure	Height (feet)	Width (feet)	Length (feet)
CT Air Inlet	97	24	59
HRSG Structure	77	35	90
CT Structure	35	99	24
STG Structure	52	150	43
Compressor Station	20	30	75
Existing Units 1 and 2	143	70	90

As a conservative estimate of potential impacts, the gas compressors were assumed to be in an enclosed building. However, each of the gas compressors may stand-alone and not be enclosed in any structure.

Based on this evaluation, the GEP stack height for the CTs was determined to be 193 feet. Therefore, building downwash effects for the CTs were included in the air modeling analyses. With stack heights of 60 feet or less for the other CCEC sources, building downwash effects were included in the modeling analysis for these sources. The BPIP files are presented in Appendix D.

6.1.7 Receptor Locations

To determine the maximum impact for all pollutants and averaging times in the vicinity of the Site, concentrations were predicted at receptors located in detailed receptor grids centered on the proposed units, the modeling origin, and extended from the Site out to 5 km. Although the terrain around the immediate vicinity is flat, receptor elevations were included at each receptor in the analysis.

Along the Site boundary, a Cartesian receptor grid was used to predict concentrations at 56 receptors spaced at 50-meter intervals. In addition, a general Cartesian grid was used to predict concentrations beyond the Site boundary out to 5 km. Receptors were located at the following intervals and distances from the origin:

- Along the Site boundary or fenceline – 50 m;
- Beyond the fenceline to 2 km – 100 m; and
- From 2 km to 5 km – 250 m.

More than 3,000 receptors were used in the analysis to determine the maximum impacts for the existing and converted Plants and are presented in Appendix D.

6.1.8 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, 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.

Summaries of ambient SO_2, PM_{10}, NO_2, and CO concentrations measured are presented in Section 5.0. Based on data collected from 2005 to 2008, the highest annual and second-highest short-term concentrations were selected to represent background concentrations and are as follows:

Pollutant	Averaging Period	Background Concentration (ppm)	Background Concentration ($\mu g/m^3$)
SO_2	3-hour	0.024	62.8
	24-hour	0.005	13.1
	Annual	0.0012	3.1
PM_{10}	24-hour	NA	48
	Annual	NA	15.6
NO_2	Annual	0.0086	16.2
CO	1-hour	7.8	8,925
	8-hour	2.6	2,975

6.2 Model Results

6.2.1 Air Quality Impacts for the Existing FPL Units

Air modeling analyses were performed to determine the maximum total air quality impacts of SO_2, NO_2, PM_{10}, and CO from Units 1 and 2 at the existing Cape Canaveral Plant and background concentrations. A summary of the maximum total air quality predicted for comparison to the AAQS is presented in Table 6-4. These results indicate that the maximum pollutant impacts predicted for the existing Plant are less than the AAQS.

The highest annual, HSH 24-hour, and HSH 3-hour SO_2 concentrations are predicted to be 18, 103, and 284 $\mu g/m^3$, respectively. These concentrations are below the annual, 24-hour, and 3-hour SO_2 AAQS of 60, 260, and 1,300 $\mu g/m^3$, respectively.

The highest annual NO_2 concentration is predicted to be 19 $\mu g/m^3$, which is below the annual NO_x AAQS of 100 $\mu g/m^3$.

The highest annual and HSH 24-hour PM_{10} concentrations are 17 and 58 $\mu g/m^3$, respectively. These concentrations are below the annual and 24-hour PM_{10} AAQS of 50 and 150 $\mu g/m^3$, respectively.

The highest HSH 8-hour and HSH 1-hour CO concentrations are predicted to be 2,980 and 8,936 μg/m^3, respectively. These concentrations are below the 8-hour and 1-hour CO AAQS of 10,000 and 40,000 μg/m^3, respectively. It should be noted that the background concentrations contribute more than 99 percent to the total air quality impacts.

6.2.2 Air Quality Impacts due to CCEC

The maximum pollutant concentrations predicted for CTs for CCEC are given in Tables 6-5 and 6-6. The maximum concentrations predicted for the CTs firing natural gas and fuel oil are presented in Table 6-5. Based on the worst-case operating condition, two additional modeling analyses were performed. The first analysis included the CTs and fuel heater and the second analysis included the CTs, fuel heater, and gas compressor station. The results of these additional analyses are also presented in Table 6-5.

The maximum concentrations for CCEC, including the CTs, fuel heater, and gas compression station as well as background concentrations, for comparison to the AAQS are presented in Table 6-6. As shown in Table 6-6, the modeling results indicate that maximum concentrations are predicted to be less than the AAQS and are comparable among the CT vendors considered.

CTs and Fuel Heater

For the CTs and fuel heater, the highest annual, HSH 24-hour, and HSH 3-hour SO_2 concentrations are predicted to be 3.4, 16, and 75 μg/m^3, respectively. These concentrations are below the annual, 24-hour, and 3-hour SO_2 AAQS of 60, 260, and 1,300 μg/m^3, respectively.

The highest annual NO_2 concentration is predicted to be 18 μg/m^3, which is below the annual NO_x AAQS of 100 μg/m^3.

The highest annual and HSH 24-hour PM_{10} concentrations are 16 and 52 μg/m^3, respectively. These concentrations are below the annual and 24-hour PM_{10} AAQS of 50 and 150 μg/m^3, respectively.

The highest HSH 8-hour and HSH 1-hour CO concentrations are predicted to be 3,040 and 9,042 μg/m^3, respectively. These concentrations are below the 8-hour and 1-hour CO AAQS of 10,000 and 40,000 μg/m^3, respectively. Similar to the air quality impacts predicted for the existing FPL units, the background concentrations contribute more than 99 percent to the total air quality impacts.

CTs, Fuel Heater, and Gas Compressor Station

For the CTs, fuel heater, and gas compressor station, the results are similar to or slightly higher than those for the CTs and fuel heater alone. The highest annual, HSH 24-hour, and HSH 3-hour SO_2 concentrations are predicted to be 3.5, 16, and 75 $\mu g/m^3$, respectively. These concentrations are below the annual, 24-hour, and 3-hour SO_2 AAQS of 60, 260, and 1,300 $\mu g/m^3$, respectively.

The highest annual NO_2 concentration is predicted to be 25 $\mu g/m^3$, which is below the annual NO_x AAQS of 100 $\mu g/m^3$.

The highest annual and HSH 24-hour PM_{10} concentrations are 16 and 53 $\mu g/m^3$, respectively. These concentrations are below the annual and 24-hour PM_{10} AAQS of 50 and 150 $\mu g/m^3$, respectively.

The highest HSH 8-hour and HSH 1-hour CO concentrations are predicted to be 3,045 and 9,049 $\mu g/m^3$, respectively. These concentrations are below the 8-hour and 1-hour CO AAQS of 10,000 and 40,000 $\mu g/m^3$, respectively. Again, the background concentrations contribute more than 99 percent to the total air quality impacts.

Auxiliary Boiler

The maximum concentrations for the auxiliary boiler for the converted Plant with background concentrations, for comparison to the AAQS are presented in Table 6-7. It should be noted that the auxiliary boiler is needed only for the MPS 501G1 and MPS 501G1PLUS CT for startup of the CT. As shown in Table 6-7, the modeling results indicate that maximum concentrations due to the auxiliary boiler are also predicted to be less than the AAQS and are similar to those predicted for the CTs and other CCEC sources.

The highest annual, HSH 24-hour, and HSH 3-hour SO_2 concentrations are predicted to be 3.1, 16, and 69 $\mu g/m^3$, respectively. These concentrations are below the annual, 24-hour, and 3-hour SO_2 AAQS of 60, 260, and 1,300 $\mu g/m^3$, respectively.

The highest annual NO_2 concentration is predicted to be 16 $\mu g/m^3$, which is below the annual NO_x AAQS of 100 $\mu g/m^3$.

The highest annual and HSH 24-hour PM_{10} concentrations are 16 and 49 $\mu g/m^3$, respectively. These concentrations are below the annual and 24-hour PM_{10} AAQS of 50 and 150 $\mu g/m^3$, respectively.

The highest HSH 8-hour and HSH 1-hour CO concentrations are predicted to be 3,035 and 9,039 $\mu g/m^3$, respectively. These concentrations are below the 8-hour and 1-hour CO AAQS of 10,000 and 40,000 $\mu g/m^3$, respectively.

Examples of the modeling input and summary files are provided in Appendix E.

6.3 Conclusions

Based on these air quality modeling analyses, the maximum pollutant concentrations due to CCEC are predicted to be less than the AAQS and will comply with all applicable AAQS. Indeed, the modeling results clearly demonstrate that Florida's air quality will be protected and be improved with the converted Plant. This is demonstrated by Figure 6-1, which presents the maximum total air quality impacts predicted for the existing Units 1 and 2 and CCEC compared to the AAQS. As shown in Figure 6-1, there is improvement in the maximum total air quality concentrations for SO_2 and PM_{10} with CCEC. As discussed earlier, the maximum annual NO_2 concentrations are predicted to be higher for CCEC, but are still well below the AAQS. The predicted impacts for CCEC are primarily due to the gas compressor station. Moreover, there is a reduction in NO_x emissions by over 7,000 tons/year with the CCEC Project. The maximum total CO impacts for CCEC are predicted to be much lower than the AAQS, with more than 95 percent due to background concentration.

In conclusion, CCEC will reduce actual emissions of air pollutants by more than 19,000 TPY from the existing operation, or more than 90-percent reduction, while improving the general air quality in the vicinity of the Site. Indeed, the maximum generating capacity of CCEC is 54 percent higher than the existing units. This will be accomplished using the cleanest fuels, advanced combustion technology and additional control for NO_x emissions.

TABLE 6-1
SUMMARY OF PREDICTED POLLUTANT CONCENTRATIONS FOR THE EXISTING CAPE CANAVERAL PLANT AND CCEC COMPARED TO AMBIENT AIR QUALITY STANDARDS

		Maximum Concentration (ug/m^3)		Total Concentration (ug/m^3) including Background [a]		Ambient Air Quality Standard (AAQS)
Pollutant	**Averaging Time**	**Existing Units 1&2 Only**	**CCEC Only [b]**	**Units 1&2**	**CCEC [b]**	**(µg/m^3)**
SO_2	Annual	14.9	0.4	18.0	3.5	60
	24-Hour	90.0	3.1	103	16.2	260
	3-Hour	221	12.2	284	75.0	1,300
PM_{10}	Annual	1.7	0.5	17.3	16.1	50
	24-Hour	10.2	4.7	58.2	52.7	150
NO_2	Annual	2.7	8.9	18.9	25.1	100
CO	8-Hour	5.1	70.4	2,980	3,045	10,000
	1-Hour	10.9	124	8,936	9,049	40,000

[a] Background concentration based on the maximum measured concentration from representative air quality data for the Site.

[b] CCEC sources include the 3 CTs/HRSGs, fuel heater, and gas compressors.

TABLE 6-2

MAJOR FEATURES OF THE AERMOD MODEL, VERSION 07026

AERMOD Model Features
• Plume dispersion/growth rates are determined by the profile of vertical and horizontal turbulence, vary with height, and use a continuous growth function.
• In a convective atmosphere, uses three separate algorithms to describe plume behavior as it comes in contact with the mixed layer lid; in a stable atmosphere uses a mechanically mixed layer near the surface.
• Polar or Cartesian coordinate systems for receptor locations can be included directly or by an external file reference.
• Urban model dispersion is input as a function of City size and population density; sources can also be modeled individually as urban sources.
• Stable plume rise: uses Briggs equations with winds and temperature gradients at stack top up to half way up to plume rise. Convective plume rise: plume superimposed on random convective velocities.
• Procedures suggested by Briggs (1974) for evaluating stack-tip downwash.
• Has capability of simulating point, volume, area, and multi-sized area sources.
• Accounts for the effects of vertical variations in wind and turbulence (Brower et al., 1998).
• Uses measured and computed boundary layer parameters and similarity relationships to develop vertical profiles of wind, temperature, and turbulence (Brower et al., 1998).
• Concentration estimates for 1-hour to annual average times.
• Creates vertical profiles of wind, temperature, and turbulence using all available measurement levels.
• Terrain features are depicted by use of a controlling hill elevation and a receptor point elevation.
• Modeling domain surface characteristics are determined by selected direction and month/season values of surface roughness length, Albedo, and Bowen ratio.
• Contains both a mechanical and convective mixed layer height, the latter based on the hourly accumulation of sensible heat flux.
• The method of Pasquill (1976) to account for buoyancy-induced dispersion.
• A default regulatory option to set various model options and parameters to EPA-recommended values.
• Contains procedures for calm-wind and missing data for the processing of short term averages.

Note: AERMOD = The American Meteorological Society and Environmental Protection Agency Regulatory Model.

Source: EPA, 2007.

TABLE 6-3
EXISTING FPL CAPE CANAVERAL PLANT, UNITS 1 AND 2
STACK, OPERATING, AND EMISSION DATA

Parameter	Units	Operating and Emission Data	
		Unit 1	Unit 2
Stack Data			
Height	feet	397	397
Diameter	feet	18.7	18.7
Operating Data[a]			
Heat input[b]	MMBtu/hr	4,000	4,000
Temperature	°F	292	292
Flow rate	acfm	1,448,188	1,448,188
Velocity	ft/sec	87.9	87.9
Maximum Hourly Emissions			
SO_2	lb/MMBtu[c]	1.10	1.10
	lb/hr	4,400	4,400
PM/PM_{10}	lb/MMBtu[b,d]	0.125	0.125
	lb/hr	500	500
NO_x	lb/MMBtu[e]	0.26	0.26
	lb/hr	1,060	1,060
CO	lb/MMBtu[e]	0.03	0.03
	lb/hr	132.5	132.5

[a] Stack and operating parameters based on 2007 stack test data, using average flow rate and temperature.

[b] Based on Permit No. 0990006-003-AV.

[c] Based on use of maximum historical sulfur fuel oil content of 1 percent.

[d] Based on 0.3 lb/MMBtu for 3 hr/day and 0.1 lb/MMBtu for 21 hr/day.

[e] Based on AP-42 emission factor for combustion for No. 6 fuel oil (Table 1.3-1, U.S. EPA, 1998) and 151 MMBtu/1,000 gal: NO_x: 40 lb/1000 gal
CO: 5 lb/1000 gal

TABLE 6-4
SUMMARY OF POLLUTANT CONCENTRATIONS PREDICTED FOR THE EXISTING CAPE CANAVERAL PLANT COMPARED TO AMBIENT AIR QUALITY STANDARDS

Pollutant	Emission Basis (lb/MMBtu)	Emission Rate Per Unit (lb/hr)	Averaging Time	Units 1 & 2 Maximum Concentration [a] ($\mu g/m^3$)	Background Concentration [b] ($\mu g/m^3$)	Total Concentration ($\mu g/m^3$)	Ambient Air Quality Standard (AAQS) ($\mu g/m^3$)
<u>Units 1 & 2</u>							
SO_2	1.10	4,400	Annual	14.9	3.1	18.0	60
			24-Hour	90.0	13.1	103.1	260
			3-Hour	221	62.8	284.0	1,300
PM_{10}	0.125	500	Annual	1.7	15.6	17.3	50
			24-Hour	10.2	48.0	58.2	150
NO_x [c]	0.26	1,060	Annual	2.7	16.2	18.9	100
CO	0.03	132.5	8-Hour	5.1	2975	2980	10,000
			1-Hour	10.9	8925	8936	40,000

[a] Concentrations are based on highest predicted concentrations from AERMOD using 5 years of meteorological data for 2001 to 2005 consisting of surface and upper air data from the National Weather Service stations at Daytona Beach and Jacksonville International Airports, respectively.
Based on highest annual and highest, second-highest short-term average concentrations predicted for the units, by ratioing modeled rate to pollutant specific rate:

Modeled Rate (lb/hr)	Averaging Time	Predicted Concentration ($\mu g/m^3$)
79.37	Annual	0.134
	24-Hour	0.812
	8-Hour	1.530
	3-Hour	1.995
	1-Hour	3.254

[b] Based on highest annual and second-highest short-term average concentrations measured at representative monitoring stations nearest the Site.
[c] NO_x to NO_2 conversion factor of 0.75 applied to modeled NO_x impacts based on EPA Modeling Guidelines.

TABLE 6-5
SUMMARY OF MAXIMUM POLLUTANT CONCENTRATIONS PREDICTED FOR NATURAL GAS- AND DISTILLATE FUEL OIL-FIRING FOR CCEC

		MPS 501G Class			Siemens H		
		Maximum Predicted Concentration ($\mu g/m^3$)			Maximum Predicted Concentration ($\mu g/m^3$)		
Pollutant	Averaging Time	Natural Gas	Fuel Oil	Maximum	Natural Gas	Fuel Oil	Maximum
CTs Only [a]							
SO_2	Annual	0.34	0.03	0.34	0.28	0.031	0.28
	24-Hour	4.32	0.49	4.32	3.64	0.49	3.64
	3-Hour	13.6	1.93	13.6	11.44	1.86	11.44
PM_{10}	Annual	0.21	0.33	0.23	0.26	0.37	0.27
	24-Hour	2.73	5.22	5.22	3.48	5.92	5.92
NO_2	Annual [c]	0.33	0.47	0.34	0.28	0.55	0.31
CO	8-Hour	35.7	90.7	90.7	37.4	26.9	37.4
	1-Hour	45.1	127.3	127.3	46.7	35.5	46.7
CTs and Fuel Heater							
SO_2	Annual	0.34	NM	0.34	0.34	NM	0.34
	24-Hour	4.33	NM	4.33	4.27	NM	4.27
	3-Hour	13.5	NM	13.5	13.5	NM	13.5
PM_{10}	Annual	NM	0.33	0.33	NM	0.37	0.37
	24-Hour	NM	5.22	5.22	NM	5.93	5.93
NO_2	Annual [c]	NM	1.57	1.57	NM	1.57	1.57
CO	8-Hour	NM	91.0	91.0	38.0	NM	38.0
	1-Hour	NM	120.6	120.6	47.1	NM	47.1
CTs, Fuel Heater, and Gas Compressors [b]							
SO_2	Annual	0.40	NM	0.40	0.39	NM	0.39
	24-Hour	4.53	NM	4.53	4.49	NM	4.49
	3-Hour	13.7	NM	13.7	13.8	NM	13.8
PM_{10}	Annual	NM	0.44	0.44	NM	0.48	0.48
	24-Hour	NM	5.48	5.48	NM	6.42	6.42
NO_2	Annual [c]	NM	8.84	8.84	NM	8.86	8.86
CO	8-Hour	NM	94.0	94.0	48.6	NM	48.6
	1-Hour	NM	127.2	127.2	67.3	NM	67.3

[a] Based on pollutant emissions for each vendor.
Maximum annual average concentrations are based on prorating the maximum impacts for each operation by the following maximum number of hours requested for that operation:

	Hours for Each Operation		
Pollutant	Natural Gas with Duct-Firing	Fuel Oil	Total
SO_2	8,760	0	8,760
PM_{10}	7,760	1,000	8,760
NO_2	7,760	1,000	8,760

[b] Maximum impacts based on operating data for each vendor and worst-case conditions from CT load analysis:
For SO_2, MPS: gas-firing at 100% load, 95 °F (annual, 24-hour); Siemens: gas-firing at 100% load, 35 °F;
for PM_{10}, MPS: oil-firing at 75% load, 59 °F; Siemens: oil-firing at 75% load, 95 °F;
for NO_2, oil-firing at 75% load and 59 °F; for CO, MPS: oil-firing at 75% load, 95 °F (8-hour);
Siemens: gas-firing at 75% load, 35 °F (8-hour).

[c] NO_x to NO_2 conversion factor based on EPA Modeling Guidelines: 75 %.

Note: NM = Not Modeled.

TABLE 6-6
MAXIMUM POLLUTANT CONCENTRATIONS PREDICTED FOR CCEC COMPARED TO THE AAQS

		MPS 501G Class			Siemens H			
		Maximum Predicted Concentration ($\mu g/m^3$)			Maximum Predicted Concentration ($\mu g/m^3$)			
Pollutant	Averaging Time	CCEC [a]	Background [b]	Total	CCEC [a]	Background [b]	Total	AAQS ($\mu g/m^3$)
CTs and Fuel Heater								
SO_2	Annual	0.34	3.1	3.44	0.34	3.1	3.44	60
	24-Hour	2.92	13.1	16.0	2.85	13.1	15.9	260
	3-Hour	11.5	62.8	74.3	11.7	62.8	74.5	1,300
PM_{10}	Annual	0.33	15.6	15.9	0.37	15.6	16.0	50
	24-Hour	3.56	48.0	51.6	3.97	48.0	52.0	150
NO_2	Annual	1.57	16.2	17.8	1.57	16.2	17.8	100
CO	8-Hour	65.1	2,975	3,040	28.9	2,975	3,004	10,000
	1-Hour	117.4	8,925	9,042	46.4	8,925	8,971	40,000
CTs, Fuel Heater, and Gas Compressors								
SO_2	Annual	0.40	3.1	3.50	0.39	3.1	3.49	60
	24-Hour	3.06	13.1	16.2	3.09	13.1	16.2	260
	3-Hour	12.0	62.8	74.8	12.2	62.8	75.0	1,300
PM_{10}	Annual	0.44	15.6	16.0	0.48	15.6	16.1	50
	24-Hour	4.10	48.0	52.1	4.65	48.0	52.7	150
NO_2	Annual	8.84	16.2	25.0	8.86	16.2	25.1	100
CO	8-Hour	70.4	2,975	3,045	47.8	2,975	3,023	10,000
	1-Hour	123.7	8,925	9,049	65.9	8,925	8,991	40,000

[a] Based on highest annual and highest, second-highest short-term average concentrations predicted for the project.

[b] Based on highest annual and second-highest short-term average concentrations measured at representative monitoring stations nearest the Site.

TABLE 6-7
SUMMARY OF POLLUTANT CONCENTRATIONS PREDICTED FOR THE CCEC AUXILIARY BOILER
COMPARED TO EPA AMBIENT AIR QUALITY STANDARDS

Pollutant	Emission Rate	Units	Averaging Time	Maximum Concentration [a,d] (µg/m³)	Background Concentration [b] (µg/m³)	Total Concentration (µg/m³)	Ambient Air Quality Standard (AAQS) (µg/m³)
SO_2	0.14	TPY	Annual	0.013	3.1	3.1	60
	0.54	lb/hr	24-Hour	3.0	13.1	16.1	260
	0.54	lb/hr	3-Hour	6.1	62.8	68.9	1,300
PM_{10}	0.17	TPY	Annual	0.02	15.6	15.6	50
	0.70	lb/hr	24-Hour	1.0	48.0	49.0	150
NO_x [c]	1.25	TPY	Annual	0.09	16.2	16.3	100
CO	7.98	lb/hr	8-Hour	60.5	2,975	3035	10,000
	7.98	lb/hr	1-Hour	114.0	8,925	9039	40,000

[a] Concentrations are based on highest predicted concentrations from AERMOD using 5 years of meteorological data for 2001 to 2005 consisting of surface and upper air data from the National Weather Service stations at Daytona Beach and Jacksonville International Airports, respectively. Based on highest annual and highest short-term average concentrations predicted for the units, by ratioing modeled rate to pollutant specific rate:

Modeled Rate (lb/hr)	Averaging Time	Predicted Concentration (µg/m³)
79.37	Annual	16.9
	24-Hour	219.7
	8-Hour	300.6
	3-Hour	446.6
	1-Hour	566.7

[b] Based on highest annual and second-highest short-term average concentrations measured at representative monitoring stations nearest the Site.

[c] NO_x to NO_2 conversion factor of 0.75 applied to modeled NO_x impacts based on EPA Modeling Guidelines.

[d] Based on 500 hours/yr operation.

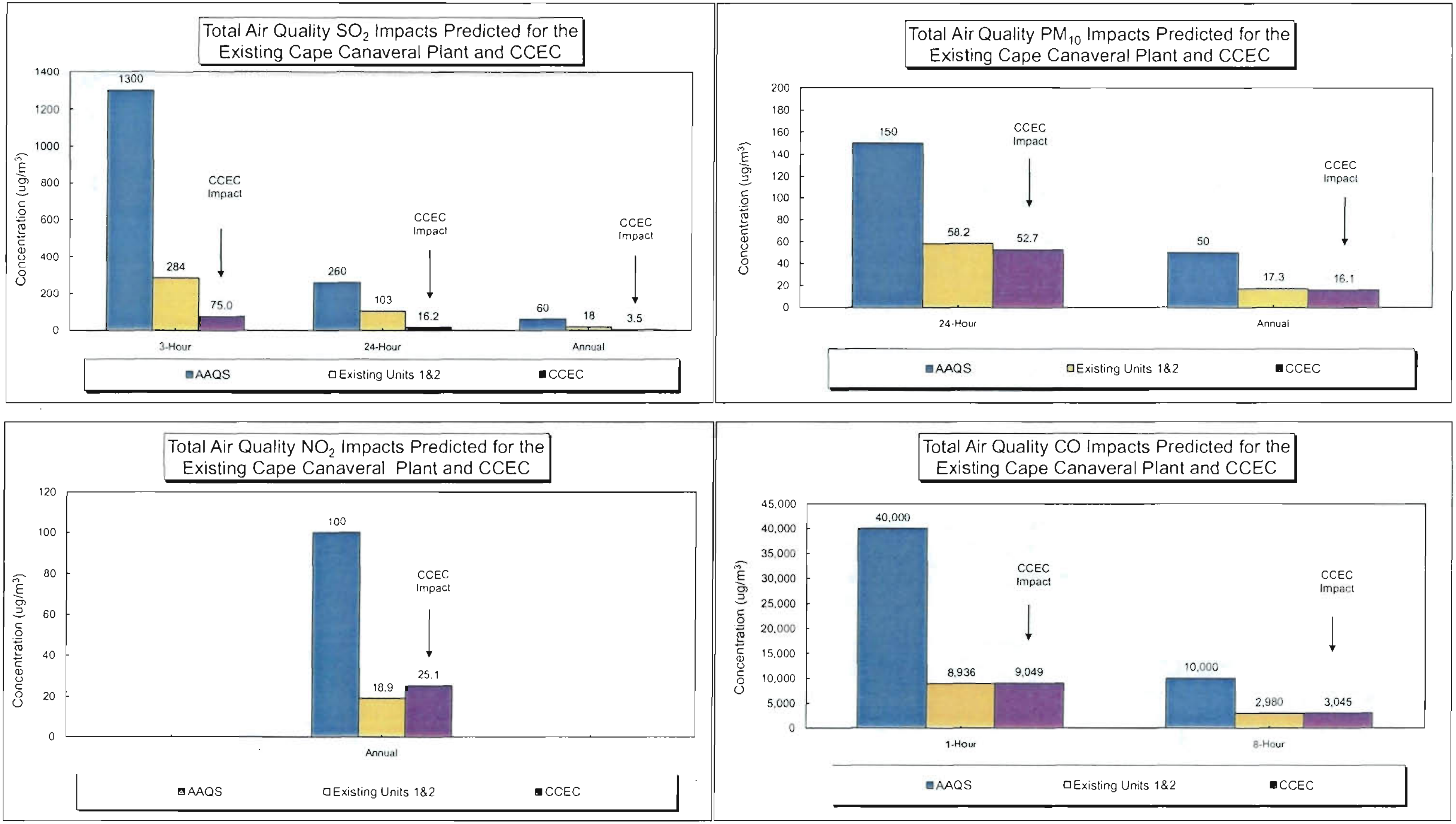


Figure 6-1.
Maximum Total Air Quality Impacts of the Existing Units 1& 2 and CCEC Compared to Ambient Air Quality Standards

CCEC/Appendix 10.2.5

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APPENDIX A

EXPECTED PERFORMANCE AND EMISSION INFORMATION

TABLE A-1-501G CLASS
DESIGN INFORMATION AND STACK PARAMETERS FOR THE CONVERSION PROJECT
MPS 501G CLASS 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	59 °F	75 °F	95 °F	35 °F w/DB	59 °F w/DB	75 °F w/DB	95 °F w/DB
Combustion Turbine Performance								
Heat Input (MMBtu/hr, LHV)	2,509	2,406	2,324	2,242	2,509	2,406	2,324	2,242
(MMBtu/hr, HHV)	2,785	2,671	2,580	2,489	2,785	2,671	2,580	2,489
Evaporative Cooler	Off	On	On	On	Off	Off	Off	Off
Relative Humidity (%)	60	60	60	50	40	60	60	50
Fuel heating value (Btu/lb, LHV)	20,909	20,909	20,909	20,909	20,909	20,909	20,909	20,909
(Btu/lb, HHV)	23,209	23,209	23,209	23,209	23,209	23,209	23,209	23,209
(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)- provided	5,117,000	4,928,000	4,772,000	4,601,000	5,137,642.9	4,948,643	4,792,643	4,621,644
- provided	NA	NA	NA	NA				
Temperature (°F) - provided	1126	1135	1144	1156	1,126	1,135	1,144	1,156
Moisture (% Vol.)	8.30	9.04	9.77	10.91	9.61	10.39	11.15	12.33
Oxygen (% Vol.)	12.00	11.89	11.78	11.56	10.55	10.39	10.23	9.97
Molecular Weight	28.42	28.33	28.25	28.12	28.35	28.27	28.18	28.05
Volume flow (acfm) - calculated	3,481,669	3,382,811	3,303,538	3,223,823	3,504,027	3,404,768	3,325,831	3,245,994
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)	2,509	2,406	2,324	2,242	2,509	2,406	2,324	2,242
Heat content (Btu/lb, LHV)	20,909	20,909	20,909	20,909	20,909	20,909	20,909	20,909
Fuel usage (lb/hr)- provided	120,000	115,100	111,180	107,260	120,000	115,100	111,180	107,260
- calculated	119,997	115,085	111,164	107,243	119,997	115,085	111,164	107,243
Heat content (Btu/cf, LHV)- assumed	918	918	918	918	918	918	918	918
Fuel density (lb/ft^3)	0.0439	0.0439	0.0439	0.0439	0.0439	0.0439	0.0439	0.0439
Fuel usage (cf/hr)- calculated	2,733,204	2,621,598	2,532,313	2,443,029	2,733,204	2,621,598	2,532,313	2,443,029
Fuel Usage - Duct Burner Only								
Fuel usage (lb/hr)- calculated	0	0	0	0	20,466	20,466	20,466	20,466
Fuel usage (cf/hr)- calculated	0	0	0	0	466,152	466,152	466,152	466,152
HRSG Stack								
HRSG - Stack Height (feet)	149	149	149	149	149	149	149	149
Diameter (feet)	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)	5,117,000	4,928,000	4,772,000	4,601,000	5,137,643	4,948,643	4,792,643	4,621,644
HRSG Stack Temperature (°F)	196	195	195	195	186	185	185	184
Molecular weight	28.42	28.33	28.25	28.12	28.35	28.27	28.18	28.05
Volume flow (acfm)	1,440,085	1,388,967	1,348,601	1,307,085	1,426,797	1,375,782	1,336,553	1,293,376
Diameter (feet)	22	22	22	22	22	22	22	22
Velocity (ft/sec)- calculated	63.1	60.9	59.1	57.3	62.6	60.3	58.6	56.7

Note: Universal gas constant = 1,545.4 ft-lb(force)/°R; atmospheric pressure = 2,112.5 lb(force)/ft² (@14.67 psia).
Source: MPS, 2008; CT Performance Data; Golder, 2008.

TABLE A-2-501G CLASS
MAXIMUM EMISSIONS FOR CRITERIA POLLUTANTS FOR THE CONVERSION PROJECT
MPS 501G CLASS CT, DRY LOW NO_x COMBUSTOR, NATURAL GAS, BASE LOAD

	CT Only Turbine Inlet Temperature				CT with Duct Burner Turbine Inlet Temperature			
Parameter	35 °F	59 °F	75 °F	95 °F	35 °F w/DB	59 °F w/DB	75 °F w/DB	95 °F w/DB
Particulate from CT, DB, and HRSG								
Total PM_{10} = PM_{10} (front half) + PM_{10} [$(NH_4)_2SO_4$] in HRSG only (back-half)								
a. PM_{10} (front half) (lb/hr)								
CT- provided	4.0	3.5	3.4	3.2	4.0	3.5	3.4	3.2
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)	4.0	3.5	3.4	3.2	6.4	5.9	5.8	5.6
b. PM_{10} [$(NH_4)_2SO_4$] from HRSG only (back half) = 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 in CT and in SCR 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								
CT SO_2 emission rate (lb/hr)- calculated	15.6	15.0	14.5	14.0	15.6	15.0	14.5	14.0
Conversion (%) from SO_2 to SO_3 in CT	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
DB SO_2 emission rate (lb/hr)- calculated	--	--	--	--	2.7	2.7	2.7	2.7
Conversion (%) from SO_2 to SO_3 in DB	--	--	--	--	20.0	20.0	20.0	20.0
Remaining SO_2 (lb/hr) after conversion - calculated	14.1	13.5	13.0	12.6	16.2	15.6	15.2	14.7
Conversion (%) from SO_2 to SO_3 in SCR	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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 $(NH_4)_2SO_4$/ SO_3 (132/80)	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
HRSG Particulate as $(NH_4)_2(SO_4)$ (lb/hr)- calculated	4.09	3.92	3.79	3.66	5.32	5.15	5.02	4.89
Total HRSG stack emission rate (lb/hr) [a + b] - provided								
-calculated	8.1	7.4	7.2	6.9	11.7	11.0	10.8	10.5
- maximum	8.1	7.4	7.2	6.9	11.7	11.0	10.8	10.5
(lb/mmBtu, HHV)	NA	NA	NA	NA	NA	NA	NA	NA
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)	2,733,204	2,621,598	2,532,313	2,443,029	3,199,356	3,087,750	2,998,466	2,909,181
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
HRSG stack emission rate (lb/hr) - calculated	15.6	15.0	14.5	14.0	18.3	17.6	17.1	16.6
Nitrogen Oxides								
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]								
NO_x (ppmv actual) = NO_x (ppmd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]								
NO_x (lb/hr) = NO_x (ppm actual) x Volume flow (acfm) x 46 (mole. wgt NO_x) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr								
Basis, ppm actual- calculated	18.2	18.1	18.0	17.9	22.1	22.1	22.1	22.2
CT/DB, ppmvd @15% O_2 - provided	15	15	15	15	15.6	15.6	15.7	15.7
Moisture (%)	8.29760756	9.04185405	9.76898791	10.91	9.61	10.39	11.15	12.33
Oxygen (%)	11.9990187	11.8901928	11.7771604	11.56	10.55	10.39	10.23	9.97
Oxygen (%) dry	13.08	13.07	13.05	12.98	11.67	11.59	11.52	11.38
Turbine Flow (acfm)	3,481,669	3,382,811	3,303,538	3,223,823	3,504,027	3,404,768	3,325,831	3,245,994
Turbine Flow (acfm), dry	3,192,774	3,076,942	2,980,816	2,872,095	3,167,465	3,050,961	2,954,900	2,845,697
Turbine Exhaust Temperature (°F)	1,126	1,135	1,144	1,156	1,126	1,135	1,144	1,156
CT/DB emission rate (lb/hr) - calculated	150.9	144.8	139.9	135.0	184.2	178.1	173.1	168.2
CT/DB Emission rate (lb/hr) - provided	151.0	144.0	140.0	135.0	184.3	177.3	173.3	168.3
HRSG Stack emission rate, ppmvd @ 15% O_2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
HRSG stack emission rate (lb/hr) - calculated (Max. CT/DB calculated/provided)	20.1	19.3	18.7	18.0	23.6	22.8	22.1	21.5
Carbon Monoxide								
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]								
CO (ppmv wet or actual) = CO (ppmvd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]								
CO (lb/hr) = CO (ppm actual) x Volume flow (acfm) x 28 (mole. wgt CO) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr								
Basis, ppm actual- calculated	4.98	4.95	4.92	4.90	8.7	8.8	8.9	9.0
Basis, ppmvd @ 15% O_2 - provided	4.10	4.10	4.10	4.10	6.1	6.2	6.3	6.4
Moisture (%)	8.30	9.04	9.77	10.91	9.61	10.39	11.15	12.33
Oxygen (%)	12.00	11.89	11.78	11.56	10.55	10.39	10.23	9.97
Oxygen (%) dry	13.08	13.07	13.05	12.98	11.67	11.59	11.52	11.38
Turbine Flow (acfm)	3,481,669	3,382,811	3,303,538	3,223,823	3,504,027	3,404,768	3,325,831	3,245,994
Turbine Flow (acfm), dry	3,192,774	3,076,942	2,980,816	2,872,095	3,167,465	3,050,961	2,954,900	2,845,697
Turbine Exhaust Temperature (°F)	1,126	1,135	1,144	1,156	1,126	1,135	1,144	1,156
CT/DB emission rate (lb/hr) - calculated	25.1	24.1	23.3	22.5	44.1	43.1	42.3	41.5
CT/DB Emission rate (lb/hr) - provided	25.0	24.0	24.0	23.0	44.0	43.0	43.0	42.0
HRSG Stack emission rate, ppmvd @ 15% O_2 - provided	4.1	4.1	4.1	4.1	7.6	7.6	7.6	7.6
HRSG Stack emission rate (lb/hr)- calculated (Max. CT/DB calculated/provided)	25.1	24.1	24.0	23.0	54.5	52.7	52.0	50.3
Volatile Organic Compounds								
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]								
VOC (ppmv wet or actual) = VOC (ppmvd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]								
VOC (lb/hr) = VOC (ppm actual) x Volume flow (acfm) x 16 (mole. wgt CH_4) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr								
Basis, ppm actual- calculated	1.21	1.21	1.20	1.20	2.0	2.0	2.1	2.1
Basis, ppmvd @ 15% O_2 - provided	1.00	1.00	1.00	1.00	1.4	1.4	1.5	1.5
Moisture (%)	8.30	9.04	9.77	10.91	9.61	10.39	11.15	12.33
Oxygen (%) wet	12.00	11.89	11.78	11.56	10.55	10.39	10.23	9.97
Oxygen (%) dry	13.08	13.07	13.05	12.98	11.67	11.59	11.52	11.38
Turbine Flow (acfm)	3,481,669	3,382,811	3,303,538	3,223,823	3,504,027	3,404,768	3,325,831	3,245,994
Turbine Flow (acfm), dry	3,192,774	3,076,942	2,980,816	2,872,095	3,167,465	3,050,961	2,954,900	2,845,697
Turbine Exhaust Temperature (°F)	1,126	1,135	1,144	1,156	1,126	1,135	1,144	1,156
CT/DB emission rate (lb/hr) - calculated	3.50	3.36	3.24	3.13	5.87	5.73	5.62	5.51
CT/DB Emission rate (lb/hr) - provided	3.50	3.40	3.30	3.20	5.88	5.78	5.68	5.58
HRSG Stack emission rate, ppmvd @ 15% O_2 - provided	1.2	1.2	1.2	1.2	1.6	1.6	1.6	1.6
HRSG Stack emission rate (lb/hr)- calculated (Max. CT/DB calculated/provided)	4.2	4.08	4.0	3.8	6.6	6.4	6.2	6.0
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) - calculated	15.6	15.0	14.5	14.0	15.6	15.0	14.5	14.0
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	2.7	2.7	2.7	2.7
DB Conversion to H_2SO_4 (%) - provided	20	20	20	20	20	20	20	20
SCR SO_2 (lb/hr)(remaining SO_2 after conversion) - calc	14.1	13.5	13.0	12.6	16.2	15.6	15.2	14.7
SCR Conversion to H_2SO_4 (% by weight) - provided	3	3	3	3	3	3	3	3
HRSG Stack emission rate (lb/hr)	3.04	2.91	2.81	2.71	3.95	3.83	3.73	3.63
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: MPS, 2008; CT Performance Data; Golder, 2008.

TABLE A-3-501G CLASS
DESIGN INFORMATION AND STACK PARAMETERS
FOR THE CONVERSION PROJECT
MPS 501G CLASS CT, DRY LOW NO_x COMBUSTOR, NATURAL GAS, 75% LOAD

Parameter	Turbine Inlet Temperature 35 °F	59 °F	75 °F	95 °F
Combustion Turbine Performance				
Heat Input (MMBtu/hr, LHV)	1,935	1,844	1,781	1,705
(MMBtu/hr, HHV)	2,148	2,047	1,977	1,892
Relative Humidity (%)	60	60	60	50
Fuel heating value (Btu/lb, LHV)	20,909	20,909	20,909	20,909
(Btu/lb, HHV)	23,209	23,209	23,209	23,209
(HHV/LHV)	1.110	1.110	1.110	1.110
CT Exhaust Flow				
Mass flow (lb/hr)- provided	4,161,800	4,012,700	3,895,000	3,752,000
- provided	NA	NA	NA	NA
Temperature (°F) - provided	1,099	1,116	1,127	1,143
Moisture (% Vol.)	7.91	8.39	9.06	9.96
Oxygen (% Vol.)	12.44	12.44	12.38	12.23
Molecular Weight	28.44	28.39	28.38	28.20
Volume flow (acfm) - calculated	2,781,574	2,715,558	2,655,238	2,600,400
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)	1,935	1,844	1,781	1,705
Heat content (Btu/lb, LHV)	20,909	20,909	20,909	20,909
Fuel usage (lb/hr)- provided	92,570	88,180	85,200	81,510
- calculated	92,550	88,177	85,182	81,520
Heat content (Btu/cf, LHV)- assumed	918	918	918	918
Fuel density (lb/ft^3)	0.0439	0.0439	0.0439	0.0439
Fuel usage (cf/hr)- calculated	2,108,439	2,008,449	1,940,575	1,856,529
HRSG Stack				
HRSG - Stack Height (feet)	149	149	149	149
Diameter (feet)	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)	4,161,800	4,012,700	3,895,000	3,752,000
HRSG Stack Temperature (°F)	184	185	186	187
Molecular weight	28.44	28.39	28.38	28.20
Volume flow (acfm)	1,149,027	1,111,733	1,080,834	1,049,569
Diameter (feet)	22	22	22	22
Velocity (ft/sec)- calculated	50.4	48.7	47.4	46.0

Note: Universal gas constant = 1,545.4 ft-lb(force)/°R; atmospheric pressure = 2,112.5 lb(force)/ft^2 (@14.67 psia).
Source: MPS, 2008; CT Performance Data; Golder, 2008.

TABLE A-4-501G CLASS
MAXIMUM EMISSIONS FOR CRITERIA POLLUTANTS FOR THE CONVERSION PROJECT
MPS 501G CLASS CT, DRY LOW NO_x COMBUSTOR, NATURAL GAS, 75% LOAD

Parameter	Turbine Inlet Temperature			
	35 °F	59 °F	75 °F	95 °F
Particulate from CT and HRSG				
Total PM_{10} = PM_{10} (front half) + PM_{10} [$(NH_4)_2SO_4$] in HRSG only (back-half)				
a. PM_{10} (front half) (lb/hr)				
Particulate from CT- provided	3.0	3.0	3.0	3.0
b. PM_{10} [$(NH_4)_2SO_4$] from HRSG only (back half) = 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 in CT and in SCR 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	12.0	11.5	11.1	10.6
Conversion (%) from SO_2 to SO_3	10.0	10.0	10.0	10.0
Remaining SO_2 (lb/hr) in CT after conversion - calculated	10.8	10.3	10.0	9.5
Conversion (%) from SO_2 to SO_3 in SCR	3.0	3.0	3.0	3.0
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
HRSG Particulate as $(NH_4)_2(SO_4)$ (lb/hr)- calculated	3.16	3.01	2.90	2.78
Total HRSG stack emission rate (lb/hr) [a + b] - provided				
-calculated	6.2	6.0	5.9	5.8
- maximum	6.2	6.0	5.9	5.8
(lb/mmBtu, HHV)	NA	NA	NA	NA
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)	2,108,439	2,008,449	1,940,575	1,856,529
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	12.0	11.5	11.1	10.6
Nitrogen Oxides				
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]				
NO_x (ppm actual) = NO_x (ppmd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]				
NO_x (lb/hr) = NO_x (ppm actual) x Volume flow (acfm) x 46 (mole. wgt NO_x) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr				
Basis, ppm actual- calculated	17.3	17.1	16.8	16.7
CT / DB, ppmvd @15% O_2 - provided	15	15	15	15
Moisture (%)	7.908796321	8.389799533	9.059407947	9.955184131
Oxygen (%)	12.44	12.44	12.38	12.23
Oxygen (%) dry	13.51	13.58	13.62	13.58
Turbine Flow (acfm)	2,781,574	2,715,558	2,655,238	2,600,400
Turbine Flow (acfm), dry	2,561,585	2,487,728	2,414,689	2,341,526
Turbine Exhaust Temperature (°F)	1,099	1,116	1,127	1,143
CT Emission rate (lb/hr) - calculated	116.4	110.9	106.3	102.5
CT Emission rate (lb/hr) - provided	116.0	111.0	107.0	103.0
HRSG Stack emission rate, ppmvd @ 15% O_2	2.0	2.0	2.0	2.0
HRSG Stack emission rate (lb/hr) - calculated	15.5	14.8	14.3	13.7
(Max. CT/DB calculated/provided)				
Carbon Monoxide				
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]				
CO (ppmv wet or actual) = CO (ppmvd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]				
CO (lb/hr) = CO (ppm actual) x Volume flow (acfm) x 28 (mole. wgt CO) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr				
Basis, ppm actual- calculated	11.5	11.4	11.2	11.2
Basis, ppmvd @ 15% O_2 - provided	10	10	10	10
Moisture (%)	7.91	8.39	9.06	9.96
Oxygen (%)	12.44	12.44	12.38	12.23
Oxygen (%) dry	13.51	13.58	13.62	13.58
Turbine Flow (acfm)	2,781,574	2,715,558	2,655,238	2,600,400
Turbine Flow (acfm), dry	2,561,585	2,487,728	2,414,689	2,341,526
Turbine Exhaust Temperature (°F)	1,099	1,116	1,127	1,143
HRSG Exhaust Temperature (°F)	184	185	186	187
CT Emission rate (lb/hr) - calculated	47.3	45.0	43.1	41.6
CT Emission rate (lb/hr) - provided	48.0	45.5	44.0	42.0
HRSG Stack emission rate, ppmvd @ 15% O_2	10	10	10	10
HRSG Stack emission rate (lb/hr)- calculated	48.0	45.5	44.0	42.0
(Max. CT/DB calculated/provided)				
Volatile Organic Compounds				
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]				
VOC (ppmv wet or actual) = VOC (ppmvd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]				
VOC (lb/hr) = VOC (ppm actual) x Volume flow (acfm) x 16 (mole. wgt CH_4) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr				
Basis, ppmvd - calculated	1.15	1.14	1.12	1.12
Basis, ppmvd @ 15% O_2 - provided	1	1	1	1
Moisture (%)	7.908796321	8.389799533	9.059407947	9.955184131
Oxygen (%)	12.44	12.44	12.38	12.23
Oxygen (%) dry	13.51	13.58	13.62	13.58
Turbine Flow (acfm)	2,781,574	2,715,558	2,655,238	2,600,400
Turbine Flow (acfm), dry	2,561,585	2,487,728	2,414,689	2,341,526
Turbine Exhaust Temperature (°F)	1,099	1,116	1,127	1,143
HRSG Exhaust Temperature (°F)	184	184	184	184
CT Emission rate (lb/hr) - calculated	2.70	2.57	2.46	2.38
CT Emission rate (lb/hr) - provided	2.70	2.60	2.50	2.40
HRSG Stack emission rate, ppmvd @ 15% O_2	1.2	1.2	1.2	1.2
HRSG Stack emission rate (lb/hr)- calculated	3.2	3.1	3.0	2.9
(Max. CT/DB calculated/provided)				
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) - calculated	12.0	11.5	11.1	10.6
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
SCR SO_2 emission rate (lb/hr) - calculated (remaining SO_2 after conversion)	10.8	10.3	10.0	9.5
HRSG Stack emission rate (lb/hr)- calculated	2.34	2.23	2.16	2.06
- provided	1.9	1.6	1.6	1.5
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: MPS, 2008; CT Performance Data; Golder, 2008.

TABLE A-5-501G CLASS
DESIGN INFORMATION AND STACK PARAMETERS
FOR THE CONVERSION PROJECT
MPS 501G CLASS CT, DRY LOW NO_x COMBUSTOR, DISTILLATE OIL, BASE LOAD

Parameter	Turbine Inlet Temperature 35 °F	59 °F	75 °F	95 °F
Combustion Turbine Performance				
Heat Input (MMBtu/hr, LHV)	2,326	2,187	2,097	1,986
(MMBtu/hr, HHV)	2,466	2,318	2,223	2,105
Relative Humidity (%)	60	60	60	50
Fuel heating value (Btu/lb, LHV)	18,387	18,387	18,387	18,387
(Btu/lb, HHV)	19,490	19,490	19,490	19,490
(HHV/LHV)	1.060	1.060	1.060	1.060
CT Exhaust Flow				
Mass Flow (lb/hr)- provided	5,200,800	4,948,500	4,770,500	4,546,000
Temperature (°F) - provided	993	1,005	1,016	1,031
Moisture (% Vol.)	7.48	7.95	8.61	9.52
Oxygen (% Vol.)	12.52	12.51	12.43	12.31
Molecular Weight	28.66	28.60	28.52	28.41
Volume flow (acfm) - calculated	3,214,789	3,090,567	3,010,188	2,908,900
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)	2,326	2,187	2,097	1,986
Heat content (Btu/lb, LHV)	18,387	18,387	18,387	18,387
Fuel usage (lb/hr)- provided	126,530	118,950	114,050	108,030
- calculated	126,502	118,943	114,048	108,011
HRSG Stack				
HRSG - Stack Height (feet)	149	149	149	149
Diameter (feet)	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) - provided	5,200,800	4,948,500	4,770,500	4,546,000
HRSG Stack Temperature (°F)	359	357	355	354
Molecular weight	28.66	28.60	28.52	28.41
Volume flow (acfm)	1,812,053	1,723,545	1,662,130	1,588,092
Diameter (feet)	22	22	22	22
Velocity (ft/sec)- calculated	79.4	75.6	72.9	69.6

Note: Universal gas constant = 1,545.4 ft-lb(force)/°R; atmospheric pressure = 2,112.5 lb(force)/ft^2 (@14.67 psia).
Source: MPS, 2008; CT Performance Data; Golder, 2008.

TABLE A-6-501G CLASS
MAXIMUM EMISSIONS FOR CRITERIA POLLUTANTS FOR THE CONVERSION PROJECT
MPS 501G CLASS CT, DRY LOW NO_x COMBUSTOR, DISTILLATE OIL, BASE LOAD

Parameter	Turbine Inlet Temperature 35 °F	59 °F	75 °F	95 °F
Particulate from CTand SCR				
Total PM_{10} = PM_{10} (front half) + PM_{10} [$(NH_4)_2SO_4$] in HRSG only (back-half)				
a. PM_{10} (front half) (lb/hr)				
Particulate from CT- provided	37.8	35.8	34.4	32.6
b. PM_{10} ($(NH_4)_2SO_4$) from HRSG only (back half) = 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 in CT and in SCR 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	3.8	3.6	3.4	3.2
Conversion (%) from SO_2 to SO_3	10.0	10.0	10.0	10.0
Remaining SO_2 (lb/hr) in CT after conversion - calculated	3.4	3.2	3.1	2.9
Conversion (%) from SO_2 to SO_3 in SCR	3.0	3.0	3.0	3.0
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
HRSG Particulate as $(NH_4)_2(SO_4)$ (lb/hr)- calculated	0.99	0.93	0.90	0.85
Total HRSG stack emission rate (lb/hr) [a + b] - provided	38.4	36.3	34.9	33.1
-calculated	38.8	36.7	35.3	33.4
- maximum	38.8	36.7	35.3	33.4
(lb/mmBtu, HHV)	NA	NA	NA	NA
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)	126,530	118,950	114,050	108,030
lb SO_2 / lb S (64/32)	2	2	2	2
HRSG Stack emission rate (lb/hr)- calculated	3.8	3.6	3.4	3.2
Nitrogen Oxides				
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]				
NO_x (ppm actual) = NO_x (ppmd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]				
NO_x (lb/hr) = NO_x (ppm actual) x Volume flow (acfm) x 46 (mole. wgt NO_x) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr				
Basis, ppm actual- calculated	48.5	47.9	47.5	47.0
CT/DB, ppmvd @15% O_2	42	42	42	42
Moisture (%)	7.476823302	7.953290253	8.611751593	9.524698683
Oxygen (%)	12.52	12.51	12.43	12.31
Oxygen (%) dry	13.53	13.59	13.61	13.60
Turbine Flow (acfm)	3,214,789	3,090,567	3,010,188	2,908,900
Turbine Flow (acfm), dry	2,974,425	2,844,765	2,750,958	2,631,836
Turbine Exhaust Temperature (°F)	993	1,005	1,016	1,031
CT Emission rate (lb/hr) - calculated	405.0	381.0	365.2	346.0
CT emission rate (lb/hr) - provided	404.0	379.0	364.0	345.0
HRSG Stack emission rate, ppmvd @ 15% O_2 - provided	8	8	8.0	8.0
HRSG Stack emission rate (lb/hr) - calculated	77.1	72.6	69.6	65.9
(Max. CT/DB calculated/provided)				
Carbon Monoxide				
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]				
CO (ppmv wet or actual) = CO (ppmvd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]				
CO (lb/hr) = CO (ppm actual) x Volume flow (acfm) x 28 (mole. wgt CO) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr				
Basis, ppm actual- calculated	9.2	9.1	9.0	9.0
Basis, ppmvd @ 15% O_2 - provided	8	8	8	8
Moisture (%)	7.476823302	7.953290253	8.611751593	9.524698683
Oxygen (%)	12.52	12.51	12.43	12.31
Oxygen (%) dry	13.53	13.59	13.61	13.60
Turbine Flow (acfm)	3,214,789	3,090,567	3,010,188	2,908,900
Turbine Flow (acfm), dry	2,974,425	2,844,765	2,750,958	2,631,836
Turbine Exhaust Temperature (°F)	993	1,005	1,016	1,031
HRSG Exhaust Temperature (°F)	359	357	355	354
CT Emission rate (lb/hr) - calculated	47.0	44.2	42.3	40.1
CT emission rate (lb/hr) - provided	47.0	44.0	43.0	40.0
HRSG Stack emission rate, ppmvd @ 15% O_2	8.0	8.0	8.0	8.0
HRSG Stack emission rate (lb/hr) - calculated	47.0	44.2	43.0	40.1
(Max. CT/DB calculated/provided)				
Volatile Organic Compounds				
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]				
VOC (ppmv wet or actual) = VOC (ppmvd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]				
VOC (lb/hr) = VOC (ppm actual) x Volume flow (acfm) x 16 (mole. wgt CH_4) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr				
Basis, ppm actual- calculated	6.9	6.8	6.8	6.7
Basis, ppmvd @ 15% O_2 - provided	6.0	6.0	6.0	6.0
Moisture (%)	7.48	7.95	8.61	9.52
Oxygen (%)	12.52	12.51	12.43	12.31
Oxygen (%-dry)	13.53	13.59	13.61	13.60
Turbine Flow (acfm)	3,214,789	3,090,567	3,010,188	2,908,900
Turbine Flow (acfm), dry	2,974,425	2,844,765	2,750,958	2,631,836
Turbine Exhaust Temperature (°F)	993	1,005	1,016	1,031
CT Emission rate (lb/hr) - calculated	20.1	18.9	18.1	17.2
CT emission rate (lb/hr) - provided	20.1	18.9	18.1	17.2
HRSG Stack emission rate, ppmvd @ 15% O_2	6.0	6.0	6.0	6.0
HRSG Stack emission rate (lb/hr) - calculated	20.1	18.9	18.1	17.2
(Max. CT/DB calculated/provided)				
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) - calculated	3.8	3.6	3.4	3.2
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
SCR SO_2 emission rate (lb/hr) - calculated (remaining SO_2 after conversion)	3.4	3.2	3.1	2.9
SCR Conversion to H_2SO_4 (% by weight) - provided	3	3	3	3
HRSG Stack emission rate (lb/hr)- calculated	0.74	0.69	0.67	0.63
- provided	1.2	1.1	1.0	1.0
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	0.0326	0.0306	0.0294	0.0278

Note: ppmvd= parts per million, volume dry; O_2= oxygen.
Source: MPS, 2008; CT Performance Data; Golder, 2008.

TABLE A-7-501G CLASS
DESIGN INFORMATION AND STACK PARAMETERS
FOR THE WEST COUNTY ENERGY CENTER UNIT 3 PROJECT
MPS 501G CLASS CT, DRY LOW NO_x COMBUSTOR, DISTILLATE OIL, 75% LOAD

Parameter	Turbine Inlet Temperature			
	35 °F	59 °F	75 °F	95 °F
Combustion Turbine Performance				
Heat Input (MMBtu/hr, LHV)	1,815	1,721	1,660	1,585
(MMBtu/hr, HHV)	1,924	1,824	1,760	1,680
Relative Humidity (%)	60	60	60	50
Fuel heating value (Btu/lb, LHV)	18,387	18,387	18,387	18,387
(Btu/lb, HHV)	19,490	19,490	19,490	19,490
(HHV/LHV)	1.060	1.060	1.060	1.060
CT Exhaust Flow				
Mass Flow (lb/hr)- with no margin	5,031,800	4,841,700	4,703,300	4,511,000
- provided	NA	NA	NA	NA
Temperature (°F) - provided	840	854	866	885
Moisture (% Vol.)	6.12	6.62	7.28	8.20
Oxygen (% Vol.)	14.13	14.12	14.04	13.87
Molecular Weight	28.71	28.65	28.57	28.46
Volume flow (acfm) - calculated	2,777,963	2,707,457	2,661,515	2,599,281
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)	1,815	1,721	1,660	1,585
Heat content (Btu/lb, LHV)	18,387	18,387	18,387	18,387
Fuel usage (lb/hr)- calculated	98,710	93,950	90,270	86,180
	98,711	93,599	90,281	86,202
HRSG Stack				
HRSG - Stack Height (feet)	149	149	149	149
Diameter (feet)	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)	5,031,800	4,841,700	4,703,300	4,511,000
HRSG Stack Temperature (°F)	350	348	346	345
Molecular weight	28.71	28.65	28.57	28.46
Volume flow (acfm)	1,730,885	1,664,859	1,617,784	1,555,703
Diameter (feet)	22	22	22	22
Velocity (ft/sec)- calculated	75.9	73.0	70.9	68.2

Note: Universal gas constant = 1,545.4 ft-lb(force)/°R; atmospheric pressure = 2,112.5 lb(force)/ft² (@14.67 psia).
Source: MPS, 2008; CT Performance Data; Golder, 2008.

TABLE A-8-501G CLASS
MAXIMUM EMISSIONS FOR CRITERIA POLLUTANTS FOR THE CONVERSION PROJECT
MPS 501G CLASS CT, DRY LOW NO_x COMBUSTOR, DISTILLATE OIL, 75% LOAD

Parameter	Turbine Inlet Temperature 35 °F	59 °F	75 °F	95 °F
Particulate from CTand SCR				
Total PM_{10} = PM_{10} (front half) + PM_{10} [$(NH_4)_2SO_4$] in HRSG only (back-half)				
a. PM_{10} (front half) (lb/hr)				
Particulate from CT- provided	36.9	35.4	34.2	32.6
b. PM_{10} [$(NH_4)_2SO_4$] from HRSG only (back half) = 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 in CT and in SCR 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	3.0	2.8	2.7	2.6
Conversion (%) from SO_2 to SO_3 in CT	10.0	10.0	10.0	10.0
Remaining SO_2 (lb/hr) in CT after conversion - calculated	2.7	2.5	2.4	2.3
Conversion (%) from SO_2 to SO_3 in SCR	3.0	3.0	3.0	3.0
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
HRSG Particulate as $(NH_4)_2(SO_4)$ (lb/hr)- calculated	0.78	0.74	0.71	0.68
Total HRSG stack emission rate (lb/hr) [a + b] - provided	37.4	35.9	34.7	33
-calculated	37.7	36.1	34.9	33.3
- maximum	37.7	36.1	34.9	33.3
(lb/mmBtu, HHV)	NA	NA	NA	NA
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)	98,710	93,950	90,270	86,180
lb SO_2 / lb S (64/32)	2	2	2	2
HRSG Stack emission rate (lb/hr)- calculated	3.0	2.8	2.7	2.6
Nitrogen Oxides				
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]				
NO_x (ppm actual) = NO_x (ppmd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]				
NO_x (lb/hr) = NO_x (ppm actual) x Volume flow (acfm) x 46 (mole. wgt NO_x) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr				
Basis, ppm actual- calculated	39.1	38.4	38.0	37.8
CT/DB, ppmvd @15% O_2	42	42	42	42
Moisture (%)	6.119380948	6.615474963	7.278904126	8.198706257
Oxygen (%)	14.13	14.12	14.04	13.87
Oxygen (%) dry	15.05	15.12	15.14	15.11
Turbine Flow (acfm)	2,777,963	2,707,457	2,661,515	2,599,281
Turbine Flow (acfm), dry	2,607,969	2,528,346	2,467,786	2,386,173
Turbine Exhaust Temperature (°F)	840	854	866	885
CT emission rate (lb/hr)	315.1	298.7	288.0	275.7
CT emission rate (lb/hr)(provided)	315.0	299.0	288.0	275.0
HRSG Stack, ppmvd @ 15% O_2 - provided	8.0	8.0	8.0	8.0
HRSG Stack emission rate (lb/hr)- calculated (Max. CT/DB calculated/provided)	60.0	57.0	54.9	52.5
Carbon Monoxide				
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]				
CO (ppmv wet or actual) = CO (ppmvd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]				
CO (lb/hr) = CO (ppm actual) x Volume flow (acfm) x 28 (mole. wgt CO) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr				
Basis, ppm actual- calculated	46.5	45.7	45.3	45.0
Basis, ppmvd @ 15% O_2 - provided	50	50	50	50
Moisture (%)	6.119380948	6.615474963	7.278904126	8.198706257
Oxygen (%)	14.13	14.12	14.04	13.87
Oxygen (%) dry	15.05	15.12	15.14	15.11
Turbine Flow (acfm)	2,777,963	2,707,457	2,661,515	2,599,281
Turbine Flow (acfm), dry	2,607,969	2,528,346	2,467,786	2,386,173
Turbine Exhaust Temperature (°F)	840	854	866	885
HRSG Exhaust Temperature (°F)	350	348	346	345
CT emission rate (lb/hr)	228.3	216.5	208.7	199.8
CT emission rate (lb/hr)(provided)	228.0	217.0	209.0	200.0
HRSG Stack, ppmvd @ 15% O_2 - provided	50.0	50.0	50.0	50.0
HRSG Stack emission rate (lb/hr)- calculated (Max. CT/DB calculated/provided)	228.3	217.0	209.0	200.0
Volatile Organic Compounds				
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]				
VOC (ppmv wet or actual) = VOC (ppmvd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]				
VOC (lb/hr) = VOC (ppm actual) x Volume flow (acfm) x 16 (mole. wgt CH_4) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr				
Basis, ppm actual- calculated	9.3	9.1	9.1	9.0
Basis, ppmvd @ 15% O_2 - provided	10.0	10.0	10.0	10.0
Moisture (%)	6.12	6.62	7.28	8.20
Oxygen (%)	14.13	14.12	14.04	13.87
Oxygen (%) dry	15.05	15.12	15.14	15.11
Turbine Flow (acfm)	2,777,963	2,707,457	2,661,515	2,599,281
Turbine Flow (acfm), dry	2,607,969	2,528,346	2,467,786	2,386,173
Turbine Exhaust Temperature (°F)	840	854	866	885
HRSG Exhaust Temperature (°F)	350	348	346	345
CT emission rate (lb/hr) (calculated)	26.1	24.7	23.9	22.8
CT emission rate (lb/hr)(provided)	26.1	24.8	23.9	22.8
HRSG Stack, ppmvd @ 15% O_2 - provided	10.0	10.0	10.0	10.0
HRSG Stack emission rate (lb/hr)- calculated (Max. CT/DB calculated/provided)	26.10	24.80	23.90	22.83
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	3.0	2.8	2.7	2.6
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
SCR SO_2 emission rate (lb/hr) - calculated (remaining SO_2 after conversion	2.7	2.5	2.4	2.3
SCR Conversion to H_2SO_4 (% by weight) - provided	3	3	3	3
HRSG Stack emission rate (lb/hr)- calculated	0.58	0.55	0.53	0.50
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	0.0254	0.0241	0.0232	0.0222

Note: ppmvd= parts per million, volume dry; O_2= oxygen.
Source: MPS, 2008; CT Performance Data; Golder, 2008.

TABLE A-9-501G CLASS
REGULATED AND HAZARDOUS AIR POLLUTANT EMISSION FACTORS AND EMISSIONS
FOR THE CONVERSION PROJECT
WHEN FIRING NATURAL GAS, MPS 501G CLASS CT

Parameter		Emission Rate (lb/hr) firing Natural Gas for Operating Conditions of Base Load (1)		Natural Gas Maximum Annual Gas	
Ambient Temperature (°F):		59 °F	59 °F w/DB	Compressors	59 °F
				1	3
HIR (MMBtu/hr):		2,671	3,146	CT/HRSG	CTs/HRSGs
Sulfuric acid mist		2.10	3.83	11.7	35.1
HAPs [Section 112(b) of Clean Air Act]					
1,3-Butadiene		0.001149	0.001353	0.005	0.016
Acetaldehyde		0.1068	0.1258	0.495	1.486
Acrolein		0.0171	0.0201	0.079	0.238
Benzene		0.0321	0.0378	0.149	0.446
Ethylbenzene		0.0855	0.1007	0.396	1.189
Formadehyde		0.573	0.676	2.658	7.973
Naphthalene		0.00347	0.00409	0.016	0.048
Polycyclic Aromatic Hydrocarbons (PAH)	(3)	0.00588	0.00692	0.027	0.082
Propylene Oxide		0.0775	0.0912	0.359	1.077
Toluene		0.0881	0.1038	0.409	1.226
Xylene		0.171	0.201	0.793	2.378
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	3.71E-05
Nickel		0.0	0.0	0.0	0.00
Selenium		0.0	0.0	0.0	0.00
HAPs (Total)		1.162	1.369	5.39	16.2

(1) Emissions based on the following emission factors and conversion factors for firing natural gas:

Emission Factors		Value	Reference
Sulfuric acid mist		10	%: 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 9a)
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		1.00E-03	
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:

5880 CT
2880 CT/DB

(3) Assumed to be representative of Polycyclic Organic Matter (POM) emissions, a regulated HAP.

TABLE A-9a-501G CLASS
MAXIMUM FORMALDEHYDE EMISSIONS
FOR THE CONVERSION PROJECT
MPS 501G CLASS CT, DRY LOW NO_x COMBUSTOR, NATURAL GAS, BASE LOAD

Parameter	CT Only Turbine Inlet Temperature 35 °F 0	59 °F	59 °F w/DB	95 °F
Formaldehyde (CH_2O) MW = 30				Compressors
CH_2O (lb/hr) = CH_2O (ppm actual) x Volume flow (acfm) x 46 (mole. wgt NO_x) x 2116.8 lb/ft^2 (pressure) / [1545.7 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr				
CH_2O (ppm actual) = CH_2O (ppmd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x (1- Moisture(%)/100)				
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisure (%)]				
Basis, ppm actual- calculated	0.111	0.110	0.129	0.109
CT, ppmvd @15% O_2	0.091	0.091	0.091	0.091
Moisture (%)	8.297607563	9.041854047	10.39	10.91027168
Oxygen (%)	12.00	11.89	10.39	11.56
Oxygen (%) dry	13.08	13.07	11.59	12.98
Exhaust Flow (acfm)	1,440,085	1,388,967	1,375,782	1,307,085
Exhaust Temperature (°F)	196	195	185	195
CT Emission rate (lb/hr)	0.597	0.573	0.676	0.534
CT Emission rate (lb/10^{12} Btu) (HHV)	214.4	214.6	252.9	214.6

Note: ppmvd= parts per million, volume dry; O_2= oxygen.
Source: MPS, 2005; CT Performance Data; Golder, 2008.

TABLE A-10-501G CLASS
REGULATED AND HAZARDOUS AIR POLLUTANT EMISSION FACTORS AND EMISSIONS FOR THE CONVERSION PROJECT WHEN FIRING DISTILLATE FUEL OIL, MPS 501G CLASS CT

Parameter	Emission Rate (lb/hr) Distillate Fuel Oil (1) Base Load	Maximum Annual Emissions (TPY) Gas			Emission Rate (lb/hr) Natural Gas (4) Base Load		Maximum Annual Emissions (TPY) Natural Gas and Fuel Oil (5)		
Ambient Temperature (°F):	59 °F	Compressors 3 CT/HRSGs (500 hrs on oil)	3 CT/HRSGs (1,000 hrs on oil)	3 CT/HRSGs (1,500 hrs on oil)	1 CT/HRSGs (CT Only)	1 CT/HRSGs (CT + DB)	3 CT/HRSGs (500 hrs on oil)	3 CT/HRSGs (1,000 hrs on oil)	3 CT/HRSGs (1,500 hrs on oil)
HIR (MMBtu/hr):	2,318								
Sulfuric acid mist	0.69	0.52	1.04	1.56	2.10	3.83	34.0	32.9	31.9
HAPs [Section 112(b) of Clean Air Act]									
1,3-Butadiene	0.0371	0.028	0.056	0.083	0.001	0.001	0.043	0.070	0.097
Acetaldehyde	0.00	0.00	0.00	0.00	0.107	0.126	1.406	1.326	1.246
Acrolein	0.00	0.00	0.00	0.00	0.017	0.020	0.225	0.212	0.199
Benzene	0.128	0.096	0.191	0.287	0.032	0.038	0.517	0.589	0.661
Ethylbenzene	0.00	0.00	0.00	0.00	0.085	0.101	1.125	1.061	0.996
Formadehyde	0.538	0.404	0.808	1.211	0.573	0.676	7.947	7.921	7.895
Naphthalene	0.0811	0.061	0.122	0.183	0.003	0.004	0.107	0.165	0.223
Polycyclic Aromatic Hydrocarbons (PAH) (3)	0.0927	0.070	0.139	0.209	0.006	0.007	0.147	0.212	0.277
Propylene Oxide	0.00	0.00	0.00	0.00	0.077	0.091	1.019	0.961	0.903
Toluene	0.00	0.00	0.00	0.00	0.088	0.104	1.160	1.094	1.028
Xylene	0.00	0.00	0.00	0.00	0.171	0.201	2.249	2.121	1.993
Antimony	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arsenic	0.0255	0.019	0.038	0.057	0.00	0.00	0.019	0.038	0.057
Beryllium	0.000719	0.0005	0.001	0.002	0.00	0.00	0.00	0.00	0.00
Cadmium	0.01113	0.0083	0.017	0.025	0.00	0.00	0.008	0.017	0.025
Chromium	0.0255	0.019	0.038	0.057	0.00	0.00	0.019	0.038	0.057
Lead	0.0325	0.024	0.049	0.073	0.00	0.00	0.024	0.049	0.073
Manganese	1.83	1.374	2.747	4.121	0.00	0.00	1.37	2.75	4.12
Mercury	0.00278	0.0021	0.004	0.006	0.00	0.00	0.00	0.00	0.01
Nickel	0.01066	0.0080	0.016	0.024	0.00	0.00	0.008	0.016	0.024
Selenium	0.0580	0.043	0.087	0.130	0.00	0.00	0.043	0.087	0.130
HAPs (Total)	2.87	2.16	4.31	6.47	1.2	1.4	17.4	18.7	20.0

(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 1,000 hours 1,500 hours

(3) Assumed to be representative of Polycyclic Organic Matter (POM) emissions, a regulated HAP.

(4) Natural gas firing emission rates based on Table A-9.

(5) Maximum total annual emissions based on the following combination of operating hours:

Oil firing at base load for:	500 hours	1,000 hours	1,500 hours
Natural gas at base load for:	5,380 hours	4,880 hours	4,380 hours
Natural gas with duct firing at base load for:	2,880 hours	2,880 hours	2,880 hours

TABLE A-10a-501G CLASS
MAXIMUM FORMALDEHYDE EMISSIONS
FOR THE CONVERSION PROJECT
MPS 501G CLASS CT, DRY LOW NO_x COMBUSTOR, DISTILLATE OIL, BASE LOAD

Parameter	CT Only Turbine Inlet Temperature 35 °F	59 °F	75 °F	95 °F
Formaldehyde (CH_2O) MW = 30				Compressors
CH_2O (lb/hr) = CH_2O (ppm actual) x Volume flow (acfm) x 46 (mole. wgt NO_x) x 2116.8 lb/ft^2 (pressure) / [1545.7 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr				
CH_2O (ppm actual) = CH_2O (ppmd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]				
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisure (%)]				
Basis, ppmvw - calculated	0.105	0.104	0.103	0.102
CT, ppmvd @15% O_2	0.091	0.091	0.091	0.091
Moisture (%)	7.48	7.95	8.61175159	9.52469868
Oxygen (%)	12.52	12.51	12.43	12.31
Oxygen (%) dry	13.53	13.59	13.61	13.60
Exhaust Flow (acfm)	1,812,053	1,723,545	1,662,130	1,588,092
Exhaust Temperature (°F)	359	357	355	354
CT Emission rate (lb/hr)	0.572	0.538	0.516	0.489
CT Emission rate (lb/10^{12} Btu) (HHV)	232.1	232.2	232.1	232.3

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

Source: MPS, 2007; CT Performance Data; Golder, 2007.

TABLE A-1-SH
DESIGN INFORMATION AND STACK PARAMETERS FOR THE CONVERSION PROJECT
SIEMENS H CT, DRY LOW NO_x COMBUSTOR, NATURAL GAS, BASE LOAD

	CT Only Turbine Inlet Temperature				CT with Duct Burner Turbine Inlet Temperature			
Parameter	35 °F	59 °F	75 °F	95 °F	35 °F w/DB	59 °F w/DB	75 °F w/DB	95 °F w/DB
Combustion Turbine Performance								
Heat Input (MMBtu/hr, LHV)	2,421	2,320	2,230	2,137	2,421	2,320	2,230	2,137
(MMBtu/hr, HHV)	2,689	2,577	2,477	2,374	2,689	2,577	2,477	2,374
Evaporative Cooler	Off	On	On	On	Off	On	On	On
Relative Humidity (%)	60	60	60	50	60	60	60	50
Fuel heating value (Btu/lb, LHV)	21,511	21,511	21,511	21,511	21,511	21,511	21,511	21,511
(Btu/lb, HHV)	23,893	23,893	23,893	23,893	23,893	23,893	23,893	23,893
(HHV/LHV)	1.111	1.111	1.111	1.111	1.111	1.111	1.111	1.111
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	427.6	427.6	427.6	427.6
CT/DB Exhaust Flow								
Mass Flow (lb/hr)- provided	4,969,000	4,769,000	4,595,000	4,403,000	4,989,629.2	4,789,629	4,615,629	4,423,630
Temperature (°F) - provided	1120.8	1138.7	1151.4	1168.0	1,121	1,139	1,151	1,168
Moisture (% Vol.)	8.36	9.14	9.88	11.03	9.70	10.52	11.31	12.50
Oxygen (% Vol.)	12.05	11.92	11.80	11.59	10.55	10.36	10.19	9.92
Molecular Weight	28.41	28.32	28.23	28.11	28.32	28.23	28.15	28.02
Volume flow (acfm) - calculated	3,371,551	3,282,606	3,197,670	3,109,381	3,395,582	3,306,909	3,221,846	3,134,129
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)	2,421	2,320	2,230	2,137	2,421	2,320	2,230	2,137
Heat content (Btu/lb, LHV)	21,511	21,511	21,511	21,511	21,511	21,511	21,511	21,511
Fuel usage (lb/hr)- provided	112,537	107,877	103,660	99,362	112,537	107,877	103,660	99,362
- calculated	112,543	107,856	103,671	99,360	112,543	107,856	103,671	99,360
Heat content (Btu/cf, LHV)- assumed	918	918	918	918	918	918	918	918
Fuel density (lb/ft^3)	0.0427	0.0427	0.0427	0.0427	0.0427	0.0427	0.0427	0.0427
Fuel usage (cf/hr)- calculated	2,637,019	2,527,824	2,429,009	2,328,296	2,637,019	2,527,824	2,429,009	2,328,296
Fuel Usage - Duct Burner Only								
Fuel usage (lb/hr)- calculated	0	0	0	0	19,880	19,880	19,880	19,880
Fuel usage (cf/hr)- calculated	0	0	0	0	465,844	465,844	465,844	465,844
HRSG Stack								
HRSG - Stack Height (feet)	149	149	149	149	149	149	149	149
Diameter (feet)	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)	4,969,000	4,769,000	4,595,000	4,403,000	4,989,629	4,789,629	4,615,629	4,423,630
HRSG Stack Temperature (°F)	196	195	195	195	186	185	185	184
Molecular weight	28.41	28.32	28.23	28.11	28.32	28.23	28.15	28.02
Volume flow (acfm)	1,399,125	1,344,704	1,299,388	1,251,392	1,387,188	1,333,147	1,288,818	1,239,598
Diameter (feet)	22	22	22	22	22	22	22	22
Velocity (ft/sec)- calculated	61.3	59.0	57.0	54.9	60.8	58.5	56.5	54.3

Note: Universal gas constant = 1,545.4 ft-lb(force)/°R; atmospheric pressure = 2,112.5 lb(force)/ft^2 (@14.67 psia).
Source: Siemens, 2008; CT Performance Data; Golder, 2008.

TABLE A-2-SH
MAXIMUM EMISSIONS FOR CRITERIA POLLUTANTS FOR THE CONVERSION PROJECT
SIEMENS H CT, DRY LOW NO_x COMBUSTOR, NATURAL GAS, BASE LOAD

Parameter	CT Only Turbine Inlet Temperature 35 °F	59 °F	75 °F	95 °F	CT with Duct Burner Turbine Inlet Temperature 35 °F w/DB	59 °F w/DB	75 °F w/DB	95 °F w/DB
Particulate from CT, DB, and HRSG								
Total PM_{10} = PM_{10} (front half) + PM_{10} [$(NH_4)_2SO_4$] in HRSG only (back-half)								
a. PM_{10} (front half) (lb/hr)								
CT- provided	9.4	9.0	8.6	8.2	9.4	9.0	8.6	8.2
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)	9.4	9.0	8.6	8.2	11.8	11.4	11.0	10.6
b. PM_{10} [$(NH_4)_2SO_4$] from HRSG only (back half) = 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 in CT and in SCR 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								
CT SO_2 emission rate (lb/hr)- calculated	15.1	14.4	13.9	13.3	15.1	14.4	13.9	13.3
Conversion (%) from SO_2 to SO_3 in CT	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
DB SO_2 emission rate (lb/hr)- calculated	--	--	--	--	2.7	2.7	2.7	2.7
Conversion (%) from SO_2 to SO_3 in DB	--	--	--	--	20.0	20.0	20.0	20.0
Remaining SO_2 (lb/hr) after conversion - calculated	13.6	13.0	12.5	12.0	15.7	15.1	14.6	14.1
Conversion (%) from SO_2 to SO_3 in SCR	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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 $(NH_4)_2SO_4$/ SO_3 (132/80)	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
HRSG Particulate as $(NH_4)_2(SO_4)$ (lb/hr)- calculated	3.95	3.78	3.64	3.48	5.18	5.01	4.87	4.71
Total HRSG stack emission rate (lb/hr) [a + b] - provided	13.0	13.0	12.0	11.0				
-calculated	13.3	12.8	12.2	11.7	17.0	16.4	15.8	15.3
- maximum	13.3	13.0	12.2	11.7	17.0	16.4	15.8	15.3
(lb/mmBtu, HHV)	NA	NA	NA	NA	NA	NA	NA	NA
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)	2,637,019	2,527,824	2,429,009	2,328,296	3,102,863	2,993,668	2,894,853	2,794,141
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
HRSG stack emission rate (lb/hr) - calculated	15.1	14.4	13.9	13.3	17.7	17.1	16.5	16.0
Nitrogen Oxides								
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]								
NO_x (ppmv actual) = NO_x (ppmd @ 15% O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]								
NO_x (lb/hr) = NO_x (ppm actual) x Volume flow (acfm) x 46 (mole. wgt NO_x) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr								
Basis, ppm actual- calculated	30.1	30.0	29.8	29.7	34.0	34.0	34.0	34.0
CT/DB, ppmvd @15% O_2 - provided	25	25	25	25	24.1	24.1	24.0	24.0
Moisture (%)	8.36	9.14	9.88	11.03	9.70	10.52	11.31	12.50
Oxygen (%)	12.05	11.92	11.8	11.59	10.55	10.36	10.19	9.92
Oxygen (%) dry	13.15	13.12	13.09	13.03	11.68	11.58	11.49	11.34
Turbine Flow (acfm)	3,371,551	3,282,606	3,197,670	3,109,381	3,395,582	3,306,909	3,221,846	3,134,129
Turbine Flow (acfm), dry	3,089,689	2,982,576	2,881,740	2,766,416	3,066,240	2,958,861	2,857,517	2,742,267
Turbine Exhaust Temperature (°F)	1,121	1,139	1,151	1,168	1,121	1,139	1,151	1,168
CT/DB emission rate (lb/hr) - calculated	242.2	232.1	223.2	213.9	275.4	265.3	256.4	247.1
CT/DB Emission rate (lb/hr) - provided	250.0	239.0	230.0	220.0	283.3	272.3	263.3	253.3
HRSG Stack emission rate, ppmvd @ 15% O_2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
HRSG stack emission rate (lb/hr) - calculated (Max. CT/DB calculated/provided)	20.0	19.1	18.4	17.6	23.5	22.6	21.9	21.1
Carbon Monoxide								
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]								
CO (ppmv wet or actual) = CO (ppmvd @ 15% O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]								
CO (lb/hr) = CO (ppm actual) x Volume flow (acfm) x 28 (mole. wgt CO) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr								
Basis, ppm actual- calculated	6.02	5.99	5.96	5.94	9.8	9.9	10.1	10.2
Basis, ppmvd @ 15% O_2 - provided	5.00	5.00	5.00	5.00	7.0	7.0	7.1	7.2
Moisture (%)	8.36	9.14	9.88	11.03	9.70	10.52	11.31	12.50
Oxygen (%)	12.05	11.92	11.80	11.59	10.55	10.36	10.19	9.92
Oxygen (%) dry	13.15	13.12	13.09	13.03	11.68	11.58	11.49	11.34
Turbine Flow (acfm)	3,371,551	3,282,606	3,197,670	3,109,381	3,395,582	3,306,909	3,221,846	3,134,129
Turbine Flow (acfm), dry	3,089,689	2,982,576	2,881,740	2,766,416	3,066,240	2,958,861	2,857,517	2,742,267
Turbine Exhaust Temperature (°F)	1,121	1,139	1,151	1,168	1,121	1,139	1,151	1,168
CT/DB emission rate (lb/hr) - calculated	29.5	28.3	27.2	26.0	48.5	47.3	46.2	45.0
CT/DB Emission rate (lb/hr) - provided	30.0	29.0	28.0	27.0	49.0	48.0	47.0	46.0
HRSG Stack emission rate, ppmvd @ 15% O_2 - provided	5.0	5.0	5.0	5.0	7.0	7.0	7.1	7.2
HRSG Stack emission rate (lb/hr)- calculated (Max. CT/DB calculated/provided)	30.0	29.0	28.0	27.0	49.0	48.0	47.0	46.0
Volatile Organic Compounds								
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]								
VOC (ppmv wet or actual) = VOC (ppmvd @ 15% O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]								
VOC (lb/hr) = VOC (ppm actual) x Volume flow (acfm) x 16 (mole. wgt CH_4) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr								
Basis, ppm actual- calculated	1.81	1.80	1.79	1.78	2.6	2.7	2.7	2.7
Basis, ppmvd @ 15% O_2 - provided	1.50	1.50	1.50	1.50	1.9	1.9	1.9	1.9
Moisture (%)	8.36	9.14	9.88	11.03	9.70	10.52	11.31	12.50
Oxygen (%) wet	12.05	11.92	11.80	11.59	10.55	10.36	10.19	9.92
Oxygen (%) dry	13.15	13.12	13.09	13.03	11.68	11.58	11.49	11.34
Turbine Flow (acfm)	3,371,551	3,282,606	3,197,670	3,109,381	3,395,582	3,306,909	3,221,846	3,134,129
Turbine Flow (acfm), dry	3,089,689	2,982,576	2,881,740	2,766,416	3,066,240	2,958,861	2,857,517	2,742,267
Turbine Exhaust Temperature (°F)	1,121	1,139	1,151	1,168	1,121	1,139	1,151	1,168
CT/DB emission rate (lb/hr) - calculated	5.05	4.84	4.66	4.46	7.43	7.22	7.03	6.84
CT/DB Emission rate (lb/hr) - provided	0.00	0.00	0.00	0.00	2.38	2.38	2.38	2.38
not used	7.00	6.70	6.50	6.20				
HRSG Stack emission rate, ppmvd @ 15% O_2 - provided	1.5	1.5	1.5	1.5	1.9	1.9	1.9	1.9
HRSG Stack emission rate (lb/hr)- calculated (Max. CT/DB calculated/provided)	5.1	4.84	4.7	4.5	7.4	7.2	7.0	6.8
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) - calculated	15.1	14.4	13.9	13.3	15.1	14.4	13.9	13.3
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	2.7	2.7	2.7	2.7
DB Conversion to H_2SO_4 (%) - provided	20	20	20	20	20	20	20	20
SCR SO_2 (lb/hr)(remaining SO_2 after conversion) - calc	13.6	13.0	12.5	12.0	15.7	15.1	14.6	14.1
SCR Conversion to H_2SO_4 (% by weight) - provided	3	3	3	3	3	3	3	3
HRSG Stack emission rate (lb/hr)	2.93	2.81	2.70	2.59	3.84	3.72	3.61	3.50
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, 2008; CT Performance Data; Golder, 2008.

TABLE A-3-SH
DESIGN INFORMATION AND STACK PARAMETERS
FOR THE CONVERSION PROJECT
SIEMENS H CT, DRY LOW NO_x COMBUSTOR, NATURAL GAS, 75% LOAD

Parameter	Turbine Inlet Temperature 35 °F	59 °F	75 °F	95 °F
Combustion Turbine Performance				
Heat Input (MMBtu/hr, LHV)	1,946	1,828	1,745	1,640
(MMBtu/hr, HHV)	2,161	2,030	1,938	1,822
Relative Humidity (%)	60	60	60	50
Fuel heating value (Btu/lb, LHV)	21,511	21,511	21,511	21,511
(Btu/lb, HHV)	23,893	23,893	23,893	23,893
(HHV/LHV)	1.111	1.111	1.111	1.111
CT Exhaust Flow				
Mass flow (lb/hr)- provided	4,067,000	3,887,500	3,753,000	3,575,000
Temperature (°F) - provided	1,149.1	1,160.6	1,168.5	1,180.7
Moisture (% Vol.)	8.22	8.65	9.27	10.13
Oxygen (% Vol.)	12.21	12.25	12.21	12.15
Molecular Weight	28.42	28.36	28.29	28.19
Volume flow (acfm) - calculated	2,807,747	2,708,602	2,634,236	2,536,737
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)	1,946	1,828	1,745	1,640
Heat content (Btu/lb, LHV)	21,511	21,511	21,511	21,511
Fuel usage (lb/hr)- provided	90,449	84,967	81,126	76,250
- calculated	90,445	84,962	81,112	76,257
Heat content (Btu/cf, LHV)- assumed	918	918	918	918
Fuel density (lb/ft^3)	0.0427	0.0427	0.0427	0.0427
Fuel usage (cf/hr)- calculated	2,119,443	1,990,986	1,900,982	1,786,725
HRSG Stack				
HRSG - Stack Height (feet)	149	149	149	149
Diameter (feet)	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)	4,067,000	3,887,500	3,753,000	3,575,000
HRSG Stack Temperature (°F)	184	185	186	187
Molecular weight	28.42	28.36	28.29	28.19
Volume flow (acfm)	1,123,727	1,078,059	1,044,959	1,000,347
Diameter (feet)	22	22	22	22
Velocity (ft/sec)- calculated	49.3	47.3	45.8	43.9

Note: Universal gas constant = 1,545.4 ft-lb(force)/°R; atmospheric pressure = 2,112.5 lb(force)/ft^2 (@14.67 psia)
Source: Siemens, 2008; CT Performance Data; Golder, 2008.

TABLE A-4-SH
MAXIMUM EMISSIONS FOR CRITERIA POLLUTANTS FOR THE CONVERSION PROJECT
SIEMENS H CT, DRY LOW NO_x COMBUSTOR, NATURAL GAS, 75% LOAD

Parameter	Turbine Inlet Temperature 35 °F	59 °F	75 °F	95 °F
Particulate from CT and HRSG				
Total PM_{10} = PM_{10} (front half) + PM_{10} [$(NH_4)_2SO_4$] in HRSG only (back-half)				
a. PM_{10} (front half) (lb/hr)				
Particulate from CT- provided	7.7	7.4	7.1	6.7
b. PM_{10} [$(NH_4)_2SO_4$] from HRSG only (back half) = 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 in CT and in SCR 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	12.1	11.4	10.9	10.2
Conversion (%) from SO_2 to SO_3	10.0	10.0	10.0	10.0
Remaining SO_2 (lb/hr) in CT after conversion - calculated	10.9	10.2	9.8	9.2
Conversion (%) from SO_2 to SO_3 in SCR	3.0	3.0	3.0	3.0
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
HRSG Particulate as $(NH_4)_2(SO_4)$ (lb/hr)- calculated	3.17	2.98	2.85	2.67
Total HRSG stack emission rate (lb/hr) [a + b] - provided	11	11	9.8	9.3
-calculated	10.9	10.3	9.9	9.4
- maximum	11.0	11.0	9.9	9.4
(lb/mmBtu, HHV)	NA	NA	NA	NA
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)	2,119,443	1,990,986	1,900,982	1,786,725
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	12.1	11.4	10.9	10.2
Nitrogen Oxides				
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]				
NO_x (ppm actual) = NO_x (ppmd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]				
NO_x (lb/hr) = NO_x (ppm actual) x Volume flow (acfm) x 46 (mole. wgt NO_x) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr				
Basis, ppm actual- calculated	29.5	29.0	28.6	28.1
CT / DB, ppmvd @15% O_2 - provided	25	25	25	25
Moisture (%)	8.22	8.65	9.27	10.13
Oxygen (%)	12.21	12.25	12.21	12.15
Oxygen (%) dry	13.30	13.41	13.46	13.52
Turbine Flow (acfm)	2,807,747	2,708,602	2,634,236	2,536,737
Turbine Flow (acfm), dry	2,576,950	2,474,308	2,390,042	2,279,766
Turbine Exhaust Temperature (°F)	1,149	1,161	1,169	1,181
CT Emission rate (lb/hr) - calculated	194.5	182.8	174.6	163.9
CT Emission rate (lb/hr) - provided	201.0	188.0	180.0	169.0
HRSG Stack emission rate, ppmvd @ 15% O_2	2.0	2.0	2.0	2.0
HRSG Stack emission rate (lb/hr) - calculated (Max. CT/DB calculated/provided)	16.1	15.0	14.4	13.5
Carbon Monoxide				
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]				
CO (ppmv wet or actual) = CO (ppmvd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]				
CO (lb/hr) = CO (ppm actual) x Volume flow (acfm) x 28 (mole. wgt CO) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr				
Basis, ppm actual- calculated	11.8	11.6	11.4	11.2
Basis, ppmvd @ 15% O_2 - provided	10	10	10	10
Moisture (%)	8.22	8.65	9.27	10.13
Oxygen (%)	12.21	12.25	12.21	12.15
Oxygen (%) dry	13.30	13.41	13.46	13.52
Turbine Flow (acfm)	2,807,747	2,708,602	2,634,236	2,536,737
Turbine Flow (acfm), dry	2,576,950	2,474,308	2,390,042	2,279,766
Turbine Exhaust Temperature (°F)	1,149	1,161	1,169	1,181
HRSG Exhaust Temperature (°F)	184	185	186	187
CT Emission rate (lb/hr) - calculated	47.4	44.5	42.5	39.9
CT Emission rate (lb/hr) - provided	49.0	46.0	44.0	41.0
HRSG Stack emission rate, ppmvd @ 15% O_2	10	10	10	10
HRSG Stack emission rate (lb/hr)- calculated (Max. CT/DB calculated/provided)	49.0	46.0	44.0	41.0
Volatile Organic Compounds				
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]				
VOC (ppmv wet or actual) = VOC (ppmvd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]				
VOC (lb/hr) = VOC (ppm actual) x Volume flow (acfm) x 16 (mole. wgt CH_4) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr				
Basis, ppmvd - calculated	1.77	1.74	1.72	1.69
Basis, ppmvd @ 15% O_2 - provided	1.5	1.5	1.5	1.5
Moisture (%)	8.22	8.65	9.27	10.13
Oxygen (%)	12.21	12.25	12.21	12.15
Oxygen (%) dry	13.30	13.41	13.46	13.52
Turbine Flow (acfm)	2,807,747	2,708,602	2,634,236	2,536,737
Turbine Flow (acfm), dry	2,576,950	2,474,308	2,390,042	2,279,766
Turbine Exhaust Temperature (°F)	1,149	1,161	1,169	1,181
HRSG Exhaust Temperature (°F)	184	184	184	184
CT Emission rate (lb/hr) - calculated	4.06	3.82	3.64	3.42
CT Emission rate (lb/hr) - provided	0.00	0.00	0.00	0.00
not used (at 2 ppmvd)	5.60	0.00	5.10	4.80
HRSG Stack emission rate, ppmvd @ 15% O_2	1.5	1.5	1.5	1.5
HRSG Stack emission rate (lb/hr)- calculated (Max. CT/DB calculated/provided)	4.06	3.82	3.64	3.42
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) - calculated	12.1	11.4	10.9	10.2
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
SCR SO_2 emission rate (lb/hr) - calculated (remaining SO_2 after conversion)	10.9	10.2	9.8	9.2
HRSG Stack emission rate (lb/hr)- calculated	2.36	2.21	2.11	1.99
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, 2008; CT Performance Data; Golder, 2008.

TABLE A-5-SH
DESIGN INFORMATION AND STACK PARAMETERS
FOR THE CONVERSION PROJECT
SIEMENS H CT, DRY LOW NO_x COMBUSTOR, DISTILLATE OIL, BASE LOAD

Parameter	Turbine Inlet Temperature 35 °F	59 °F	75 °F	95 °F
Combustion Turbine Performance				
Heat Input (MMBtu/hr, LHV)	2,420	2,268	2,162	2,028
(MMBtu/hr, HHV)	2,565	2,404	2,292	2,150
Relative Humidity (%)	60	60	60	50
Fuel heating value (Btu/lb, LHV)	18,387	18,387	18,387	18,387
(Btu/lb, HHV)	19,490	19,490	19,490	19,490
(HHV/LHV)	1.060	1.060	1.060	1.060
CT Exhaust Flow				
Mass Flow (lb/hr)- provided	5,090,824	4,814,396	4,613,552	4,350,270
Temperature (°F) - provided	1,071.0	1,092.0	1,106.0	1,127.0
Moisture (% Vol.)	7.97	8.46	9.12	10.02
Oxygen (% Vol.)	11.91	11.88	11.80	11.68
Molecular Weight	28.66	28.59	28.52	28.42
Volume flow (acfm) - calculated	3,315,909	3,186,273	3,088,451	2,962,342
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	2,268	2,162	2,028
Heat content (Btu/lb, LHV)	18,387	18,387	18,387	18,387
Fuel usage (lb/hr)- provided	131,600	123,371	117,608	110,306
- calculated	131,615	123,348	117,583	110,295
HRSG Stack				
HRSG - Stack Height (feet)	149	149	149	149
Diameter (feet)	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) - provided	5,090,824	4,814,396	4,613,552	4,350,270
HRSG Stack Temperature (°F)	359	357	355	354
Molecular weight	28.66	28.59	28.52	28.42
Volume flow (acfm)	1,773,827	1,677,310	1,607,335	1,519,437
Diameter (feet)	22	22	22	22
Velocity (ft/sec)- calculated	77.8	73.5	70.5	66.6

Note: Universal gas constant = 1,545.4 ft-lb(force)/°R; atmospheric pressure = 2,112.5 lb(force)/ft^2 (@14.67 psia).
Source: Siemens, 2008; CT Performance Data; Golder, 2008.

TABLE A-6-SH
MAXIMUM EMISSIONS FOR CRITERIA POLLUTANTS FOR THE CONVERSION PROJECT
SIEMENS H CT, DRY LOW NO_x COMBUSTOR, DISTILLATE OIL, BASE LOAD

Parameter	Turbine Inlet Temperature 35 °F	59 °F	75 °F	95 °F
Particulate from CTand SCR				
Total PM_{10} = PM_{10} (front half) + PM_{10} [$(NH_4)_2SO_4$] in HRSG only (back-half)				
a. PM_{10} (front half) (lb/hr)				
Particulate from CT- provided	not avail.	not avail.	not avail.	not avail.
b. PM_{10} ($(NH_4)_2SO_4$) from HRSG only (back half) = 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 in CT and in SCR 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	3.9	3.7	3.5	3.3
Conversion (%) from SO_2 to SO_3	10.0	10.0	10.0	10.0
Remaining SO_2 (lb/hr) in CT after conversion - calculated	3.6	3.3	3.2	3.0
Conversion (%) from SO_2 to SO_3 in SCR	3.0	3.0	3.0	3.0
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
HRSG Particulate as $(NH_4)_2(SO_4)$ (lb/hr)- calculated	1.03	0.97	0.92	0.87
Total HRSG stack emission rate (lb/hr) [a + b] - provided	30.0	30.0	30.0	30.0
-calculated				
- maximum				
(lb/mmBtu, HHV)	NA	NA	NA	NA
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)	131,600	123,371	117,608	110,306
lb SO_2 / lb S (64/32)	2	2	2	2
HRSG Stack emission rate (lb/hr)- calculated	3.9	3.7	3.5	3.3
Nitrogen Oxides				
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]				
NO_x (ppm actual) = NO_x (ppmd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]				
NO_x (lb/hr) = NO_x (ppm actual) x Volume flow (acfm) x 46 (mole. wgt NO_x) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr				
Basis, ppm actual- calculated	52.1	51.6	51.2	50.7
CT/DB, ppmvd @15% O_2	42	42	42	42
Moisture (%)	7.97	8.46	9.12	10.02
Oxygen (%)	11.91	11.88	11.80	11.68
Oxygen (%) dry	12.94	12.98	12.98	12.98
Turbine Flow (acfm)	3,315,909	3,186,273	3,088,451	2,962,342
Turbine Flow (acfm), dry	3,051,631	2,916,714	2,806,784	2,665,515
Turbine Exhaust Temperature (°F)	1,071	1,092	1,106	1,127
CT Emission rate (lb/hr) - calculated	426.0	399.9	381.0	357.2
CT emission rate (lb/hr) - provided	448.0	420.0	400.0	375.0
HRSG Stack emission rate, ppmvd @ 15% O_2 - provided	8	8	8	8
HRSG Stack emission rate (lb/hr) - calculated	85.3	80.0	76.2	71.4
(Max. CT/DB calculated/provided)				
Carbon Monoxide				
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]				
CO (ppmv wet or actual) = CO (ppmvd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]				
CO (lb/hr) = CO (ppm actual) x Volume flow (acfm) x 28 (mole. wgt CO) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr				
Basis, ppm actual- calculated	12.4	12.3	12.2	12.1
Basis, ppmvd @ 15% O_2 - provided	10	10	10	10
Moisture (%)	7.97	8.46	9.12	10.02
Oxygen (%)	11.91	11.88	11.80	11.68
Oxygen (%) dry	12.94	12.98	12.98	12.98
Turbine Flow (acfm)	3,315,909	3,186,273	3,088,451	2,962,342
Turbine Flow (acfm), dry	3,051,631	2,916,714	2,806,784	2,665,515
Turbine Exhaust Temperature (°F)	1,071	1,092	1,106	1,127
HRSG Exhaust Temperature (°F)	359	357	355	354
CT Emission rate (lb/hr) - calculated	61.7	58.0	55.2	51.8
CT emission rate (lb/hr) - provided	65.0	61.0	58.0	54.0
HRSG Stack emission rate, ppmvd @ 15% O_2	10.0	10.0	10.0	10.0
HRSG Stack emission rate (lb/hr) - calculated	65.0	61.0	58.0	54.0
(Max. CT/DB calculated/provided)				
Volatile Organic Compounds				
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]				
VOC (ppmv wet or actual) = VOC (ppmvd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]				
VOC (lb/hr) = VOC (ppm actual) x Volume flow (acfm) x 16 (mole. wgt CH_4) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr				
Basis, ppm actual- calculated	2.5	2.5	2.4	2.4
Basis, ppmvd @ 15% O_2 - provided	2.0	2.0	2.0	2.0
Moisture (%)	7.97	8.46	9.12	10.02
Oxygen (%)	11.91	11.88	11.80	11.68
Oxygen (%-dry)	12.94	12.98	12.98	12.98
Turbine Flow (acfm)	3,315,909	3,186,273	3,088,451	2,962,342
Turbine Flow (acfm), dry	3,051,631	2,916,714	2,806,784	2,665,515
Turbine Exhaust Temperature (°F)	1,071	1,092	1,106	1,127
CT Emission rate (lb/hr) - calculated	7.1	6.6	6.3	5.9
CT emission rate (lb/hr) - provided	7.4	7.0	6.6	6.2
HRSG Stack emission rate, ppmvd @ 15% O_2	2.0	2.0	2.0	2.0
HRSG Stack emission rate (lb/hr) - calculated	7.4	7.0	6.6	6.2
(Max. CT/DB calculated/provided)				
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) - calculated	3.9	3.7	3.5	3.3
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
SCR SO_2 emission rate (lb/hr) - calculated (remaining SO_2 after conversion)	3.6	3.3	3.2	3.0
SCR Conversion to H_2SO_4 (% by weight) - provided	3	3	3	3
HRSG Stack emission rate (lb/hr)- calculated	0.77	0.72	0.69	0.64
- provided				
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
Heat Input (MMBtu/hr, HHV)	2,565	2,404	2,292	2,150
HRSG Stack emission rate (lb/hr)- calculated	0.0359	0.0337	0.0321	0.0301

Note: ppmvd= parts per million, volume dry; O_2= oxygen.
Source: Siemens, 2008; CT Performance Data; Golder, 2008.

TABLE A-7-SH
DESIGN INFORMATION AND STACK PARAMETERS
FOR THE CONVERSION PROJECT
SIEMENS H CT, DRY LOW NO_x COMBUSTOR, DISTILLATE OIL, 75% LOAD

Parameter	Turbine Inlet Temperature			
	35 °F	**59 °F**	**75 °F**	**95 °F**
Combustion Turbine Performance				
Heat Input (MMBtu/hr, LHV)	1,979	1,857	1,772	1,664
(MMBtu/hr, HHV)	2,098	1,968	1,878	1,764
Relative Humidity (%)	60	60	60	50
Fuel heating value (Btu/lb, LHV)	18,387	18,387	18,387	18,387
(Btu/lb, HHV)	19,490	19,490	19,490	19,490
(HHV/LHV)	1.060	1.060	1.060	1.060
CT Exhaust Flow				
Mass Flow (lb/hr)- provided	4,102,785	3,920,619	3,786,372	3,606,773
Temperature (°F) - provided	1,126	1,136	1,143	1,154
Moisture (% Vol.)	7.78	8.2	8.81	9.66
Oxygen (% Vol.)	11.93	11.99	11.97	11.92
Molecular Weight	28.68	28.62	28.54	28.44
Volume flow (acfm) - calculated	2,766,557	2,666,078	2,592,584	2,495,524
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)	1,979	1,857	1,772	1,664
Heat content (Btu/lb, LHV)	18,387	18,387	18,387	18,387
Fuel usage (lb/hr)- provided	107,635	100,987	96,398	90,522
- calculated	107,630	100,995	96,372	90,499
HRSG Stack				
HRSG - Stack Height (feet)	149	149	149	149
Diameter (feet)	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)	4,102,785	3,920,619	3,786,372	3,606,773
HRSG Stack Temperature (°F)	350	348	346	345
Molecular weight	28.68	28.62	28.54	28.44
Volume flow (acfm)	1,412,933	1,349,744	1,303,570	1,244,669
Diameter (feet)	22	22	22	22
Velocity (ft/sec)- calculated	61.9	59.2	57.2	54.6
Velocity (ft/sec)- provided	55	53	52	50

Note: Universal gas constant = 1,545.4 ft-lb(force)/°R; atmospheric pressure = 2,112.5 lb(force)/ft² (@14.67 psia).
Source: Siemens, 2008; CT Performance Data; Golder, 2008.

TABLE A-8-SH
MAXIMUM EMISSIONS FOR CRITERIA POLLUTANTS FOR THE CONVERSION PROJECT
SIEMENS H CT, DRY LOW NO_x COMBUSTOR, DISTILLATE OIL, 75% LOAD

Parameter	Turbine Inlet Temperature 35 °F	59 °F	75 °F	95 °F
Particulate from CTand SCR				
Total PM_{10} = PM_{10} (front half) + PM_{10} [$(NH_4)_2SO_4$] in HRSG only (back-half)				
a. PM_{10} (front half) (lb/hr)				
Particulate from CT- provided	0.0	0.0	0.0	0.0
b. PM_{10} [$(NH_4)_2SO_4$] from HRSG only (back half) = 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 in CT and in SCR 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 in CT	10.0	10.0	10.0	10.0
Remaining SO_2 (lb/hr) in CT after conversion - calculated	2.9	2.7	2.6	2.4
Conversion (%) from SO_2 to SO_3 in SCR	3.0	3.0	3.0	3.0
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
HRSG Particulate as $(NH_4)_2(SO_4)$ (lb/hr)- calculated	0.85	0.79	0.76	0.71
Total HRSG stack emission rate (lb/hr) [a + b] - provided	30.0	30.0	30.0	30.0
-calculated	0.8	0.8	0.8	0.7
- maximum	30.0	30.0	30.0	30.0
(lb/mmBtu, HHV)	NA	NA	NA	NA
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)	107,635	100,987	96,398	90,522
lb SO_2 / lb S (64/32)	2	2	2	2
HRSG Stack emission rate (lb/hr)- calculated	3.2	3.0	2.9	2.7
Nitrogen Oxides				
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]				
NO_x (ppm actual) = NO_x (ppmd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]				
NO_x (lb/hr) = NO_x (ppm actual) x Volume flow (acfm) x 46 (mole. wgt NO_x) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr				
Basis, ppm actual- calculated	52.3	51.2	50.5	49.6
CT/DB, ppmvd @15% O_2	42	42	42	42
Moisture (%)	7.78	8.2	8.81	9.66
Oxygen (%)	11.93	11.99	11.97	11.92
Oxygen (%) dry	12.94	13.06	13.13	13.19
Turbine Flow (acfm)	2,766,557	2,666,078	2,592,584	2,495,524
Turbine Flow (acfm), dry	2,551,319	2,447,460	2,364,178	2,254,456
Turbine Exhaust Temperature (°F)	1,126	1,136	1,143	1,154
CT emission rate (lb/hr)	344.1	322.9	307.9	289.1
CT emission rate (lb/hr)(provided)	363.0	340.0	325.0	305.0
HRSG Stack, ppmvd @ 15% O_2 - provided	8.0	8.0	8.0	8.0
HRSG Stack emission rate (lb/hr)- calculated	69.1	64.8	61.9	58.1
(Max. CT/DB calculated/provided)				
Carbon Monoxide				
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]				
CO (ppmv wet or actual) = CO (ppmvd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]				
CO (lb/hr) = CO (ppm actual) x Volume flow (acfm) x 28 (mole. wgt CO) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr				
Basis, ppm actual- calculated	12.4	12.2	12.0	11.8
Basis, ppmvd @ 15% O_2 - provided	10	10	10	10
Moisture (%)	7.78	8.2	8.81	9.66
Oxygen (%)	11.93	11.99	11.97	11.92
Oxygen (%) dry	12.94	13.06	13.13	13.19
Turbine Flow (acfm)	2,766,557	2,666,078	2,592,584	2,495,524
Turbine Flow (acfm), dry	2,551,319	2,447,460	2,364,178	2,254,456
Turbine Exhaust Temperature (°F)	1,126	1,136	1,143	1,154
HRSG Exhaust Temperature (°F)	350	348	346	345
CT emission rate (lb/hr)	49.9	46.8	44.6	41.9
CT emission rate (lb/hr)(provided)	53.0	49.0	47.0	44.0
HRSG Stack, ppmvd @ 15% O_2 - provided	10.0	10.0	10.0	10.0
HRSG Stack emission rate (lb/hr)- calculated	53.0	49.0	47.0	44.0
(Max. CT/DB calculated/provided)				
Volatile Organic Compounds				
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisture (%)]				
VOC (ppmv wet or actual) = VOC (ppmvd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]				
VOC (lb/hr) = VOC (ppm actual) x Volume flow (acfm) x 16 (mole. wgt CH_4) x 2112.5 lb/ft^2 (pressure) / [1545.4 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr				
Basis, ppm actual- calculated	2.5	2.4	2.4	2.4
Basis, ppmvd @ 15% O_2 - provided	2.0	2.0	2.0	2.0
Moisture (%)	7.78	8.20	8.81	9.66
Oxygen (%)	11.93	11.99	11.97	11.92
Oxygen (%) dry	12.94	13.06	13.13	13.19
Turbine Flow (acfm)	2,766,557	2,666,078	2,592,584	2,495,524
Turbine Flow (acfm), dry	2,551,319	2,447,460	2,364,178	2,254,456
Turbine Exhaust Temperature (°F)	1,126	1,136	1,143	1,154
HRSG Exhaust Temperature (°F)	350	348	346	345
CT emission rate (lb/hr) (calculated)	5.7	5.3	5.1	4.8
CT emission rate (lb/hr)(provided)	6.0	5.6	5.4	5.1
HRSG Stack, ppmvd @ 15% O_2 - provided	2.0	2.0	2.0	2.0
HRSG Stack emission rate (lb/hr)- calculated	6.00	5.60	5.40	5.10
(Max. CT/DB calculated/provided)				
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	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
SCR SO_2 emission rate (lb/hr) - calculated (remaining SO_2 after conversion)	2.9	2.7	2.6	2.4
SCR Conversion to H_2SO_4 (% by weight) - provided	3	3	3	3
HRSG Stack emission rate (lb/hr)- calculated	0.63	0.59	0.56	0.53
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
Heat Input (MMBtu/hr, HHV)	2,098	1,968	1,878	1,764
HRSG Stack emission rate (lb/hr)- calculated	0.0294	0.0276	0.0263	0.0247

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

Source: Siemens, 2008; CT Performance Data; Golder, 2008.

TABLE A-9-SH
REGULATED AND HAZARDOUS AIR POLLUTANT EMISSION FACTORS AND EMISSIONS FOR THE CONVERSION PROJECT SIEMENS H CT, DRY LOW NO_x COMBUSTOR, NATURAL GAS, BASE LOAD

Parameter	Emission Rate (lb/hr) firing Natural Gas for Operating Conditions of Base Load (1)		Natural Gas Maximum Annual Gas	
Ambient Temperature (°F):	59 °F	59 °F w/DB	Compressors	59 °F
HIR (MMBtu/hr):	2,577	3,052	1 CT/HRSG	3 CTs/HRSGs
Sulfuric acid mist	2.10	3.72	11.5	34.6
HAPs (Section 112(b) of Clean Air Act)				
1,3-Butadiene	0.001108	0.001312	0.005	0.015
Acetaldehyde	0.1031	0.1221	0.479	1.437
Acrolein	0.0165	0.0195	0.077	0.230
Benzene	0.0309	0.0366	0.144	0.431
Ethylbenzene	0.0825	0.0977	0.383	1.149
Formadehyde	0.551	0.654	2.562	7.686
Naphthalene	0.00335	0.00397	0.016	0.047
Polycyclic Aromatic Hydrocarbons (PAH) (3)	0.00567	0.00671	0.026	0.079
Propylene Oxide	0.0747	0.0885	0.347	1.041
Toluene	0.0850	0.1007	0.395	1.185
Xylene	0.165	0.195	0.766	2.298
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	3.59E-05
Nickel	0.0	0.0	0.0	0.00
Selenium	0.0	0.0	0.0	0.00
HAPs (Total)	1.119	1.327	5.20	15.6

(1) Emissions based on the following emission factors and conversion factors for firing natural gas:

Emission Factors		Value	Reference
Sulfuric acid mist		10	%; 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 9a)
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		1.00E-03	
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:

5880 CT
2880 CT/DB

(3) Assumed to be representative of Polycyclic Organic Matter (POM) emissions, a regulated HAP.

TABLE A-9a-SH
MAXIMUM FORMALDEHYDE EMISSIONS
FOR THE CONVERSION PROJECT
SIEMENS H CT, DRY LOW NO_x COMBUSTOR, NATURAL GAS, BASE LOAD

Parameter	CT Only Turbine Inlet Temperature 35 °F	59 °F	59 °F w/DB	95 °F
Formaldehyde (CH_2O) MW = 30				Gas Compressors
CH_2O (lb/hr) = CH_2O (ppm actual) x Volume flow (acfm) x 30 (mole. wgt CH_2O) x 2116.8 lb/ft^2 (pressure) / [1545.7 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr				
CH_2O (ppm actual) = CH_2O (ppmd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]				
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisure (%)]				
Basis, ppm actual- calculated	0.110	0.109	0.129	0.108
CT, ppmvd @15% O_2	0.091	0.091	0.091	0.091
Moisture (%)	8.36	9.14	10.52	11.03
Oxygen (%)	12.05	11.92	10.36	11.59
Oxygen (%) dry	13.15	13.12	11.58	13.03
Exhaust Flow (acfm)	1,399,125	1,344,704	1,333,147	1,251,392
Exhaust Temperature (°F)	196	195	185	195
CT Emission rate (lb/hr)	0.575	0.551	0.654	0.508
CT Emission rate (lb/10^{12} Btu) (HHV)	213.8	213.8	254.0	213.9

Note: ppmvd= parts per million, volume dry; O2= oxygen.
Source: Siemens, 2008; CT Performance Data; Golder, 2008.

TABLE A-10-SH

REGULATED AND HAZARDOUS AIR POLLUTANT EMISSION FACTORS AND EMISSIONS FOR THE CONVERSION PROJECT, SIEMENS H CT

Parameter	Emission Rate (lb/hr) Distillate Fuel Oil (1)	Maximum Annual Emissions (TPY)			Emission Rate (lb/hr) Natural Gas (4)		Maximum Annual Emissions (TPY)		
	Base Load	Gas			Base Load		Natural Gas and Fuel Oil (5)		
Ambient Temperature (°F):	59 °F	Compressors							
HIR (MMBtu/hr):	2,404	3 CT/HRSGs (500 hrs on oil)	3 CT/HRSGs (1,000 hrs on oil)	3 CT/HRSGs (1,500 hrs on oil)	1 CT/HRSGs (CT Only)	1 CT/HRSGs (CT + DB)	3 CT/HRSGs (500 hrs on oil)	3 CT/HRSGs (1,000 hrs on oil)	3 CT/HRSGs (1,500 hrs on oil)
Sulfuric acid mist	0.72	0.54	1.08	1.62	2.10	3.72	33.6	32.5	31.5
HAPs (Section 112(b) of Clean Air Act)									
1,3-Butadiene	0.0385	0.029	0.058	0.087	0.001	0.001	0.043	0.071	0.099
Acetaldehyde	0.00	0.00	0.00	0.00	0.103	0.122	1.359	1.282	1.205
Acrolein	0.00	0.00	0.00	0.00	0.016	0.020	0.217	0.205	0.193
Benzene	0.132	0.099	0.198	0.298	0.031	0.037	0.507	0.583	0.659
Ethylbenzene	0.00	0.00	0.00	0.00	0.082	0.098	1.087	1.026	0.964
Formadehyde	0.565	0.424	0.848	1.271	0.551	0.654	7.697	7.707	7.718
Naphthalene	0.0841	0.063	0.126	0.189	0.003	0.004	0.107	0.168	0.228
Polycyclic Aromatic Hydrocarbons (PAH) (3)	0.0962	0.072	0.144	0.216	0.006	0.007	0.147	0.215	0.283
Propylene Oxide	0.00	0.00	0.00	0.00	0.075	0.089	0.985	0.929	0.873
Toluene	0.00	0.00	0.00	0.00	0.085	0.101	1.121	1.058	0.994
Xylene	0.00	0.00	0.00	0.00	0.165	0.195	2.175	2.051	1.927
Antimony	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arsenic	0.0264	0.020	0.040	0.060	0.00	0.00	0.020	0.040	0.060
Beryllium	0.000745	0.0006	0.001	0.002	0.00	0.00	0.00	0.00	0.00
Cadmium	0.01154	0.0087	0.017	0.026	0.00	0.00	0.009	0.017	0.026
Chromium	0.0264	0.020	0.040	0.060	0.00	0.00	0.020	0.040	0.060
Lead	0.0337	0.025	0.050	0.076	0.00	0.00	0.025	0.050	0.076
Manganese	1.90	1.424	2.849	4.273	0.00	0.00	1.42	2.85	4.27
Mercury	0.00288	0.0022	0.004	0.006	0.00	0.00	0.00	0.00	0.01
Nickel	0.01106	0.0083	0.017	0.025	0.00	0.00	0.008	0.017	0.025
Selenium	0.0601	0.045	0.090	0.135	0.00	0.00	0.045	0.090	0.135
HAPs (Total)	2.99	2.24	4.48	6.72	1.1	1.3	17.0	18.4	19.8

(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% O_2 (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 1,000 hours 1,500 hours

(3) Assumed to be representative of Polycyclic Organic Matter (POM) emissions, a regulated HAP.

(4) Natural gas firing emission rates based on Table A-9.

(5) Maximum total annual emissions based on the following combination of operating hours:

Oil firing at base load for :	500 hours	1,000 hours	1,500 hours
Natural gas at base load for :	5,380 hours	4,880 hours	4,380 hours
Natural gas with duct firing at base load for :	2,880 hours	2,880 hours	2,880 hours

TABLE A-10a-SH
MAXIMUM FORMALDEHYDE EMISSIONS
FOR THE CONVERSION PROJECT
SIEMENS H CT, DRY LOW NO_x COMBUSTOR, DISTILLATE OIL, BASE LOAD

Parameter	CT Only Turbine Inlet Temperature 35 °F	59 °F	75 °F	95 °F
Formaldehyde (CH_2O) MW = 30				Compressors
CH_2O (lb/hr) = CH_2O (ppm actual) x Volume flow (acfm) x 30 (mole. wgt CH_2O) x 2116.8 lb/ft^2 (pressure) / [1545.7 (gas constant, R) x Actual Temp. (°R)] x 60 min/hr				
CH_2O (ppm actual) = CH_2O (ppmd @ 15%O_2) x [(20.9 - O_2 dry)/(20.9 - 15)] x [1- Moisture(%)/100]				
Oxygen (%, dry)(O_2 dry) = Oxygen (%)/[1-Moisure (%)]				
Basis, ppmvw - calculated	0.113	0.112	0.111	0.110
CT, ppmvd @15% O_2	0.091	0.091	0.091	0.091
Moisture (%)	7.97	8.46	9.12	10.02
Oxygen (%)	11.91	11.88	11.80	11.68
Oxygen (%) dry	12.94	12.98	12.98	12.98
Exhaust Flow (acfm)	1,773,827	1,677,310	1,607,335	1,519,437
Exhaust Temperature (°F)	359	357	355	354
CT Emission rate (lb/hr)	0.602	0.565	0.538	0.505
CT Emission rate (lb/10^{12} Btu) (HHV)	234.7	235.0	234.9	234.8

Note: ppmvd= parts per million, volume dry; O2= oxygen.

Source: Siemens, 2008; CT Performance Data; Golder, 2008.

TABLE A-11A
HAZARDOUS AIR POLLUTANT EMISSIONS FOR ADDITIONAL CCEC EMISSION UNITS- NATURAL GAS-FIRING

	Auxiliary Boiler and Fuel Heater				Compressor Station		
	Emission Factor [a]		Annual Emission Basis		Emission Factor [a, b]		
Parameter/Pollutant	Units	Value	Auxiliary Boiler	Fuel Heater	Units	Value	Annual Emission Basis [c]
Heat Input Rate (MMBtu/hr)			99.77	10			70.77
Fuel use (scf/hr)			94,569	9,479			69,384
Hours of operation (annual)			500	8,760			8,760
Heat Input Rate (MMBtu/yr)			NA	NA			619.945
Fuel use (MMscf/yr)			47.284	83.03			607.81
HAPs [Section 112(b) of Clean Air Act]			Emissions (TPY)				Emissions (TPY)
Benzene	lb/10^6 scf	2.10E-03	4.96E-05	8.72E-05	lb/MMBtu	4.40E-04	6.82E-03
Formaldehyde	lb/10^6 scf	7.50E-02	1.77E-03	3.11E-03	lb/MMBtu	5.28E-02	8.18E-01
Naphthalene	lb/10^6 scf	6.10E-04	1.44E-05	2.53E-05	lb/MMBtu	7.44E-05	1.15E-03
Toluene	lb/10^6 scf	3.40E-03	8.04E-05	1.41E-04	lb/MMBtu	4.08E-04	6.32E-03
Dichlorobenzene	lb/10^6 scf	1.20E-03	2.84E-05	4.98E-05	lb/MMBtu	NA	NA
Acenaphthene	lb/10^6 scf	1.80E-06	4.26E-08	7.47E-08	lb/MMBtu	1.25E-06	1.94E-05
Acenaphthylene	lb/10^6 scf	1.80E-06	4.26E-08	7.47E-08	lb/MMBtu	5.53E-06	8.57E-05
Acetaldehyde	lb/10^6 scf	NA	NA	NA	lb/MMBtu	8.36E-03	1.30E-01
Acrolein	lb/10^6 scf	NA	NA	NA	lb/MMBtu	5.14E-03	7.97E-02
Anthracene	lb/10^6 scf	2.40E-06	5.67E-08	9.96E-08	lb/MMBtu	NA	NA
Benzo(a)anthracene	lb/10^6 scf	1.80E-06	4.26E-08	7.47E-08	lb/MMBtu	NA	NA
Benzo(b)fluoranthene	lb/10^6 scf	NA	NA	NA	lb/MMBtu	1.66E-07	2.57E-06
Benzene	lb/10^6 scf	2.10E-03	4.96E-05	8.72E-05	lb/MMBtu	NA	NA
Benzo(e)pyrene	lb/10^6 scf	NA	NA	NA	lb/MMBtu	4.15E-07	6.43E-06
Benzo(g,h,i)perylene	lb/10^6 scf	1.20E-06	2.84E-08	4.98E-08	lb/MMBtu	4.14E-07	6.42E-06
Biphenyl	lb/10^6 scf	NA	NA	NA	lb/MMBtu	2.12E-04	3.29E-03
Chrysene	lb/10^6 scf	1.80E-06	4.26E-08	7.47E-08	lb/MMBtu	6.93E-07	1.07E-05
Dibenzo(a,h)anthraeene	lb/10^6 scf	1.20E-06	2.84E-08	4.98E-08	lb/MMBtu	NA	NA
Ethylbenzene	lb/10^6 scf	NA	NA	NA	lb/MMBtu	3.97E-05	6.15E-04
Fluoanthene	lb/10^6 scf	3.00E-06	7.09E-08	1.25E-07	lb/MMBtu	1.11E-06	1.72E-05
Fluorene	lb/10^6 scf	2.80E-06	6.62E-08	1.16E-07	lb/MMBtu	5.67E-06	8.79E-05
Indeno(1,2,3-cd)pyrene	lb/10^6 scf	1.80E-06	4.26E-08	7.47E-08	lb/MMBtu	NA	NA
Methanol	lb/10^6 scf	NA	NA	NA	lb/MMBtu	2.50E-03	3.87E-02
Methylcyclohexane	lb/10^6 scf	NA	NA	NA	lb/MMBtu	1.23E-03	1.91E-02
Methylene Chloride	lb/10^6 scf	NA	NA	NA	lb/MMBtu	2.00E-05	3.10E-04
n-Hexane	lb/10^6 scf	NA	NA	NA	lb/MMBtu	1.11E-03	1.72E-02
Phenanthrene	lb/10^6 scf	1.70E-05	4.02E-07	7.06E-07	lb/MMBtu	1.04E-05	1.61E-04
Phenol	lb/10^6 scf	NA	NA	NA	lb/MMBtu	2.40E-05	3.72E-04
Pyrene	lb/10^6 scf	5.00E-06	1.18E-07	2.08E-07	lb/MMBtu	1.36E-06	2.11E-05
Vinyl Chloride	lb/10^6 scf	NA	NA	NA	lb/MMBtu	1.49E-05	2.31E-04
Xylene	lb/10^6 scf	NA	NA	NA	lb/MMBtu	1.84E-04	2.85E-03
1,2,4 Trimethylbenzene	lb/10^6 scf	NA	NA	NA	lb/MMBtu	1.43E-05	2.22E-04
2-Methylnaphthalene	lb/10^6 scf	NA	NA	NA	lb/MMBtu	3.32E-05	5.15E-04
2,2,4-Trimethylpentane	lb/10^6 scf	NA	NA	NA	lb/MMBtu	2.50E-04	3.87E-03
Arsenic	lb/10^6 scf	2.00E-04	4.73E-06	8.30E-06	lb/10^6 scf	2.00E-04	6.08E-05
Beryllium	lb/10^6 scf	1.20E-05	2.84E-07	4.98E-07	lb/10^6 scf	1.20E-05	3.65E-06
Cadmium	lb/10^6 scf	1.10E-03	2.60E-05	4.57E-05	lb/10^6 scf	1.10E-03	3.34E-04
Chromium	lb/10^6 scf	1.40E-03	3.31E-05	5.81E-05	lb/10^6 scf	1.40E-03	4.25E-04
Cobalt	lb/10^6 scf	8.40E-05	1.99E-06	3.49E-06	lb/10^6 scf	8.40E-05	2.55E-05
Mercury	lb/10^6 scf	2.60E-04	6.15E-06	1.08E-05	lb/10^6 scf	2.60E-04	7.90E-05
Manganese	lb/10^6 scf	3.80E-04	8.98E-06	1.58E-05	lb/10^6 scf	3.80E-04	1.15E-04
Nickel	lb/10^6 scf	2.10E-03	4.96E-05	8.72E-05	lb/10^6 scf	2.10E-03	6.38E-04
Selenium	lb/10^6 scf	2.40E-05	5.67E-07	9.96E-07	lb/10^6 scf	2.40E-05	7.29E-06
HAPs (Total)			2.13E-03	3.74E-03			1.13

[a] EPA AP-42 (Section 1.4); for compression station, emission factors apply to metals.

[b] EPA AP-42 (Section 3.2)

[c] Compressor Station includes 7 gas-fired engines rated at 1,340 hp each.
Assumes control efficiency of organic HAPs with oxidation catalyst of: 95 percent.

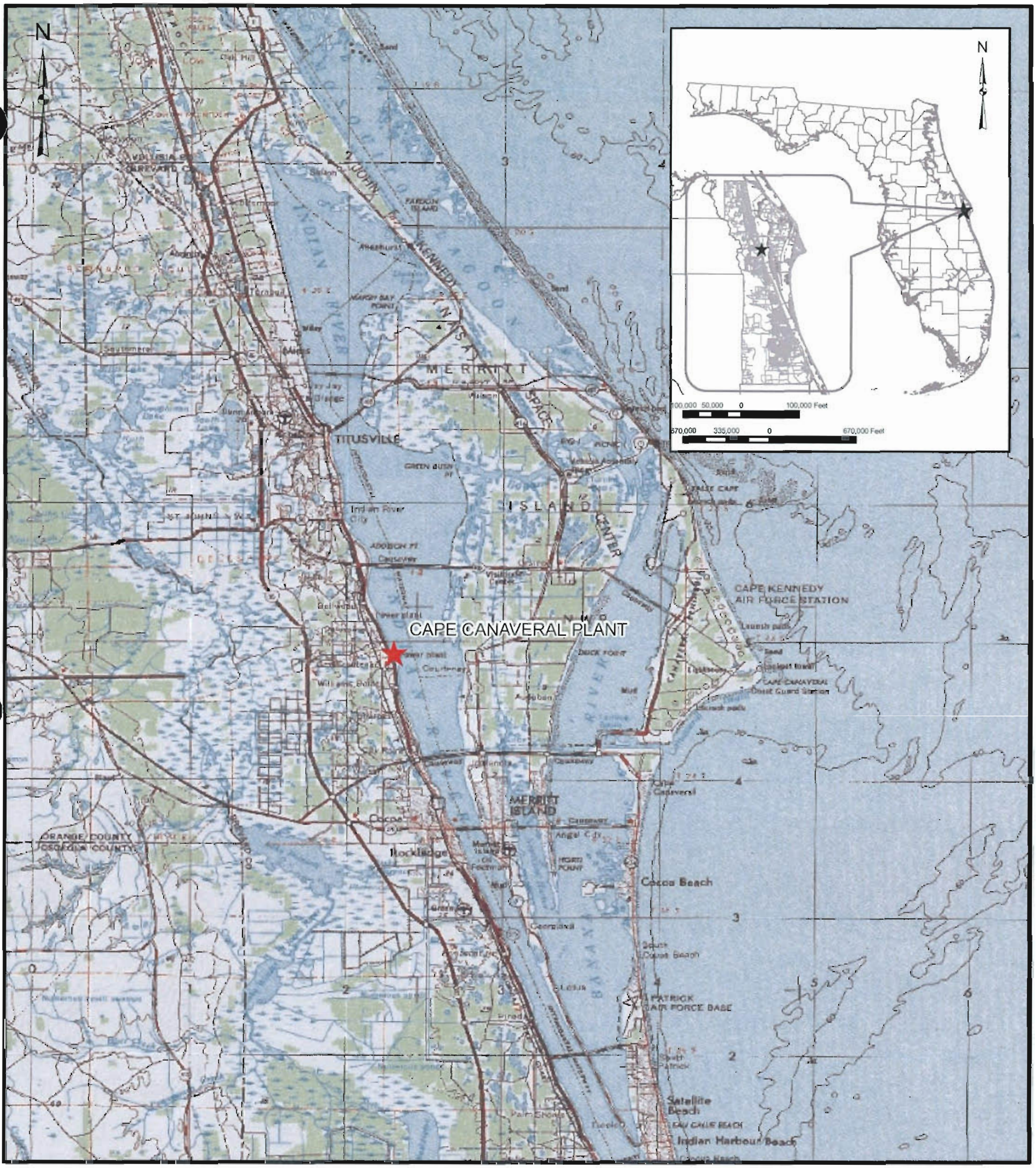
TABLE A-11B
HAZARDOUS AIR POLLUTANT EMISSIONS FOR ADDITIONAL CCEC EMISSION UNITS- OIL-FIRING

Parameter/Pollutant	Emission Factor [a, b] Units	Emission Factor [a, b] Value	Fire Pump Engine	Emergency Generators [c]
			Annual Emission Basis	
Heat Input Rate (MMBtu/hr)			2.32	42.0
Hours of operation (annual)			80	160
Heat Input Rate (MMBtu/yr)			185.9	6,723
HAPs [Section 112(b) of Clean Air Act]			Emissions (TPY)	
Acrolein	lb/MMBtu	7.88E-06	7.32E-07	2.65E-05
Acetaldehyde	lb/MMBtu	2.52E-05	2.34E-06	8.47E-05
Benzene	lb/MMBtu	7.76E-04	7.21E-05	2.61E-03
Formaldehyde	lb/MMBtu	7.89E-05	7.33E-06	2.65E-04
Naphthalene	lb/MMBtu	1.30E-04	1.21E-05	4.37E-04
Toluene	lb/MMBtu	2.81E-04	2.61E-05	9.45E-04
Xylene	lb/MMBtu	1.93E-04	1.79E-05	6.49E-04
Acenaphthene	lb/MMBtu	4.68E-06	4.35E-07	1.57E-05
Acenaphthylene	lb/MMBtu	9.23E-06	8.58E-07	3.10E-05
Anthracene	lb/MMBtu	1.23E-06	1.14E-07	4.13E-06
Benzo(a)anthracene	lb/MMBtu	6.22E-07	5.78E-08	2.09E-06
Benzo(b)fluoranthene	lb/MMBtu	1.11E-06	1.03E-07	3.73E-06
Benzo(k)fluoranthene	lb/MMBtu	2.18E-07	2.03E-08	7.33E-07
Benzo(g,h,i)perylene	lb/MMBtu	5.56E-07	5.17E-08	1.87E-06
Benzo(a)pyrene	lb/MMBtu	2.57E-07	2.39E-08	8.64E-07
Chrysene	lb/MMBtu	1.53E-06	1.42E-07	5.14E-06
Dibenzo(a,h)anthracene	lb/MMBtu	3.46E-07	3.22E-08	1.16E-06
Fluoanthene	lb/MMBtu	4.03E-06	3.75E-07	1.35E-05
Fluorene	lb/MMBtu	4.47E-06	4.15E-07	1.50E-05
Indo(1,2,3-cd)pyrene	lb/MMBtu	4.14E-07	3.85E-08	1.39E-06
Phenanthrene	lb/MMBtu	1.05E-06	9.76E-08	3.53E-06
Pyrene	lb/MMBtu	3.71E-06	3.45E-07	1.25E-05
Arsenic	lb/10^{12} Btu	4.0	3.72E-07	1.34E-05
Beryllium	lb/10^{12} Btu	3.0	2.79E-07	1.01E-05
Cadmium	lb/10^{12} Btu	3.0	2.79E-07	1.01E-05
Chromium	lb/10^{12} Btu	3.0	2.79E-07	1.01E-05
Lead	lb/10^{12} Btu	9.0	8.37E-07	3.03E-05
Mercury	lb/10^{12} Btu	3.0	2.79E-07	1.01E-05
Manganese	lb/10^{12} Btu	6.0	5.58E-07	2.02E-05
Nickel	lb/10^{12} Btu	3.0	2.79E-07	1.01E-05
Selenium	lb/10^{12} Btu	15.0	1.39E-06	5.04E-05
HAPs (Total)			1.43E-04	5.18E-03

[a] EPA AP-42 (Section 3.4)

[b] EPA AP-42 (Section 1.3) for metals.

[c] Includes two emergency generators.

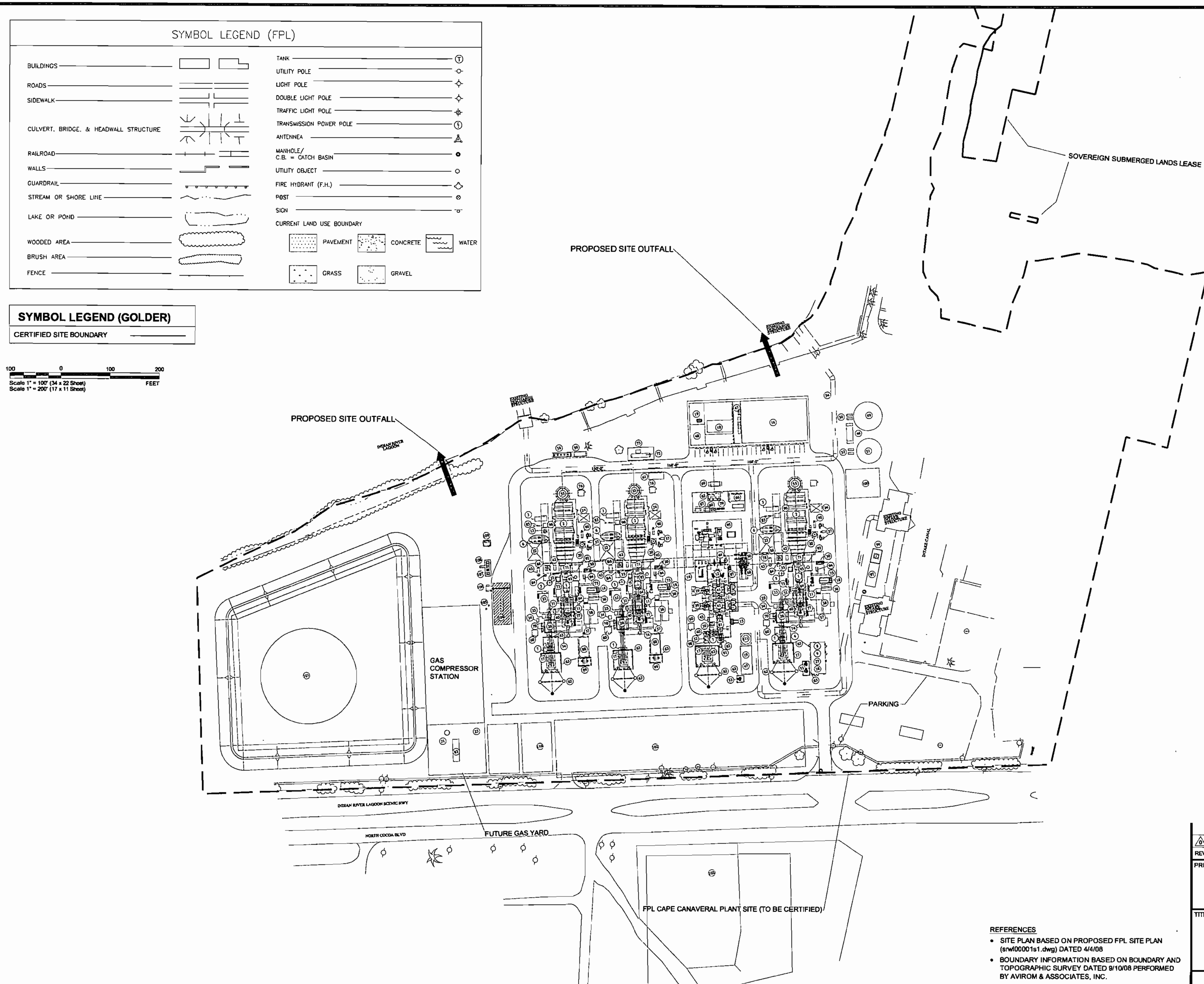


REFERENCE

1. Imagery, USA Imagery.lyr, ESRI, 2006

35,000 0 35,000 Feet

FPL	SCALE AS SHOWN	TITLE		
	DESIGN RCM	LOCATION OF THE FPL CAPE CANAVERAL PLANT IN BREVARD COUNTY, FLORIDA		
	GIS NRL			
PROJECT No. 083-87633	CHECK RCM	PROJECT FPL CAPE CANAVERAL ENERGY CENTER		FIGURE 1-1
FILE No. 08387633CA038 REV. 0	REVIEW KFK			



LEGEND

1. GAS TURBINE AND GENERATOR
2. HRSG
3. BOILER FEEDWATER PUMP
4. UNIT AUX TRANSFORMER
5. COMBUSTION TURBINE TCA COOLER
6. FUEL GAS PERFORMANCE HEATER
7. ISOPHASE BUS DUCT
8. ELECTRICAL EQUIPMENT BUILDING
9. BATTERY ROOM
10. ADMINISTRATION BUILDING
11. GT WASHWATER SUMPS
12. STEAM TURBINE
13. HRSG BLOWDOWN TANK
14. STEAM LUBE OIL UNIT
15. CONDENSATE PUMPS
16. WAREHOUSE BUILDING
17. GENERATOR STEP-UP TRANSFORMER
18. CT LIQUID FUEL ATOMIZING AIR MODULE (LFAA)
19. DCS EQUIPMENT
20. AIG SKID
21. FUEL GAS DRAINS TANK (FUTURE)
22. MAINTENANCE LAYDOWN AREA
23. FUEL GAS YARD (FUTURE)
24. SCR REMOVAL AREA
25. CT GENERATOR EXCITATION TRANSFORMER
26. COMBUSTION TURBINE EXCITATION COMPARTMENT
27. 480v SWITCHGEAR TRANSFORMER
28. 480v SWITCHGEAR
29. CONDENSER TUBE REMOVAL AREA
30. CAUSTIC FEED TANK
31. ELECTRIC FUEL OIL HEATER
32. ST EXCITATION TRANSFORMER
33. COMBUSTION TURBINE ELECTRICAL PACKAGE
34. COMBUSTION TURBINE SURGE PT & SA CUBICLE
35. COMBUSTION TURBINE 2C COOLER
36. GT CO2 FIRE PROTECTION SKID
37. AMMONIA DILUTION AIR FANS
38. GT LUBE OIL UNIT
39. ST GENERATOR SEAL OIL UNIT
40. NGR CUBICLE
41. STEAM TURBINE CONDENSER
42. GT WASH UNIT
43. WASH WATER DRAINS TANK
44. STEAM TURBINE AREA BLOWDOWN TANK
45. STEAM JET AIR EJECTOR
46. FIRE PUMPS
47. 4160v/480v DRY TYPE TRANSFORMER/MCC/SWITCHGEAR
48. CONTROL ROOM
49. RAW WATER STORAGE TANK
50. RAW WATER PUMPS
51. DEMINERALIZED WATER STORAGE TANK
52. DEMINERALIZED WATER PUMPS
53. 4160v/480v S.U.S. TRANSFORMER
54. CIRCULATING WATER LINES
55. STACK
56. ACW CLOSED CYCLE COOLING WATER PUMPS
57. GT AIR INLET FILTER
58. HYDROGEN BULK STORAGE
59. CO2 STORAGE CYLINDERS
60. DELUGE HOUSE
61. OIL/WATER SEPARATOR
62. DEADEND STRUCTURE
63. FIREWALL
64. FUEL OIL INLET FILTER
65. CYCLE CHEMICAL FEED EQUIPMENT
66. CHEMICAL LAB/SAMPLE PANEL
67. AIR COMPRESSORS
68. ACW CLOSED CYCLE COOLING WATER HEAT EXCHANGERS
69. EMERGENCY DIESEL GENERATOR
70. EXCITATION PACKAGE COOLING UNIT
71. CT ENCLOSURE VENT FAN
72. AMMONIA TANK
73. AMMONIA VAPORIZING SKID
74. CT ROTOR REMOVAL
75. CT TURBINE ENCLOUSRE
76. CEMS
77. CT SEAL OIL UNIT
78. PIPE RACK
79. AIR DRYERS
80. AIR RECEIVER
81. STEAM TURBINE GENERATOR
82. ST STATOR COOLING UNIT
83. FUEL GAS METERING (FUTURE)
84. FUEL GAS FILTER/SEPARATOR
85. START UP GAS HEATER
86. FUEL GAS COALESCING FILTER
87. EHC UNIT
88. COMBUSTION TURBINE SFC
89. COMBUSTION TURBINE SFC TRANSFORMER
90. DUCT BURNER MANAGEMENT SKID
91. ST ROTOR REMOVAL AREA
92. EXPANSION JOINT REMOVAL
93. COMBUSTION TURBINE PURGE AIR RECEIVER
94. FUEL OIL MANAGEMENT SPOOL PIECE
95. AUXILIARY BOILER
96. HRSG BLOWDOWN SUMP
97. CIRCULATING WATER CHEMICAL FEED
98. STEAM TURBINE EXCITATION PACKAGE
99. SULFURIC ACID STORAGE TANK
100. DEMINERALIZER WATER TRAILER AREA
101. EXISTING FUEL OIL TANK
102. 138kv SWITCHYARD
103. 230 kv SWITCHYARD
104. FUEL OIL UNLOADING STATION
105. FUEL OIL LEAK DETECTION
106. FUEL OIL AREA SUMP
107. FUEL OIL UNLOADING PUMPS
108. FUEL OIL FORWARDING PUMPS
109. FOAM SUPPRESSION SYSTEM
110. EXISTING GAS YARD
111. CIRCULATING WATER DISCHARGE CHEM FEED TANK

REFERENCES

- SITE PLAN BASED ON PROPOSED FPL SITE PLAN (srwl00001s1.dwg) DATED 4/4/08
- BOUNDARY INFORMATION BASED ON BOUNDARY AND TOPOGRAPHIC SURVEY DATED 9/10/08 PERFORMED BY AVIROM & ASSOCIATES, INC.
- SOVEREIGN SUBMERGED LANDS LEASE BASED ON FPL DRAWING No. CC042096 DATED 1998
- STORMWATER BASED ON BOYLE ENGINEERING CORP. POST DEVELOPMENT DETENTION AREA SITING EXHIBIT, DATED 9/3/08

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW
0	01/01/01	XXX	REV_DESC	XXX		

PROJECT

FPL
CAPE CANAVERAL ENERGY CENTER

TITLE

FACILITY PLOT PLAN

FPL

PROJECT No.		083-87833	FILE No.	08387633A037
DESIGN	-	-	SCALE AS SHOWN	REV. 1
CADD	NRL	12/15/08		
CHECK	RCM	12/15/08	FIGURE 2-1	
REVIEW	KFK	12/15/08		

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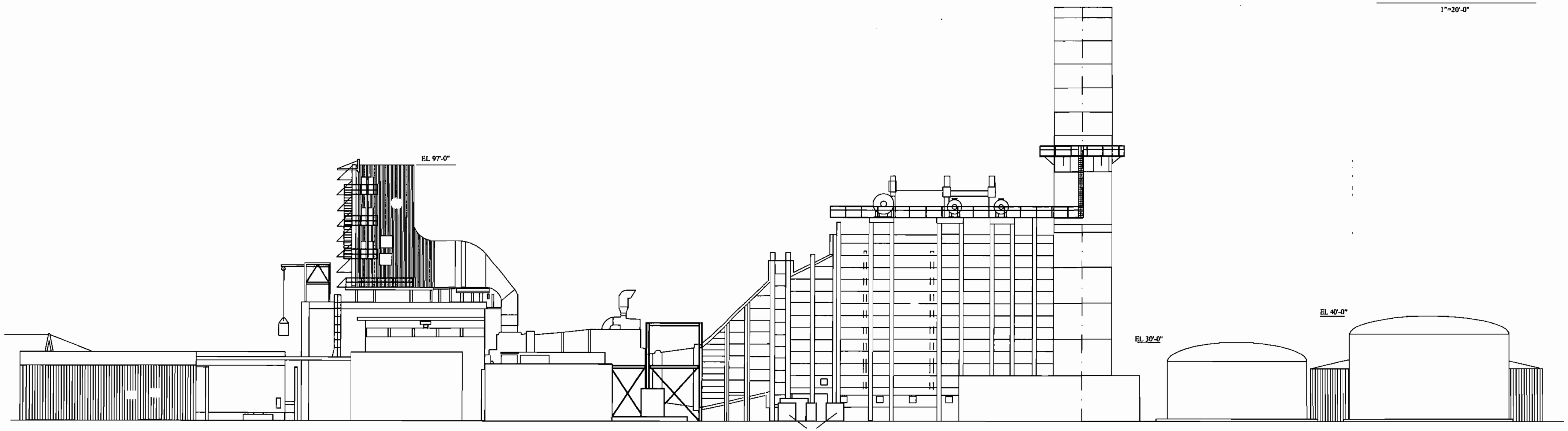
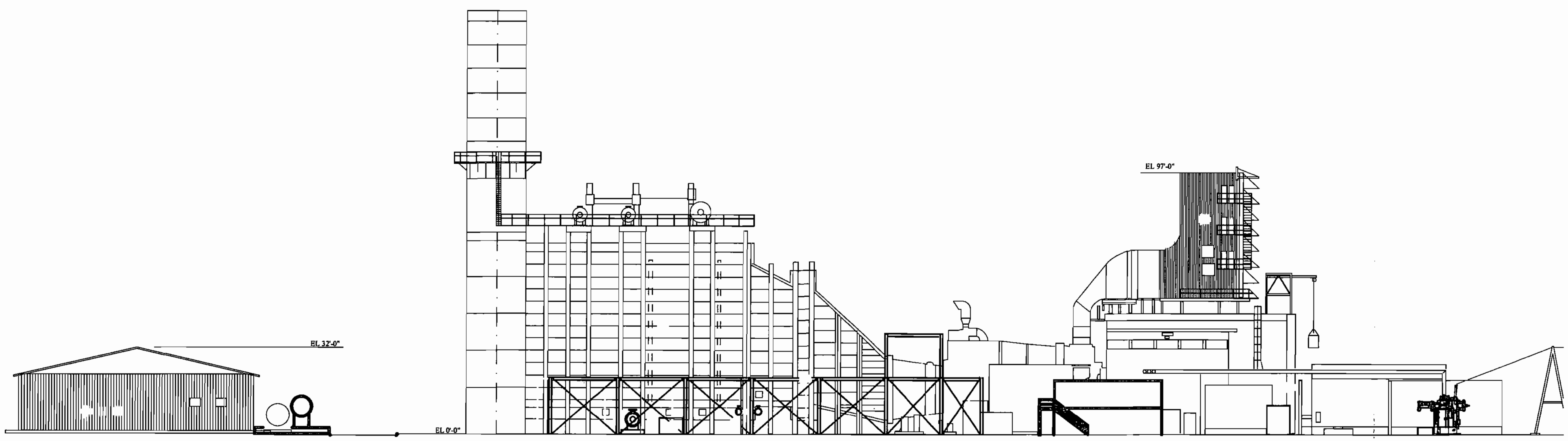


SOUTH ELEVATION
LOOKING NORTH



NORTH ELEVATION
LOOKING SOUTH

GENERAL NOTES

1. ALL SIZES AND ELEVATIONS ARE APPROXIMATE.
2. ANTICIPATED STACK HEIGHT NOT TO EXCEED 200'; AS DETERMINED BY ENVIRONMENTAL REGULATIONS.

REFERENCE DRAWINGS

1. SITE RELATED WORK - 3x1 COMBINED CYCLE - 501G GENERAL ARRANGEMENT - PLAN D013454-SRWL00001 SH01
2. SITE RELATED WORK - 3x1 COMBINED CYCLE - 501G EAST/WEST ELEVATIONS D013454-SRWL00004 SH01
3. SITE RELATED WORK - 3x1 COMBINED CYCLE - M501G NORTH/SOUTH ELEVATIONS D013454-SRWL00004 SH01

FPL

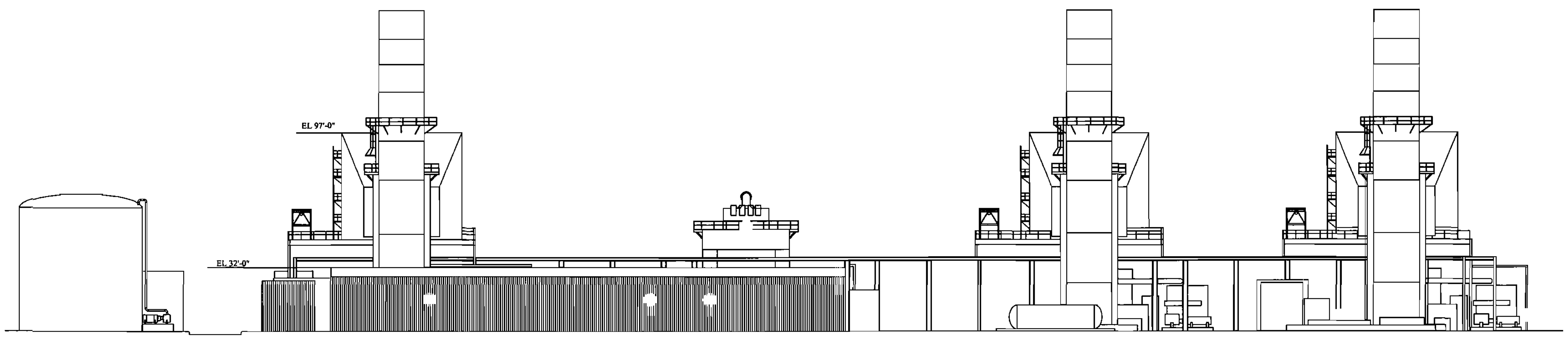
PROJECT
FPL
CAPE CANAVERAL ENERGY CENTER

TITLE
NORTH / SOUTH ELEVATIONS
(TYPICAL PROFILES FOR THE COMBINED CYCLE TECHNOLOGIES CONSIDERED)

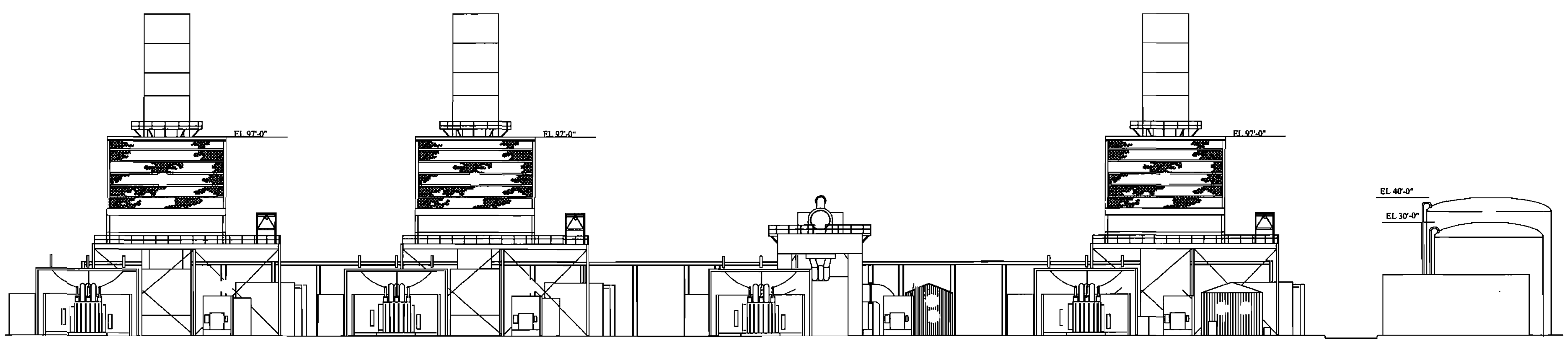
PROJECT No. 083-87633		
FILE No. 08387633CB005		
REV. 0	SCALE AS_SHOWN	
DESIGN	–	–
CADD	NRL	10/16/08
CHECK	RCM	10/24/08
REVIEW	KFK	12/09/08

FIGURE 2-5

Drawing file: 08387633CB005_NSElevation.dwg Oct 16, 2008 - 11:03am



EAST ELEVATION
LOOKING WEST



WEST ELEVATION
LOOKING EAST

SCALE
1"=30'-0"

GENERAL NOTES

1. ALL SIZES AND ELEVATIONS ARE APPROXIMATE.
2. ANTICIPATED STACK HEIGHT NOT TO EXCEED 200'; AS DETERMINED BY ENVIRONMENTAL REGULATIONS.

REFERENCE DRAWINGS

1. SITE RELATED WORK - 3x1 COMBINED CYCLE - 501G GENERAL ARRANGEMENT - PLAN D013454-SRWL00001 SH01
2. SITE RELATED WORK - 3x1 COMBINED CYCLE - 501G EAST/WEST ELEVATIONS D013454-SRWL00004 SH01
3. SITE RELATED WORK - 3x1 COMBINED CYCLE - M501G NORTH/SOUTH ELEVATIONS D013454-SRWL00004 SH01

FPL

PROJECT
FPL
CAPE CANAVERAL ENERGY CENTER

TITLE
EAST / WEST ELEVATIONS
(TYPICAL PROFILES FOR THE COMBINED CYCLE TECHNOLOGIES CONSIDERED)

PROJECT No. 083-87633		
FILE No. 08387633CB004		
REV. 0	SCALE AS_SHOWN	
DESIGN	–	–
CADD	NRL	10/16/08
CHECK	RCM	10/24/08
REVIEW	KFK	12/09/08

FIGURE 2-6

Drawing file: 08387633CA036_EWElevation.dwg Oct 16, 2008 - 11:45am

TANKS 4.0.9d
Emissions Report - Summary Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Cape Canaveral - 268,000 barrels
City:	Cape Canaveral
State:	Florida
Company:	FPL
Type of Tank:	Vertical Fixed Roof Tank
Description:	

Tank Dimensions

Shell Height (ft):		49.00
Diameter (ft):		200.00
Liquid Height (ft) :		47.89
Avg. Liquid Height (ft):		47.89
Volume (gallons):		11,256,000.00
Turnovers:		4.53
Net Throughput(gal/yr):		51,000,000.00
Is Tank Heated (y/n):	N	

Paint Characteristics

Shell Color/Shade:	Gray/Light
Shell Condition	Good
Roof Color/Shade:	Gray/Light
Roof Condition:	Good

Roof Characteristics

Type:	Dome	
Height (ft)		0.00
Radius (ft) (Dome Roof)		200.00

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Orlando, Florida (Avg Atmospheric Pressure = 14.75 psia)

TANKS 4.0.9d
Emissions Report - Summary Format
Liquid Contents of Storage Tank

Cape Canaveral - 268,000 barrels - Vertical Fixed Roof Tank
Cape Canaveral, Florida

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Distillate fuel oil no. 2	All	79.91	70.58	89.24	74.56	0.0120	0.0092	0.0157	130.0000			188.00	Option 1: VP70 = .009 VP80 = .012

TANKS 4.0.9d
Emissions Report - Summary Format
Individual Tank Emission Totals

Emissions Report for: Annual

Cape Canaveral - 268,000 barrels - Vertical Fixed Roof Tank
Cape Canaveral, Florida

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Distillate fuel oil no. 2	1,890.17	2,967.88	4,858.05

APPENDIX B

HISTORICAL ACTUAL EMISSIONS FROM EXISTING UNITS 1 AND 2 AT FPL CAPE CANAVERAL PLANT

TABLE B-PCC-AOR
SUMMARY OF MAXIMUM ANNUAL EMISSIONS FOR THE EXISTING UNITS AT PCC USING AOR DATA

Pollutant		Annual Emissions (TPY) 2007	2006	2005	2004	2003	Maximum 2-Year Average (TPY)	2-Year Average Annual Emissions (TPY) 2006 2007	2005 2006	2004 2005	2003 2004
SO_2	1	1,784.2	1,772.5	4,595.8	4,638.1	6,607.7		1,778.4	3,184.2	4,617.0	5,622.9
	2	2,272.3	1,978.5	4,861.3	4,400.5	6,634.2		2,125.4	3,419.9	4,630.9	5,517.4
		4,056.5	3,751.0	9,457.1	9,038.6	13,241.9	11,140.3	3,903.8	6,604.1	9,247.9	11,140.3
PM	1	167.5	169.6	377.8	386.1	540.4		168.6	273.7	382.0	463.3
	2	210.1	182.3	400.0	366.5	542.8		196.2	291.2	383.3	454.7
		377.6	351.9	777.8	752.6	1,083.2	917.9	364.8	564.9	765.2	917.9
PM_{10}	1	167.5	169.6	377.8	386.1	540.4		168.6	273.7	382.0	463.3
	2	210.1	182.3	400.0	366.5	542.8		196.2	291.2	383.3	454.7
		377.6	351.9	777.8	752.6	1,083.2	917.9	364.8	564.9	765.2	917.9
NO_x	1	1,490.4	1,656.2	2,146.6	2,596.0	5,061.5		1,573.3	1,901.4	2,371.3	3,828.8
	2	2,008.7	1,624.0	2,419.1	2,600.5	5,192.7		1,816.3	2,021.5	2,509.8	3,896.6
		3,499.1	3,280.2	4,565.7	5,196.5	10,254.2	7,725.4	3,389.6	3,922.9	4,881.1	7,725.4
CO	1	320.6	373.4	279.9	336.2	371.4		347.0	326.7	308.1	353.8
	2	373.1	339.2	300.4	320.5	376.0		356.2	319.8	310.5	348.2
		693.7	712.6	580.3	656.7	747.4	703.2	703.2	646.5	618.5	702.0
VOC (as methane)	1	26.3	29.5	31.4	30.1	38.9		27.9	30.5	30.8	34.5
	2	31.2	27.8	33.5	28.7	39.1		29.5	30.7	31.1	33.9
		57.5	57.3	64.9	58.8	78.0	68.4	57.4	61.1	61.9	68.4
Lead	1	0.020	0.019	0.046	0.047	0.066		0.020	0.033	0.047	0.057
	2	0.025	0.021	0.049	0.045	0.067		0.023	0.035	0.047	0.056
		0.045	0.040	0.095	0.092	0.133	0.113	0.043	0.068	0.094	0.113
SAM [a]	1	79.4	78.8	204.4	206.3	293.9		79.1	141.6	205.3	250.1
	2	101.1	88.0	216.2	195.7	295.1		94.5	152.1	206.0	245.4
		180.4	166.8	420.6	402.0	588.9	495.5	173.6	293.7	411.3	495.5

[a] Estimated from SO_2 emissions and based on ratio of AP-42 emission factors for fuel oil combustion (Table 1.3-1) for SO_3 and SO_2. SO_3 is assumed to be converted to H_2SO_4.

SO_3 emission factor	5.7	S lb/1000 gal (S = sulfur content)
SO_2 emission factor	157	S lb/1000 gal (S = sulfur content)
Ratio SO_3/SO_2 emissions	0.036	fraction
SO_3 molecular wgt (MW)	80	
H_2SO_4 MW	98	
Ratio H_2SO_4/SO_2 MW	1.225	
Ratio H_2SO_4/SO_2 emissions	0.044	

Source: FPL, 2008.

APPENDIX C

COMPARISON OF MODEL RESULTS USING LAND USE VALUES FROM THE SITE AND KDAB AIRPORT

Note:

- **GENGAS file has impacts based on surface characteristics from KDAB.**
- **GENGASON file has impacts based on surface characteristics from CCEC Site.**
- **Results are presented first with impacts from GENGAS file and second with impacts from GENGASON file for each source group and averaging period.**

AERBOB RELEASE 020304

AERMOD OUTPUT FILE NUMBER 1 :GENGAS.001
AERMOD OUTPUT FILE NUMBER 2 :GENGASON.001
First title for last output file is: 2001 FPL CANAVERAL REPOWER- CT LOAD ANALYSIS, SIEMENS GAS 9/26/08
Second title for last output file is: GENERIC (10 g/s) EMISSION RATES FOR CC CTS

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	G1095D				
Annual					
	2001	0.48950	522500.	3149100.	01123124
	2001	0.24422	522200.	3149000.	01123124
HIGH 24-Hour					
	2001	2.87347	523200.	3149900.	01072324
	2001	2.66398	523900.	3149200.	01030524
HIGH 8-Hour					
	2001	6.15676	523000.	3148500.	01042616
	2001	5.71679	523700.	3149000.	01030616
HIGH 3-Hour					
	2001	8.08816	522100.	3149000.	01031921
	2001	7.34773	523300.	3149900.	01022515
HIGH 1-Hour					
	2001	16.06459	523100.	3149800.	01072320
	2001	12.13502	523800.	3149300.	01081020
SOURCE GROUP ID:	G1059D				
Annual					
	2001	0.45185	522500.	3149100.	01123124
	2001	0.22542	522200.	3149000.	01123124
HIGH 24-Hour					
	2001	2.68070	522400.	3149100.	01042924
	2001	2.40538	523800.	3149000.	01030624
HIGH 8-Hour					
	2001	5.65885	523000.	3148500.	01042616
	2001	5.24316	523700.	3149000.	01030616
HIGH 3-Hour					
	2001	7.32121	523000.	3148400.	01092918
	2001	6.96152	523300.	3149900.	01022515
HIGH 1-Hour					
	2001	14.72860	523100.	3149800.	01072320
	2001	11.16257	523800.	3149300.	01081020
SOURCE GROUP ID:	G1035D				
Annual					
	2001	0.42999	522500.	3149100.	01123124
	2001	0.21438	522200.	3149000.	01123124
HIGH 24-Hour					
	2001	2.57824	522400.	3149100.	01042924
	2001	2.28874	523800.	3149000.	01030624
HIGH 8-Hour					
	2001	5.38432	523000.	3148500.	01042616
	2001	4.96579	523700.	3149000.	01030616
HIGH 3-Hour					
	2001	6.96592	523300.	3149900.	01022515
	2001	6.72288	523300.	3149900.	01022515
HIGH 1-Hour					
	2001	13.91947	523100.	3149800.	01072320
	2001	10.56811	523800.	3149300.	01081020
SOURCE GROUP ID:	G7595				
Annual					
	2001	0.59616	522500.	3149100.	01123124
	2001	0.29739	522300.	3149000.	01123124
HIGH 24-Hour					
	2001	3.61966	522000.	3148800.	01100924
	2001	3.59337	523800.	3149200.	01030524
HIGH 8-Hour					
	2001	7.73985	523000.	3148600.	01042616
	2001	7.57842	523600.	3149000.	01030616
HIGH 3-Hour					
	2001	10.19529	522200.	3149000.	01031921
	2001	9.63592	523800.	3149500.	01030424
HIGH 1-Hour					
	2001	19.85329	523100.	3149700.	01072320
	2001	15.30710	523700.	3149300.	01081020
SOURCE GROUP ID:	G7559				
Annual					
	2001	0.55966	522500.	3149100.	01123124
	2001	0.27897	522300.	3149000.	01123124
HIGH 24-Hour					
	2001	3.30503	522000.	3148800.	01100924
	2001	3.24047	523800.	3149200.	01030524

HIGH 8-Hour					
	2001	7.14254	523000.	3148600.	01042616
	2001	6.93968	523600.	3149000.	01030616
HIGH 3-Hour					
	2001	9.44667	522100.	3149000.	01031921
	2001	8.76409	523800.	3149500.	01030424
HIGH 1-Hour					
	2001	18.28627	523100.	3149700.	01072320
	2001	14.26458	523700.	3149300.	01081020
SOURCE GROUP ID:	G7535				
Annual					
	2001	0.54023	522500.	3149100.	01123124
	2001	0.26953	522200.	3149000.	01123124
HIGH 24-Hour					
	2001	3.15623	523200.	3149900.	01072324
	2001	3.05226	523900.	3149200.	01030524
HIGH 8-Hour					
	2001	6.83803	523000.	3148500.	01042616
	2001	6.57086	523600.	3149000.	01030616
HIGH 3-Hour					
	2001	9.07550	522100.	3149000.	01031921
	2001	8.27806	523800.	3149500.	01030424
HIGH 1-Hour					
	2001	17.69261	523100.	3149800.	01072320
	2001	13.66609	523700.	3149300.	01081020

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

APPENDIX D

RECEPTOR LOCATION FIGURES AND PROFILE INPUT PROGRAM (BPIP) FILES

```
'E:\Projects\FPL\Cape Canaveral\Lakes\PCC0924.isc'
'P'
'METERS'  1.00000000
'UTMY'  0.0000
11
'GASCOMP'  1            6.484  'Gas Compressor Engine Building'
    4          6.096
           522928.000      3149324.000
           522925.788      3149332.872
           522947.969      3149338.403
           522950.181      3149329.530
'INLET1A'  1            4.000  'Unit 1A Air Inlet'
    4         29.566
           523009.103      3149296.681
           523016.213      3149298.720
           523021.126      3149281.589
           523014.015      3149279.550
'INLET1B'  1            4.390  'Unit 1B Air Inlet'
    4         29.566
           523021.607      3149252.743
           523028.718      3149254.782
           523033.636      3149237.631
           523026.525      3149235.592
'INLET1C'  1            4.520  'Unit 1C Air Inlet'
    4         29.566
           523049.532      3149154.169
           523056.640      3149156.207
           523061.546      3149139.099
           523054.438      3149137.061
'TURB1A'  1            4.060  'Unit 1A Turbine'
    4         10.670
           523014.675      3149285.229
           523012.674      3149292.207
           523041.807      3149300.560
           523043.808      3149293.583
'TURB1B'  1            4.280  'Unit 1B Turbine'
    4         10.670
           523027.110      3149241.283
           523025.112      3149248.250
           523054.223      3149256.598
           523056.220      3149249.630
'TURB1C'  1            4.310  'Unit 1C Turbine'
    4         10.670
           523055.052      3149142.831
           523053.086      3149149.686
           523082.242      3149158.046
           523084.208      3149151.191
'STG'  1           4.600  'Unit 1 Steam Turbine Generator'
    4         15.850
           523031.579      3149186.318
           523028.003      3149198.790
           523072.153      3149211.450
           523075.729      3149198.978
'HRSG1A'  1            2.990
    4         23.470
           523064.808      3149297.795
           523061.868      3149308.050
           523088.237      3149315.611
           523091.177      3149305.357
'HRSG1B'  1            3.250
    4         23.470
           523077.666      3149253.267
           523074.726      3149263.522
           523101.095      3149271.083
           523104.036      3149260.829
'HRSG1C'  1            3.360
    4         23.470
           523104.812      3149154.687
           523101.871      3149164.942
           523128.240      3149172.503
           523131.181      3149162.248
9
'HRSG1A'          2.180          45.415       523095.350      3149311.860  '1A HRSG Stack'
'HRSG1B'          2.600          45.415       523107.900      3149267.810  '1B HRSG Stack'
'HRSG1C'          2.990          45.415       523135.910      3149169.320  '1C HRSG Stack'
'GASCOMP1'          5.370          12.192       522930.291      3149329.291  'Gas Compessor Exhaust 1'
'GASCOMP2'          5.460          12.192       522935.674      3149330.744  'Gas Compessor Exhaust 2'
'GASCOMP3'          5.500          12.192       522940.663      3149331.809  'Gas Compessor Exhaust 3'
'FGH1'          2.930          9.144       523060.500      3149312.940  'Fuel Gas heater'
'AUXBLR'          3.380          18.288       523096.990      3149211.730  'AUX BOILER'
'GASCOMP4'          5.500          12.192       522945.635      3149332.919  'Gas Compessor Exhaust 4'
```

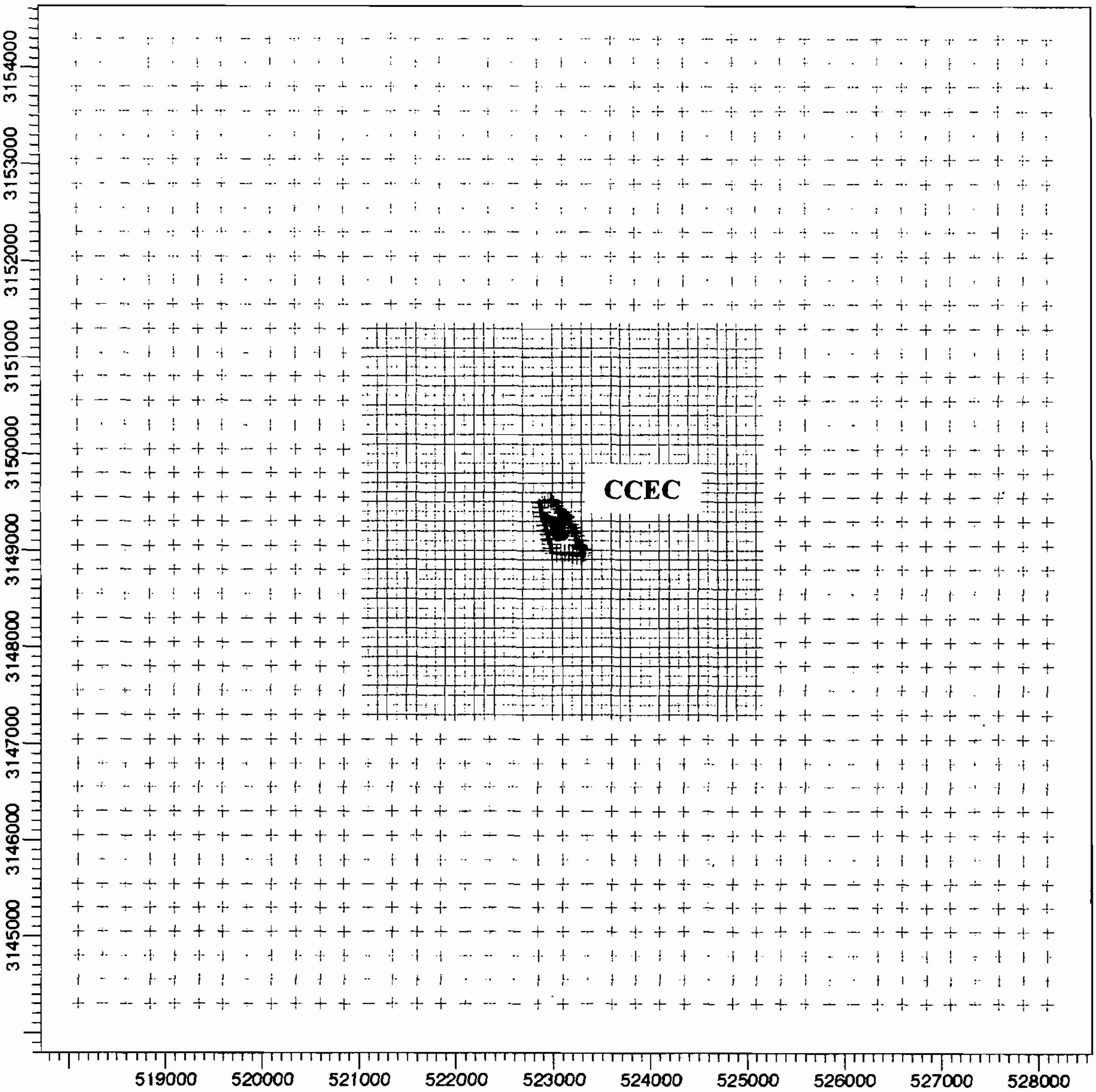


Figure D-1
Receptor Grid Used in Air Modeling Analyses for CCEC
08387633/Reports/SCA/Final/Appedix 10.2.5/App D-1.docx

Source: Golder, 2008.

FPL

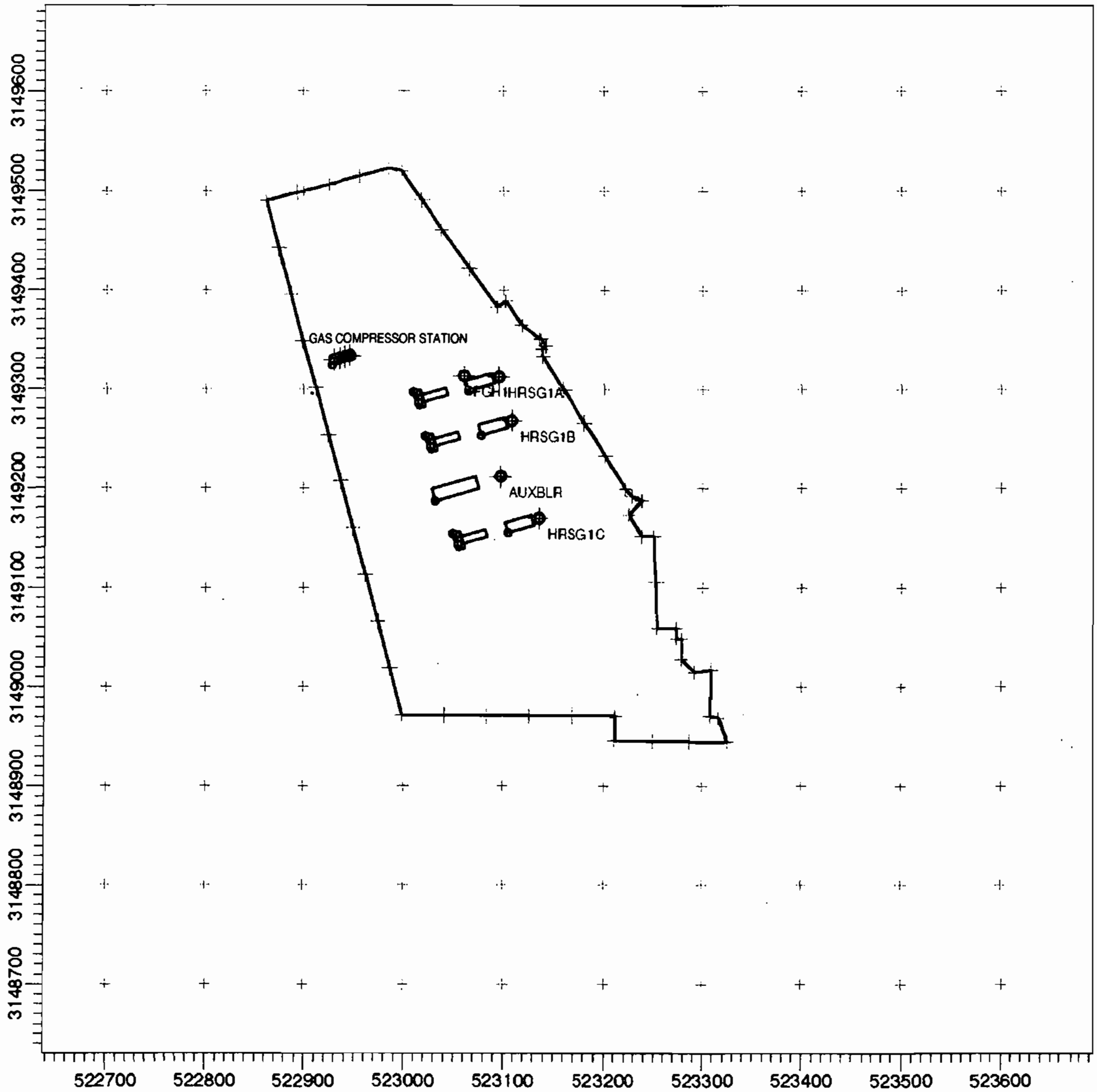


Figure D-2
Source and Building Locations for CCEC
08387633/Reports/SCA/Final/Appedix 10.2.5/App D-2.docx

Source: Golder, 2008.

FPL

APPENDIX E

MODEL SUMMARY AND INPUT FILES

TABLE E-1A
MAXIMUM POLLUTANT CONCENTRATIONS PREDICTED FOR CCEC
FOR ONE COMBUSTION TURBINE/HRSG, MPS 501G CLASS CT

	MAXIMUM EMISSION RATES (lb/hr)							MAXIMUM PREDICTED CONCENTRATIONS ($\mu g/m^3$) [c]					
	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 (10 g/s)	79.37	79.37	79.37	79.37	79.37	79.37	Annual	0.486	0.506	0.537	0.595	0.609	0.632
							24-Hour	6.181	6.431	6.883	7.838	8.090	8.537
							8-Hour	16.974	17.480	18.261	19.680	20.392	21.600
							3-Hour	19.651	20.369	21.541	23.614	24.100	24.913
							1-Hour	21.525	22.168	23.174	24.883	25.296	26.138
SO_2	18.3	17.6	16.6	12.1	11.5	10.6	Annual	0.1119	0.1125	0.1126	0.0905	0.0881	0.0846
							24-Hour	1.424	1.430	1.442	1.192	1.172	1.143
							3-Hour	4.53	4.53	4.51	3.59	3.49	3.34
PM_{10}	11.7	11.0	10.5	6.2	6.0	5.8	Annual	0.0716	0.0703	0.0708	0.0462	0.0461	0.0461
							24-Hour	0.911	0.894	0.907	0.608	0.613	0.622
NO_x/ NO_2	23.6	22.8	21.5	15.5	14.8	13.7	Annual	0.144	0.145	0.145	0.116	0.113	0.109
CO	54.5	52.7	50.3	48.0	45.5	42.0	8-Hour	11.67	11.60	11.56	11.90	11.69	11.43
							1-Hour	14.79	14.71	14.68	15.05	14.50	13.83
Fuel Oil													
Generic (10 g/s)	79.37	79.37	79.37	79.37	79.37	79.37	Annual	0.215	0.227	0.249	0.230	0.240	0.259
							24-Hour	3.448	3.632	3.979	3.648	3.820	4.103
							8-Hour	9.600	10.056	11.521	10.100	10.834	11.999
							3-Hour	13.474	13.983	14.750	14.003	14.389	14.988
							1-Hour	14.248	14.738	15.486	14.756	15.125	15.898
SO_2	3.8	3.6	3.2	3.0	2.8	2.6	Annual	0.0103	0.0102	0.0102	0.0086	0.0085	0.0084
							24-Hour	0.165	0.163	0.162	0.136	0.136	0.134
							3-Hour	0.644	0.629	0.602	0.522	0.511	0.488
PM_{10}	38.8	36.7	33.4	37.7	36.1	33.3	Annual	0.105	0.105	0.105	0.109	0.109	0.109
							24-Hour	1.69	1.68	1.68	1.73	1.74	1.72
NO_x/ NO_2	77.1	72.6	65.9	60.0	57.0	52.5	Annual	0.209	0.208	0.207	0.174	0.173	0.171
CO	47.0	44.2	40.1	228.3	217.0	200.0	8-Hour	5.69	5.60	5.82	29.05	29.62	30.24
							1-Hour	8.44	8.20	7.83	42.45	41.35	40.06

[a] Concentrations are based on highest concentrations predicted using five years of meteorological data from 2001 to 2005 of surface and upper air data from the National Weather Service stations at Daytona and Jacksonville 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) for the combined cycle unit. 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 Siemens H CT operating data which has lowest exit gas velocities among the CT vendors.

TABLE E-1B
MAXIMUM POLLUTANT CONCENTRATIONS PREDICTED FOR THE CCEC PROJECT
FOR ONE COMBUSTION TURBINE/HRSG, SIEMENS H CT

	MAXIMUM EMISSION RATES (lb/hr)							MAXIMUM PREDICTED CONCENTRATIONS ($\mu g/m^3$) [c]					
	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	79.37	79.37	79.37	79.37	79.37	79.37	Annual	0.499	0.521	0.558	0.607	0.625	0.658
(10 g/s)							24-Hour	6.351	6.638	7.210	8.030	8.362	8.974
							8-Hour	17.337	17.869	18.750	20.208	21.112	22.646
							3-Hour	20.174	20.911	22.338	23.976	24.585	25.635
							1-Hour	21.987	22.669	23.805	25.189	25.703	27.110
SO_2	15.0	14.0	13.0	12.0	11.0	10.0	Annual	0.0943	0.0919	0.0914	0.0917	0.0866	0.0829
							24-Hour	1.200	1.171	1.181	1.214	1.159	1.131
							3-Hour	3.81	3.69	3.66	3.63	3.41	3.23
PM_{10}	13.3	13.0	11.7	11.0	11.0	9.4	Annual	0.0839	0.0853	0.0821	0.0841	0.0866	0.0777
							24-Hour	1.068	1.087	1.062	1.113	1.159	1.060
NO_x/ NO_2	20.0	19.1	17.6	16.1	15.0	13.5	Annual	0.126	0.125	0.124	0.123	0.118	0.112
CO	30.0	29.0	27.0	49.0	46.0	41.0	8-Hour	6.55	6.53	6.38	12.48	12.24	11.70
							1-Hour	8.31	8.28	8.10	15.55	14.90	14.01
Fuel Oil													
Generic	79.37	79.37	79.37	79.37	79.37	79.37	Annual	0.219	0.233	0.260	0.283	0.297	0.324
(10 g/s)							24-Hour	3.508	3.736	4.156	4.507	4.757	5.222
							8-Hour	9.782	10.494	12.233	13.415	14.102	15.285
							3-Hour	13.679	14.222	15.116	15.878	16.582	17.733
							1-Hour	14.445	14.967	16.116	17.269	18.018	19.589
SO_2	3.6	3.4	3.1	2.8	2.7	2.5	Annual	0.0099	0.0100	0.0102	0.0100	0.0101	0.0102
							24-Hour	0.159	0.160	0.162	0.159	0.162	0.164
							3-Hour	0.620	0.609	0.590	0.560	0.564	0.559
PM_{10}	30.0	30.0	30.0	30.0	30.0	30.0	Annual	0.083	0.088	0.098	0.107	0.112	0.123
							24-Hour	1.33	1.41	1.57	1.70	1.80	1.97
NO_x/ NO_2	85.3	80.0	71.4	69.1	64.8	58.1	Annual	0.236	0.235	0.234	0.246	0.243	0.237
CO	65.0	61.0	54.0	53.0	49.0	44.0	8-Hour	8.01	8.07	8.32	8.96	8.71	8.47
							1-Hour	11.83	11.50	10.97	11.53	11.12	10.86

[a] Concentrations are based on highest concentrations predicted using five years of meteorological data from 2001 to 2005 of surface and upper air data from the National Weather Service stations at Daytona and Jacksonville 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) for the combined cycle unit. 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 Siemens H CT operating data which has lowest exit gas velocities among the CT vendors.

TABLE E-2
MAXIMUM POLLUTANT CONCENTRATIONS FOR THE CTS/HRSGS FOR CCEC PREDICTED BY OPERATING LOAD AND AIR INLET TEMPERATURE

		MPS 501G Class						SIEMENS H					
	Averaging	100% Load			75% Load			100% Load			75% Load		
Pollutant	Time	35°F	59°F	95°F	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	0.336	0.337	0.338	0.271	0.264	0.254	0.283	0.276	0.274	0.275	0.260	0.249
	24-Hour	4.27	4.29	4.32	3.57	3.51	3.43	3.60	3.51	3.54	3.64	3.48	3.39
	3-Hour	13.58	13.59	13.54	10.77	10.47	10.01	11.44	11.07	10.98	10.88	10.22	9.69
PM_{10}	Annual	0.215	0.211	0.213	0.139	0.138	0.138	0.252	0.256	0.246	0.252	0.260	0.233
	24-Hour	2.73	2.68	2.72	1.83	1.84	1.87	3.20	3.26	3.18	3.34	3.48	3.18
NO_2	Annual	0.433	0.435	0.436	0.349	0.340	0.328	0.377	0.376	0.371	0.369	0.355	0.336
CO	8-Hour	35.0	34.8	34.7	35.7	35.1	34.3	19.7	19.6	19.1	37.4	36.7	35.1
	1-Hour	44.4	44.1	44.0	45.1	43.5	41.5	24.9	24.8	24.3	46.7	44.7	42.0
Fuel Oil Operation													
SO_2	Annual	0.031	0.031	0.031	0.026	0.026	0.025	0.030	0.030	0.031	0.030	0.030	0.031
	24-Hour	0.49	0.49	0.49	0.41	0.41	0.40	0.477	0.480	0.487	0.477	0.485	0.493
	3-Hour	1.93	1.89	1.81	1.57	1.53	1.46	1.86	1.83	1.77	1.68	1.69	1.68
PM_{10}	Annual	0.315	0.316	0.315	0.327	0.328	0.326	0.249	0.265	0.295	0.321	0.337	0.368
	24-Hour	5.06	5.04	5.03	5.20	5.22	5.16	3.98	4.24	4.71	5.11	5.39	5.92
NO_2	Annual	0.626	0.624	0.621	0.521	0.518	0.514	0.707	0.706	0.703	0.739	0.728	0.712
CO	8-Hour	17.1	16.8	17.5	87.2	88.9	90.7	24.0	24.2	25.0	26.9	26.1	25.4
	1-Hour	25.3	24.6	23.5	127	124	120	35.5	34.5	32.9	34.6	33.4	32.6

Note: NA = not applicable

[a] Concentrations are based on highest concentrations predicted using five years of meteorological data from 2001 to 2005 of surface and upper air data from the National Weather Service stations at Daytona and Jacksonville 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).

IMPACTS FOR PREDICTED DUCT BURNERS AND CTS/HRSGS, FIRING NATURAL GAS AND MODELED WITH 10 G/S EMISSION RATE

1. **SUMMARY FILE**
2. **EXAMPLE INPUT FILE**

AERBOB RELEASE 020304

AERMOD OUTPUT FILE NUMBER 1 :GENGASMP.001
AERMOD OUTPUT FILE NUMBER 2 :GENGASMP.002
AERMOD OUTPUT FILE NUMBER 3 :GENGASMP.003
AERMOD OUTPUT FILE NUMBER 4 :GENGASMP.004
AERMOD OUTPUT FILE NUMBER 5 :GENGASMP.005
First title for last output file is: 2001 FPL CANAVERAL REPOWER- CT LOAD ANALYSIS, MPS 501G1 PLUS GAS 12/03/08
Second title for last output file is: GENERIC (10 g/s) EMISSION RATES FOR CC CTS

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	G1095D				
Annual					
	2001	0.46864	522500.	3149100.	01123124
	2002	0.47151	522500.	3149100.	02123124
	2003	0.53743	522500.	3149100.	03123124
	2004	0.48959	522500.	3149100.	04123124
	2005	0.43989	522500.	3149100.	05123124
HIGH 24-Hour					
	2001	2.76359	523200.	3149900.	01072324
	2002	3.49566	522800.	3149900.	02123124
	2003	2.88457	522500.	3149100.	03041924
	2004	6.88268	522900.	3149700.	04090624
	2005	2.72936	522500.	3149000.	05082424
HIGH 8-Hour					
	2001	5.87200	523000.	3148500.	01042616
	2002	6.32763	522800.	3149900.	02030216
	2003	6.74269	523200.	3149800.	03032016
	2004	18.26097	522900.	3149600.	04090608
	2005	5.89775	523000.	3148500.	05041616
HIGH 3-Hour					
	2001	7.65408	522100.	3149000.	01031921
	2002	7.84471	522900.	3149800.	02030212
	2003	8.01757	523300.	3149800.	03021515
	2004	21.54132	522925.	3149506.	04090524
	2005	8.84956	523000.	3149800.	05050106
HIGH 1-Hour					
	2001	15.32860	523100.	3149800.	01072320
	2002	13.95584	523200.	3149900.	02053022
	2003	11.95417	522800.	3149900.	03111907
	2004	23.17392	522925.	3149506.	04090522
	2005	13.74093	523000.	3149800.	05050104
SOURCE GROUP ID:	G1059D				
Annual					
	2001	0.43696	522500.	3149100.	01123124
	2002	0.44037	522500.	3149100.	02123124
	2003	0.50591	522500.	3149100.	03123124
	2004	0.45694	522500.	3149100.	04123124
	2005	0.41041	522500.	3149100.	05123124
HIGH 24-Hour					
	2001	2.60963	522400.	3149100.	01042924
	2002	3.30059	522700.	3150000.	02123124
	2003	2.71960	522500.	3149100.	03041924
	2004	6.43064	522900.	3149700.	04090624
	2005	2.53614	522500.	3149000.	05082424
HIGH 8-Hour					
	2001	5.45799	523000.	3148500.	01042616
	2002	6.01402	522800.	3149900.	02030216
	2003	6.34427	523200.	3149800.	03032016
	2004	17.48003	522900.	3149600.	04090608
	2005	5.52192	523000.	3148500.	05041616
HIGH 3-Hour					
	2001	7.05486	523000.	3148400.	01092918
	2002	7.27771	522900.	3149800.	02030212
	2003	7.63659	523300.	3149800.	03021515
	2004	20.36890	522900.	3149500.	04090524
	2005	8.08710	523000.	3149900.	05050106
HIGH 1-Hour					
	2001	14.15385	523100.	3149800.	01072320
	2002	12.99214	523200.	3149900.	02053022
	2003	11.06777	522800.	3149900.	03111907
	2004	22.16840	522925.	3149506.	04090522
	2005	12.58562	523000.	3149800.	05050104
SOURCE GROUP ID:	G1035D				
Annual					
	2001	0.41793	522400.	3149000.	01123124
	2002	0.42065	522500.	3149100.	02123124
	2003	0.48580	522500.	3149100.	03123124
	2004	0.43640	522400.	3149100.	04123124

	2005	0.39179	522500.	3149100.	05123124
HIGH 24-Hour					
	2001	2.51502	522400.	3149100.	01042924
	2002	3.18331	522700.	3150000.	02123124
	2003	2.61490	522500.	3149100.	03041924
	2004	6.18072	522900.	3149700.	04090624
	2005	2.43097	522500.	3148700.	05090524
HIGH 8-Hour					
	2001	5.20736	523000.	3148500.	01042616
	2002	5.80830	522800.	3149900.	02030216
	2003	6.11298	523300.	3149900.	03032016
	2004	16.97359	522900.	3149600.	04090608
	2005	5.31304	523000.	3148400.	05041616
HIGH 3-Hour					
	2001	6.82084	523300.	3149900.	01022515
	2002	6.92966	522900.	3149800.	02030212
	2003	7.38526	523300.	3149800.	03021515
	2004	19.65128	522900.	3149500.	04090524
	2005	7.70211	523000.	3149900.	05050106
HIGH 1-Hour					
	2001	13.39558	523100.	3149800.	01072320
	2002	12.36511	523200.	3149900.	02053022
	2003	10.57623	522800.	3150000.	03111907
	2004	21.52533	522925.	3149506.	04090522
	2005	12.03058	522900.	3149900.	05050104
SOURCE GROUP ID:	G7595				
Annual					
	2001	0.56834	522500.	3149100.	01123124
	2002	0.56737	522500.	3149100.	02123124
	2003	0.63215	522500.	3149100.	03123124
	2004	0.59026	522500.	3149100.	04123124
	2005	0.53115	522500.	3149100.	05123124
HIGH 24-Hour					
	2001	3.38606	522000.	3148800.	01100924
	2002	4.48911	522800.	3149900.	02123124
	2003	3.38703	522500.	3149100.	03041924
	2004	8.53748	522900.	3149700.	04090624
	2005	3.31013	522500.	3149000.	05082424
HIGH 8-Hour					
	2001	7.32399	523000.	3148600.	01042616
	2002	7.78108	522900.	3149700.	02030216
	2003	8.02344	523200.	3149800.	03032016
	2004	21.60016	522955.	3149515.	04090608
	2005	7.17967	523000.	3148500.	05041616
HIGH 3-Hour					
	2001	9.64482	522200.	3149000.	01031921
	2002	9.74091	522900.	3149800.	02030212
	2003	9.16446	523200.	3149800.	03032015
	2004	24.91315	522925.	3149506.	04090524
	2005	11.19003	523000.	3149800.	05050106
HIGH 1-Hour					
	2001	18.74005	523100.	3149700.	01072320
	2002	17.59986	523200.	3149800.	02053022
	2003	15.64779	522900.	3149800.	03111907
	2004	26.13801	522955.	3149515.	04090601
	2005	17.51096	523000.	3149700.	05050104
SOURCE GROUP ID:	G7559				
Annual					
	2001	0.54274	522500.	3149100.	01123124
	2002	0.54305	522500.	3149100.	02123124
	2003	0.60863	522500.	3149100.	03123124
	2004	0.56480	522500.	3149100.	04123124
	2005	0.50808	522500.	3149100.	05123124
HIGH 24-Hour					
	2001	3.17293	523200.	3149900.	01072324
	2002	4.22165	522800.	3149900.	02123124
	2003	3.25727	522500.	3149100.	03041924
	2004	8.09012	522900.	3149700.	04090624
	2005	3.16738	522500.	3149000.	05082424
HIGH 8-Hour					
	2001	6.88987	523000.	3148500.	01042616
	2002	7.32992	522900.	3149800.	02030216
	2003	7.65249	523200.	3149800.	03032016
	2004	20.39170	522955.	3149515.	04090608
	2005	6.83084	523000.	3148500.	05041616
HIGH 3-Hour					
	2001	9.13757	522100.	3149000.	01031921
	2002	9.24750	522900.	3149800.	02030212
	2003	8.84587	523300.	3149800.	03021515
	2004	24.10006	522925.	3149506.	04090524
	2005	10.61548	523000.	3149800.	05050106
HIGH 1-Hour					

	2001	17.79860	523100.	3149800.	01072320
	2002	16.68079	523200.	3149800.	02053022
	2003	14.72374	522900.	3149800.	03111907
	2004	25.29588	522925.	3149506.	04090522
	2005	16.22019	523000.	3149800.	05050104
SOURCE GROUP ID:	G7535				
Annual					
	2001	0.52822	522500.	3149100.	01123124
	2002	0.52926	522500.	3149100.	02123124
	2003	0.59512	522500.	3149100.	03123124
	2004	0.55026	522500.	3149100.	04123124
	2005	0.49493	522500.	3149100.	05123124
HIGH 24-Hour					
	2001	3.09059	523200.	3149900.	01072324
	2002	4.06483	522800.	3149900.	02123124
	2003	3.18549	522500.	3149100.	03041924
	2004	7.83752	522900.	3149700.	04090624
	2005	3.08501	522500.	3149000.	05082424
HIGH 8-Hour					
	2001	6.68120	523000.	3148500.	01042616
	2002	7.09716	522900.	3149800.	02030216
	2003	7.45392	523200.	3149800.	03032016
	2004	19.67980	522955.	3149515.	04090608
	2005	6.63571	523000.	3148500.	05041616
HIGH 3-Hour					
	2001	8.84946	522100.	3149000.	01031921
	2002	8.95111	522900.	3149800.	02030212
	2003	8.69108	523300.	3149800.	03021515
	2004	23.61376	522925.	3149506.	04090524
	2005	10.27392	523000.	3149800.	05050106
HIGH 1-Hour					
	2001	17.32885	523100.	3149800.	01072320
	2002	16.13379	523200.	3149800.	02053022
	2003	14.17731	522900.	3149800.	03111907
	2004	24.88290	522925.	3149506.	04090522
	2005	15.74263	523000.	3149800.	05050104

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
   TITLEONE 2001 FPL CANAVERAL REPOWER- CT LOAD ANALYSIS, MPS 501G1 PLUS GAS 12/03/08
   TITLETWO GENERIC (10 g/s) EMISSION RATES FOR CC CTS
   MODELOPT DFAULT CONC NOWARN
   AVERTIME PERIOD 24 8 3 1
   POLLUTID GEN
   RUNORNOT RUN
CO FINISHED
**
****************************************
** ISCST3 Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION GA1095 POINT 523095.350 3149311.860 2.180
   LOCATION GB1095 POINT 523107.900 3149267.810 2.600
   LOCATION GC1095 POINT 523135.910 3149169.320 2.990

   LOCATION GA1059 POINT 523095.350 3149311.860 2.180
   LOCATION GB1059 POINT 523107.900 3149267.810 2.600
   LOCATION GC1059 POINT 523135.910 3149169.320 2.990

   LOCATION GA1035 POINT 523095.350 3149311.860 2.180
   LOCATION GB1035 POINT 523107.900 3149267.810 2.600
   LOCATION GC1035 POINT 523135.910 3149169.320 2.990

   LOCATION GA7595 POINT 523095.350 3149311.860 2.180
   LOCATION GB7595 POINT 523107.900 3149267.810 2.600
   LOCATION GC7595 POINT 523135.910 3149169.320 2.990

   LOCATION GA7559 POINT 523095.350 3149311.860 2.180
   LOCATION GB7559 POINT 523107.900 3149267.810 2.600
   LOCATION GC7559 POINT 523135.910 3149169.320 2.990

   LOCATION GA7535 POINT 523095.350 3149311.860 2.180
   LOCATION GB7535 POINT 523107.900 3149267.810 2.600
   LOCATION GC7535 POINT 523135.910 3149169.320 2.990

** Source Parameters **
** Baseload, 95 F with duct firing
   SRCPARAM GA1095 3.3333   45.4   357.5   17.28  6.71
   SRCPARAM GB1095 3.3333   45.4   357.5   17.28  6.71
   SRCPARAM GC1095 3.3333   45.4   357.5   17.28  6.71
** Baseload, 59 F with duct firing
   SRCPARAM GA1059 3.3333   45.4   357.9   18.39  6.71
   SRCPARAM GB1059 3.3333   45.4   357.9   18.39  6.71
   SRCPARAM GC1059 3.3333   45.4   357.9   18.39  6.71
** Baseload, 35 F with duct firing
   SRCPARAM GA1035 3.3333   45.4   358.6   19.07  6.71
   SRCPARAM GB1035 3.3333   45.4   358.6   19.07  6.71
   SRCPARAM GC1035 3.3333   45.4   358.6   19.07  6.71
** 75% Load, 95 F
   SRCPARAM GA7595 3.3333   45.4   359.3   14.03  6.71
   SRCPARAM GB7595 3.3333   45.4   359.3   14.03  6.71
   SRCPARAM GC7595 3.3333   45.4   359.3   14.03  6.71
** 75% Load, 59 F
   SRCPARAM GA7559 3.3333   45.4   358.2   14.86  6.71
   SRCPARAM GB7559 3.3333   45.4   358.2   14.86  6.71
   SRCPARAM GC7559 3.3333   45.4   358.2   14.86  6.71
** 75% Load, 35 F
   SRCPARAM GA7535 3.3333   45.4   357.6   15.36  6.71
   SRCPARAM GB7535 3.3333   45.4   357.6   15.36  6.71
   SRCPARAM GC7535 3.3333   45.4   357.6   15.36  6.71

** Building Downwash **
SO BUILDHGT GA1035-GA7595       23.47   23.47   23.47   29.57   29.57   23.47
SO BUILDHGT GA1035-GA7595       29.57   29.57   23.47   23.47   23.47   23.47
SO BUILDHGT GA1035-GA7595       23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT GA1035-GA7595       23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT GA1035-GA7595       23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT GA1035-GA7595       23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDWID GA1035-GA7595       29.33   28.46   26.73   18.93   19.31   16.99
SO BUILDWID GA1035-GA7595       18.29   18.50   17.82   21.61   24.75   27.14
SO BUILDWID GA1035-GA7595       28.71   29.40   29.20   28.11   28.40   29.31
SO BUILDWID GA1035-GA7595       29.33   28.46   26.73   24.18   20.90   16.99
SO BUILDWID GA1035-GA7595       12.55   13.48   17.82   21.61   24.75   27.14
SO BUILDWID GA1035-GA7595       28.71   29.40   29.20   28.11   28.40   29.31
SO BUILDLEN GA1035-GA7595       21.61   24.75   27.14   16.11   14.02   29.20
SO BUILDLEN GA1035-GA7595        8.62    9.22   29.31   29.33   28.46   26.73
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SO BUILDLEN GA1035-GA7595        24.18   20.90   16.99   12.56   13.48   17.82
SO BUILDLEN GA1035-GA7595        21.61   24.75   27.14   28.71   29.40   29.20
SO BUILDLEN GA1035-GA7595        28.11   28.40   29.31   29.33   28.46   26.73
SO BUILDLEN GA1035-GA7595        24.18   20.90   16.99   12.56   13.48   17.82
SO XBADJ    GA1035-GA7595       -60.77  -61.11  -59.59 -102.66 -101.75  -33.48
SO XBADJ    GA1035-GA7595       -87.48  -87.57  -33.48  -32.31  -30.16  -27.09
SO XBADJ    GA1035-GA7595       -23.20  -18.60  -13.44   38.37   41.16   40.78
SO XBADJ    GA1035-GA7595        39.16   36.35   32.44    1.70    3.04    4.28
SO XBADJ    GA1035-GA7595         5.40    5.24    4.17    2.98    1.70    0.36
SO XBADJ    GA1035-GA7595        -0.98   -2.30   -3.55  -50.92  -54.63  -58.59
SO YBADJ    GA1035-GA7595        -2.75  -11.38  -19.67    9.03   -7.54    4.95
SO YBADJ    GA1035-GA7595         6.09   -8.45   -5.16   -8.35  -11.29  -13.88
SO YBADJ    GA1035-GA7595       -16.05  -17.74  -18.88  -22.60  -14.51   -5.97
SO YBADJ    GA1035-GA7595         2.75   11.38   19.67  -11.11   -8.15   -4.95
SO YBADJ    GA1035-GA7595        -1.59    1.81    5.16    8.35   11.29   13.88
SO YBADJ    GA1035-GA7595        16.05   17.74   18.88   22.60   14.51    5.97

SO BUILDHGT GB1035-GB7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT GB1035-GB7595        29.57   29.57   23.47   29.57   23.47   23.47
SO BUILDHGT GB1035-GB7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT GB1035-GB7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT GB1035-GB7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT GB1035-GB7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDWID GB1035-GB7595        29.33   28.46   26.73   24.18   20.90   16.99
SO BUILDWID GB1035-GB7595        18.31   18.52   17.82   19.26   24.75   27.14
SO BUILDWID GB1035-GB7595        28.71   29.40   29.20   28.11   28.40   29.31
SO BUILDWID GB1035-GB7595        29.33   28.46   26.73   24.18   20.90   16.99
SO BUILDWID GB1035-GB7595        12.56   13.48   17.82   21.61   24.75   27.14
SO BUILDWID GB1035-GB7595        28.71   29.40   29.20   28.11   28.40   29.31
SO BUILDLEN GB1035-GB7595        21.61   24.75   27.14   28.71   29.40   29.20
SO BUILDLEN GB1035-GB7595         8.62    9.22   29.31   14.46   28.46   26.73
SO BUILDLEN GB1035-GB7595        24.18   20.90   16.99   12.56   13.48   17.82
SO BUILDLEN GB1035-GB7595        21.61   24.75   27.14   28.71   29.40   29.20
SO BUILDLEN GB1035-GB7595        28.11   28.40   29.31   29.33   28.46   26.73
SO BUILDLEN GB1035-GB7595        24.18   20.90   16.99   12.56   13.48   17.82
SO XBADJ    GB1035-GB7595       -19.57  -24.01  -27.71  -30.57  -32.51  -33.45
SO XBADJ    GB1035-GB7595       -87.49  -87.60  -33.17 -102.31  -29.71  -26.59
SO XBADJ    GB1035-GB7595       -22.66  -18.04  -12.87   -7.32   -4.40   -3.27
SO XBADJ    GB1035-GB7595        -2.04   -0.75    0.57    1.87    3.11    4.26
SO XBADJ    GB1035-GB7595         5.28    5.02    3.86    2.59    1.24   -0.14
SO XBADJ    GB1035-GB7595        -1.53   -2.86   -4.11   -5.24 -110.87 -113.12
SO YBADJ    GB1035-GB7595        17.26   15.48   13.22   10.56    7.59    4.38
SO YBADJ    GB1035-GB7595         6.20   -8.34   -5.64    4.89  -11.63  -14.14
SO YBADJ    GB1035-GB7595       -16.22  -17.81  -18.86  -19.33  -19.22  -18.52
SO YBADJ    GB1035-GB7595       -17.26  -15.48  -13.22  -10.56   -7.59   -4.38
SO YBADJ    GB1035-GB7595        -1.04    2.33    5.64    8.77   11.63   14.14
SO YBADJ    GB1035-GB7595        16.22   17.81   18.86   19.33    9.60   -8.63

SO BUILDHGT GC1035-GC7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT GC1035-GC7595        29.57   29.57   23.47   23.47   23.47   23.47
SO BUILDHGT GC1035-GC7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT GC1035-GC7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT GC1035-GC7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT GC1035-GC7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDWID GC1035-GC7595        29.33   28.46   26.73   24.18   20.90   16.99
SO BUILDWID GC1035-GC7595        18.27   18.47   17.82   21.61   24.75   27.14
SO BUILDWID GC1035-GC7595        28.71   29.40   29.20   28.11   28.40   29.31
SO BUILDWID GC1035-GC7595        29.33   28.46   26.73   24.18   20.90   16.99
SO BUILDWID GC1035-GC7595        12.56   13.48   17.82   21.61   24.75   27.14
SO BUILDWID GC1035-GC7595        28.71   29.40   29.20   28.11   28.40   29.31
SO BUILDLEN GC1035-GC7595        21.61   24.75   27.14   28.71   29.40   29.20
SO BUILDLEN GC1035-GC7595         8.62    9.21   29.31   29.33   28.46   26.73
SO BUILDLEN GC1035-GC7595        24.18   20.90   16.99   12.56   13.48   17.82
SO BUILDLEN GC1035-GC7595        21.61   24.75   27.14   28.71   29.40   29.20
SO BUILDLEN GC1035-GC7595        28.11   28.40   29.31   29.33   28.46   26.73
SO BUILDLEN GC1035-GC7595        24.18   20.90   16.99   12.56   13.48   17.82
SO XBADJ    GC1035-GC7595       -19.81  -24.39  -28.22  -31.20  -33.23  -34.25
SO XBADJ    GC1035-GC7595       -87.59  -87.70  -34.04  -32.76  -30.49  -27.29
SO XBADJ    GC1035-GC7595       -23.26  -18.53  -13.23   -7.53   -4.47   -3.18
SO XBADJ    GC1035-GC7595        -1.80   -0.37    1.08    2.49    3.83    5.05
SO XBADJ    GC1035-GC7595         6.12    5.89    4.73    3.43    2.03    0.56
SO XBADJ    GC1035-GC7595        -0.92   -2.38   -3.76   -5.03   -9.01  -14.63
SO YBADJ    GC1035-GC7595        18.10   16.26   13.92   11.17    8.07    4.73
SO YBADJ    GC1035-GC7595         6.17   -8.39   -5.72   -9.00  -12.01  -14.65
SO YBADJ    GC1035-GC7595       -16.85  -18.53  -19.65  -20.17  -20.08  -19.38
SO YBADJ    GC1035-GC7595       -18.10  -16.26  -13.92  -11.17   -8.07   -4.73
SO YBADJ    GC1035-GC7595        -1.25    2.27    5.73    9.00   12.01   14.65
SO YBADJ    GC1035-GC7595        16.85   18.53   19.65   20.17   20.08   19.38

   SRCGROUP G1095D GA1095 GB1095 GC1095
   SRCGROUP G1059D GA1059 GB1059 GC1059
   SRCGROUP G1035D GA1035 GB1035 GC1035
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   SRCGROUP G7595 GA7595 GB7595 GC7595
   SRCGROUP G7559 GA7559 GB7559 GC7559
   SRCGROUP G7535 GA7535 GB7535 GC7535

SO FINISHED
**
****************************************
** ISCST3 Receptor Pathway
****************************************
**
**
RE STARTING
   INCLUDED PCC0924.ROU
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
**   SURFFILE C:\amodmet\DABJAX01.SFC
**   PROFFILE C:\amodmet\DABJAX01.PFL
   SURFFILE C:\amodmet\DABJAX01.SFC
   PROFFILE C:\amodmet\DABJAX01.PFL
   SURFDATA 12834 2001 DAYTONA_BEACH/REGIONAL_ARPT
   UAIRDATA 13889 2001 JACKSONVILLE/INT'L_ARPT
   PROFBASE 31 FEET
ME FINISHED
**
****************************************
** AERMOD Output Pathway
****************************************
**
**
OU STARTING
   RECTABLE ALLAVE FIRST
OU FINISHED
**
```

AERBOB RELEASE 020304

AERMOD OUTPUT FILE NUMBER 1 :GENGAS.001
AERMOD OUTPUT FILE NUMBER 2 :GENGAS.002
AERMOD OUTPUT FILE NUMBER 3 :GENGAS.003
AERMOD OUTPUT FILE NUMBER 4 :GENGAS.004
AERMOD OUTPUT FILE NUMBER 5 :GENGAS.005
First title for last output file is: 2001 FPL CANAVERAL REPOWER- CT LOAD ANALYSIS, SIEMENS GAS 9/26/08
Second title for last output file is: GENERIC (10 g/s) EMISSION RATES FOR CC CTS

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	G1095D				
Annual					
	2001	0.48950	522500.	3149100.	01123124
	2002	0.49181	522500.	3149100.	02123124
	2003	0.55782	522500.	3149100.	03123124
	2004	0.51096	522500.	3149100.	04123124
	2005	0.45919	522500.	3149100.	05123124
HIGH 24-Hour					
	2001	2.87347	523200.	3149900.	01072324
	2002	3.67227	522800.	3149900.	02123124
	2003	2.99147	522500.	3149100.	03041924
	2004	7.21023	522900.	3149700.	04090624
	2005	2.85479	522500.	3149000.	05082424
HIGH 8-Hour					
	2001	6.15676	523000.	3148500.	01042616
	2002	6.52933	522900.	3149800.	02030216
	2003	6.99524	523200.	3149800.	03032016
	2004	18.74972	522900.	3149600.	04090608
	2005	6.15425	523000.	3148500.	05041616
HIGH 3-Hour					
	2001	8.08816	522100.	3149000.	01031921
	2002	8.21111	522900.	3149800.	02030212
	2003	8.26389	523300.	3149800.	03021515
	2004	22.33771	522925.	3149506.	04090524
	2005	9.36790	523000.	3149800.	05050106
HIGH 1-Hour					
	2001	16.06459	523100.	3149800.	01072320
	2002	14.67809	523200.	3149800.	02053022
	2003	12.72982	522900.	3149800.	03111907
	2004	23.80499	522925.	3149506.	04090522
	2005	14.47303	523000.	3149800.	05050104
SOURCE GROUP ID:	G1059D				
Annual					
	2001	0.45185	522500.	3149100.	01123124
	2002	0.45497	522500.	3149100.	02123124
	2003	0.52070	522500.	3149100.	03123124
	2004	0.47228	522500.	3149100.	04123124
	2005	0.42421	522500.	3149100.	05123124
HIGH 24-Hour					
	2001	2.68070	522400.	3149100.	01042924
	2002	3.38530	522700.	3150000.	02123124
	2003	2.79755	522500.	3149100.	03041924
	2004	6.63836	522900.	3149700.	04090624
	2005	2.62634	522500.	3149000.	05082424
HIGH 8-Hour					
	2001	5.65885	523000.	3148500.	01042616
	2002	6.16545	522800.	3149900.	02030216
	2003	6.53502	523200.	3149800.	03032016
	2004	17.86859	522900.	3149600.	04090608
	2005	5.70390	523000.	3148500.	05041616
HIGH 3-Hour					
	2001	7.32121	523000.	3148400.	01092918
	2002	7.55953	522900.	3149800.	02030212
	2003	7.81795	523300.	3149800.	03021515
	2004	20.91073	522925.	3149506.	04090524
	2005	8.40511	523000.	3149800.	05050106
HIGH 1-Hour					
	2001	14.72860	523100.	3149800.	01072320
	2002	13.46421	523200.	3149900.	02053022
	2003	11.50183	522800.	3149900.	03111907
	2004	22.66882	522925.	3149506.	04090522
	2005	13.15074	523000.	3149800.	05050104
SOURCE GROUP ID:	G1035D				
Annual					
	2001	0.42999	522500.	3149100.	01123124
	2002	0.43337	522500.	3149100.	02123124
	2003	0.49874	522500.	3149100.	03123124
	2004	0.44971	522500.	3149100.	04123124

	2005	0.40376	522500.	3149100.	05123124
HIGH 24-Hour					
	2001	2.57824	522400.	3149100.	01042924
	2002	3.25927	522700.	3150000.	02123124
	2003	2.68328	522500.	3149100.	03041924
	2004	6.35120	522900.	3149700.	04090624
	2005	2.49176	522500.	3149000.	05082424
HIGH 8-Hour					
	2001	5.38432	523000.	3148500.	01042616
	2002	5.94887	522800.	3149900.	02030216
	2003	6.25761	523200.	3149800.	03032016
	2004	17.33696	522900.	3149600.	04090608
	2005	5.45627	523000.	3148500.	05041616
HIGH 3-Hour					
	2001	6.96592	523300.	3149900.	01022515
	2002	7.17822	522900.	3149800.	02030212
	2003	7.55373	523300.	3149800.	03021515
	2004	20.17430	522900.	3149500.	04090524
	2005	7.96909	523000.	3149900.	05050106
HIGH 1-Hour					
	2001	13.91947	523100.	3149800.	01072320
	2002	12.79780	523200.	3149900.	02053022
	2003	10.88823	522800.	3150000.	03111907
	2004	21.98700	522925.	3149506.	04090522
	2005	12.37623	522900.	3149900.	05050104
SOURCE GROUP ID:	G7595				
Annual					
	2001	0.59616	522500.	3149100.	01123124
	2002	0.59392	522500.	3149100.	02123124
	2003	0.65772	522500.	3149100.	03123124
	2004	0.61781	522500.	3149100.	04123124
	2005	0.55634	522500.	3149100.	05123124
HIGH 24-Hour					
	2001	3.61966	522000.	3148800.	01100924
	2002	4.73991	522800.	3149900.	02123124
	2003	3.52254	522500.	3149100.	03041924
	2004	8.97430	522900.	3149700.	04090624
	2005	3.46688	522500.	3149000.	05082424
HIGH 8-Hour					
	2001	7.73985	523000.	3148600.	01042616
	2002	8.32154	522900.	3149700.	02030216
	2003	8.40812	523200.	3149800.	03032016
	2004	22.64567	522955.	3149515.	04090608
	2005	7.50450	523000.	3148500.	05041616
HIGH 3-Hour					
	2001	10.19529	522200.	3149000.	01031921
	2002	10.24910	522900.	3149700.	02030212
	2003	9.58977	523200.	3149800.	03032015
	2004	25.63505	522925.	3149506.	04090524
	2005	11.71885	523000.	3149800.	05050106
HIGH 1-Hour					
	2001	19.85329	523100.	3149700.	01072320
	2002	18.45865	523200.	3149800.	02053022
	2003	16.51606	522900.	3149800.	03111907
	2004	27.11008	522955.	3149515.	04090601
	2005	18.66064	523000.	3149700.	05050104
SOURCE GROUP ID:	G7559				
Annual					
	2001	0.55966	522500.	3149100.	01123124
	2002	0.55933	522500.	3149100.	02123124
	2003	0.62453	522500.	3149100.	03123124
	2004	0.58174	522500.	3149100.	04123124
	2005	0.52359	522500.	3149100.	05123124
HIGH 24-Hour					
	2001	3.30503	522000.	3148800.	01100924
	2002	4.38705	522800.	3149900.	02123124
	2003	3.34236	522500.	3149100.	03041924
	2004	8.36219	522900.	3149700.	04090624
	2005	3.26540	522500.	3149000.	05082424
HIGH 8-Hour					
	2001	7.14254	523000.	3148600.	01042616
	2002	7.57917	522900.	3149800.	02030216
	2003	7.88408	523200.	3149800.	03032016
	2004	21.11219	522955.	3149515.	04090608
	2005	7.03914	523000.	3148500.	05041616
HIGH 3-Hour					
	2001	9.44667	522100.	3149000.	01031921
	2002	9.53774	522900.	3149800.	02030212
	2003	9.01929	523300.	3149800.	03021515
	2004	24.58454	522925.	3149506.	04090524
	2005	10.96956	523000.	3149800.	05050106
HIGH 1-Hour					

	2001	18.28627	523100.	3149700.	01072320
	2002	17.24946	523200.	3149800.	02053022
	2003	15.29732	522900.	3149800.	03111907
	2004	25.70327	522925.	3149506.	04090522
	2005	16.95148	523000.	3149700.	05050104
SOURCE GROUP ID:	G7535				
Annual					
	2001	0.54023	522500.	3149100.	01123124
	2002	0.54080	522500.	3149100.	02123124
	2003	0.60652	522500.	3149100.	03123124
	2004	0.56237	522500.	3149100.	04123124
	2005	0.50598	522500.	3149100.	05123124
HIGH 24-Hour					
	2001	3.15623	523200.	3149900.	01072324
	2002	4.18443	522800.	3149900.	02123124
	2003	3.24384	522500.	3149100.	03041924
	2004	8.03021	522900.	3149700.	04090624
	2005	3.15558	522500.	3149000.	05082424
HIGH 8-Hour					
	2001	6.83803	523000.	3148500.	01042616
	2002	7.27078	522900.	3149800.	02030216
	2003	7.60934	523200.	3149800.	03032016
	2004	20.20770	522955.	3149515.	04090608
	2005	6.78078	523000.	3148500.	05041616
HIGH 3-Hour					
	2001	9.07550	522100.	3149000.	01031921
	2002	9.16903	522900.	3149800.	02030212
	2003	8.81738	523300.	3149800.	03021515
	2004	23.97609	522925.	3149506.	04090524
	2005	10.53676	523000.	3149800.	05050106
HIGH 1-Hour					
	2001	17.69261	523100.	3149800.	01072320
	2002	16.55736	523200.	3149800.	02053022
	2003	14.60145	522900.	3149800.	03111907
	2004	25.18926	522925.	3149506.	04090522
	2005	16.10852	523000.	3149800.	05050104

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
   TITLEONE 2001 FPL CANAVERAL REPOWER- CT LOAD ANALYSIS, SIEMENS GAS 9/26/08
   TITLETWO GENERIC (10 g/s) EMISSION RATES FOR CC CTS
   MODELOPT DFAULT CONC NOWARN
   AVERTIME PERIOD 24 8 3 1
   POLLUTID GEN
   RUNORNOT RUN
CO FINISHED
**
****************************************
** ISCST3 Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION GA1095 POINT 523095.350 3149311.860 2.180
   LOCATION GB1095 POINT 523107.900 3149267.810 2.600
   LOCATION GC1095 POINT 523135.910 3149169.320 2.990

   LOCATION GA1059 POINT 523095.350 3149311.860 2.180
   LOCATION GB1059 POINT 523107.900 3149267.810 2.600
   LOCATION GC1059 POINT 523135.910 3149169.320 2.990

   LOCATION GA1035 POINT 523095.350 3149311.860 2.180
   LOCATION GB1035 POINT 523107.900 3149267.810 2.600
   LOCATION GC1035 POINT 523135.910 3149169.320 2.990

   LOCATION GA7595 POINT 523095.350 3149311.860 2.180
   LOCATION GB7595 POINT 523107.900 3149267.810 2.600
   LOCATION GC7595 POINT 523135.910 3149169.320 2.990

   LOCATION GA7559 POINT 523095.350 3149311.860 2.180
   LOCATION GB7559 POINT 523107.900 3149267.810 2.600
   LOCATION GC7559 POINT 523135.910 3149169.320 2.990

   LOCATION GA7535 POINT 523095.350 3149311.860 2.180
   LOCATION GB7535 POINT 523107.900 3149267.810 2.600
   LOCATION GC7535 POINT 523135.910 3149169.320 2.990

** Source Parameters **
** Baseload, 95 F with duct firing
   SRCPARAM GA1095 3.3333   45.4   357.5    16.57  6.71
   SRCPARAM GB1095 3.3333   45.4   357.5    16.57  6.71
   SRCPARAM GC1095 3.3333   45.4   357.5    16.57  6.71
** Baseload, 59 F with duct firing
   SRCPARAM GA1059 3.3333   45.4   357.9    17.82  6.71
   SRCPARAM GB1059 3.3333   45.4   357.9    17.82  6.71
   SRCPARAM GC1059 3.3333   45.4   357.9    17.82  6.71
** Baseload, 35 F with duct firing
   SRCPARAM GA1035 3.3333   45.4   358.6    18.54  6.71
   SRCPARAM GB1035 3.3333   45.4   358.6    18.54  6.71
   SRCPARAM GC1035 3.3333   45.4   358.6    18.54  6.71
** 75% Load, 95 F
   SRCPARAM GA7595 3.3333   45.4   359.3    13.37  6.71
   SRCPARAM GB7595 3.3333   45.4   359.3    13.37  6.71
   SRCPARAM GC7595 3.3333   45.4   359.3    13.37  6.71
** 75% Load, 59 F
   SRCPARAM GA7559 3.3333   45.4   358.2    14.41  6.71
   SRCPARAM GB7559 3.3333   45.4   358.2    14.41  6.71
   SRCPARAM GC7559 3.3333   45.4   358.2    14.41  6.71
** 75% Load, 35 F
   SRCPARAM GA7535 3.3333   45.4   357.6    15.02  6.71
   SRCPARAM GB7535 3.3333   45.4   357.6    15.02  6.71
   SRCPARAM GC7535 3.3333   45.4   357.6    15.02  6.71

** Building Downwash **
SO BUILDHGT GA1035-GA7595        23.47   23.47   23.47   29.57   29.57   23.47
SO BUILDHGT GA1035-GA7595        29.57   29.57   23.47   23.47   23.47   23.47
SO BUILDHGT GA1035-GA7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT GA1035-GA7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT GA1035-GA7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT GA1035-GA7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDWID GA1035-GA7595        29.33   28.46   26.73   18.93   19.31   16.99
SO BUILDWID GA1035-GA7595        18.29   18.50   17.82   21.61   24.75   27.14
SO BUILDWID GA1035-GA7595        28.71   29.40   29.20   28.11   28.40   29.31
SO BUILDWID GA1035-GA7595        29.33   28.46   26.73   24.18   20.90   16.99
SO BUILDWID GA1035-GA7595        12.55   13.48   17.82   21.61   24.75   27.14
SO BUILDWID GA1035-GA7595        28.71   29.40   29.20   28.11   28.40   29.31
SO BUILDLEN GA1035-GA7595        21.61   24.75   27.14   16.11   14.02   29.20
SO BUILDLEN GA1035-GA7595         8.62    9.22   29.31   29.33   28.46   26.73
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SO BUILDLEN GA1035-GA7595        24.18   20.90   16.99   12.56   13.48   17.82
SO BUILDLEN GA1035-GA7595        21.61   24.75   27.14   28.71   29.40   29.20
SO BUILDLEN GA1035-GA7595        28.11   28.40   29.31   29.33   28.46   26.73
SO BUILDLEN GA1035-GA7595        24.18   20.90   16.99   12.56   13.48   17.82
SO XBADJ    GA1035-GA7595       -60.77  -61.11  -59.59 -102.66 -101.75  -33.48
SO XBADJ    GA1035-GA7595       -87.48  -87.57  -33.48  -32.31  -30.16  -27.09
SO XBADJ    GA1035-GA7595       -23.20  -18.60  -13.44   38.37   41.16   40.78
SO XBADJ    GA1035-GA7595        39.16   36.35   32.44    1.70    3.04    4.28
SO XBADJ    GA1035-GA7595         5.40    5.24    4.17    2.98    1.70    0.36
SO XBADJ    GA1035-GA7595        -0.98   -2.30   -3.55  -50.92  -54.63  -58.59
SO YBADJ    GA1035-GA7595        -2.75  -11.38  -19.67    9.03   -7.54    4.95
SO YBADJ    GA1035-GA7595         6.09   -8.45   -5.16   -8.35  -11.29  -13.88
SO YBADJ    GA1035-GA7595       -16.05  -17.74  -18.88  -22.60  -14.51   -5.97
SO YBADJ    GA1035-GA7595         2.75   11.38   19.67  -11.11   -8.15   -4.95
SO YBADJ    GA1035-GA7595        -1.59    1.81    5.16    8.35   11.29   13.88
SO YBADJ    GA1035-GA7595        16.05   17.74   18.88   22.60   14.51    5.97

SO BUILDHGT GB1035-GB7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT GB1035-GB7595        29.57   29.57   23.47   29.57   23.47   23.47
SO BUILDHGT GB1035-GB7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT GB1035-GB7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT GB1035-GB7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT GB1035-GB7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDWID GB1035-GB7595        29.33   28.46   26.73   24.18   20.90   16.99
SO BUILDWID GB1035-GB7595        18.31   18.52   17.82   19.26   24.75   27.14
SO BUILDWID GB1035-GB7595        28.71   29.40   29.20   28.11   28.40   29.31
SO BUILDWID GB1035-GB7595        29.33   28.46   26.73   24.18   20.90   16.99
SO BUILDWID GB1035-GB7595        12.56   13.48   17.82   21.61   24.75   27.14
SO BUILDWID GB1035-GB7595        28.71   29.40   29.20   28.11   28.40   29.31
SO BUILDLEN GB1035-GB7595        21.61   24.75   27.14   28.71   29.40   29.20
SO BUILDLEN GB1035-GB7595         8.62    9.22   29.31   14.46   28.46   26.73
SO BUILDLEN GB1035-GB7595        24.18   20.90   16.99   12.56   13.48   17.82
SO BUILDLEN GB1035-GB7595        21.61   24.75   27.14   28.71   29.40   29.20
SO BUILDLEN GB1035-GB7595        28.11   28.40   29.31   29.33   28.46   26.73
SO BUILDLEN GB1035-GB7595        24.18   20.90   16.99   12.56   13.48   17.82
SO XBADJ    GB1035-GB7595       -19.57  -24.01  -27.71  -30.57  -32.51  -33.45
SO XBADJ    GB1035-GB7595       -87.49  -87.60  -33.17 -102.31  -29.71  -26.59
SO XBADJ    GB1035-GB7595       -22.66  -18.04  -12.87   -7.32   -4.40   -3.27
SO XBADJ    GB1035-GB7595        -2.04   -0.75    0.57    1.87    3.11    4.26
SO XBADJ    GB1035-GB7595         5.28    5.02    3.86    2.59    1.24   -0.14
SO XBADJ    GB1035-GB7595        -1.53   -2.86   -4.11   -5.24 -110.87 -113.12
SO YBADJ    GB1035-GB7595        17.26   15.48   13.22   10.56    7.59    4.38
SO YBADJ    GB1035-GB7595         6.20   -8.34   -5.64    4.89  -11.63  -14.14
SO YBADJ    GB1035-GB7595       -16.22  -17.81  -18.86  -19.33  -19.22  -18.52
SO YBADJ    GB1035-GB7595       -17.26  -15.48  -13.22  -10.56   -7.59   -4.38
SO YBADJ    GB1035-GB7595        -1.04    2.33    5.64    8.77   11.63   14.14
SO YBADJ    GB1035-GB7595        16.22   17.81   18.86   19.33    9.60   -8.63

SO BUILDHGT GC1035-GC7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT GC1035-GC7595        29.57   29.57   23.47   23.47   23.47   23.47
SO BUILDHGT GC1035-GC7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT GC1035-GC7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT GC1035-GC7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT GC1035-GC7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDWID GC1035-GC7595        29.33   28.46   26.73   24.18   20.90   16.99
SO BUILDWID GC1035-GC7595        18.27   18.47   17.82   21.61   24.75   27.14
SO BUILDWID GC1035-GC7595        28.71   29.40   29.20   28.11   28.40   29.31
SO BUILDWID GC1035-GC7595        29.33   28.46   26.73   24.18   20.90   16.99
SO BUILDWID GC1035-GC7595        12.56   13.48   17.82   21.61   24.75   27.14
SO BUILDWID GC1035-GC7595        28.71   29.40   29.20   28.11   28.40   29.31
SO BUILDLEN GC1035-GC7595        21.61   24.75   27.14   28.71   29.40   29.20
SO BUILDLEN GC1035-GC7595         8.62    9.21   29.31   29.33   28.46   26.73
SO BUILDLEN GC1035-GC7595        24.18   20.90   16.99   12.56   13.48   17.82
SO BUILDLEN GC1035-GC7595        21.61   24.75   27.14   28.71   29.40   29.20
SO BUILDLEN GC1035-GC7595        28.11   28.40   29.31   29.33   28.46   26.73
SO BUILDLEN GC1035-GC7595        24.18   20.90   16.99   12.56   13.48   17.82
SO XBADJ    GC1035-GC7595       -19.81  -24.39  -28.22  -31.20  -33.23  -34.25
SO XBADJ    GC1035-GC7595       -87.59  -87.70  -34.04  -32.76  -30.49  -27.29
SO XBADJ    GC1035-GC7595       -23.26  -18.53  -13.23   -7.53   -4.47   -3.18
SO XBADJ    GC1035-GC7595        -1.80   -0.37    1.08    2.49    3.83    5.05
SO XBADJ    GC1035-GC7595         6.12    5.89    4.73    3.43    2.03    0.56
SO XBADJ    GC1035-GC7595        -0.92   -2.38   -3.76   -5.03   -9.01  -14.63
SO YBADJ    GC1035-GC7595        18.10   16.26   13.92   11.17    8.07    4.73
SO YBADJ    GC1035-GC7595         6.17   -8.39   -5.72   -9.00  -12.01  -14.65
SO YBADJ    GC1035-GC7595       -16.85  -18.53  -19.65  -20.17  -20.08  -19.38
SO YBADJ    GC1035-GC7595       -18.10  -16.26  -13.92  -11.17   -8.07   -4.73
SO YBADJ    GC1035-GC7595        -1.25    2.27    5.73    9.00   12.01   14.65
SO YBADJ    GC1035-GC7595        16.85   18.53   19.65   20.17   20.08   19.38

   SRCGROUP G1095D GA1095 GB1095 GC1095
   SRCGROUP G1059D GA1059 GB1059 GC1059
   SRCGROUP G1035D GA1035 GB1035 GC1035
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   SRCGROUP G7595 GA7595 GB7595 GC7595
   SRCGROUP G7559 GA7559 GB7559 GC7559
   SRCGROUP G7535 GA7535 GB7535 GC7535

SO FINISHED
**
****************************************
** ISCST3 Receptor Pathway
****************************************
**
**
RE STARTING
   INCLUDED PCC0924.ROU
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
**    SURFFILE C:\amodmet\DABJAX01.SFC
**    PROFFILE C:\amodmet\DABJAX01.PFL
   SURFFILE C:\amodmet\DABJAX01.SFC
   PROFFILE C:\amodmet\DABJAX01.PFL
   SURFDATA 12834 2001 DAYTONA_BEACH/REGIONAL_ARPT
   UAIRDATA 13889 2001 JACKSONVILLE/INT'L_ARPT
   PROFBASE 31 FEET
ME FINISHED
**
****************************************
** AERMOD Output Pathway
****************************************
**
**
OU STARTING
   RECTABLE ALLAVE FIRST
OU FINISHED
**
```

PREDICTED IMPACT FOR CTS/HRSGS FIRING FUEL OIL AND MODELED WITH 10 G/S EMISSION RATE

1. **SUMMARY FILE**
2. **EXAMPLE INPUT FILE**

AERBOB RELEASE 020304

AERMOD OUTPUT FILE NUMBER 1 :GENOILMP.001
AERMOD OUTPUT FILE NUMBER 2 :GENOILMP.002
AERMOD OUTPUT FILE NUMBER 3 :GENOILMP.003
AERMOD OUTPUT FILE NUMBER 4 :GENOILMP.004
AERMOD OUTPUT FILE NUMBER 5 :GENOILMP.005
First title for last output file is: 2001 FPL CANAVERAL REPOWER- CT LOAD ANALYSIS, MPS 501G1 PLUS GAS 12/03/08
Second title for last output file is: GENERIC (10 g/s) EMISSION RATES FOR CC CTS

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	01095				
Annual					
	2001	0.20626	522400.	3149000.	01123124
	2002	0.20331	522400.	3149100.	02123124
	2003	0.24907	522500.	3149100.	03123124
	2004	0.21499	522400.	3149100.	04123124
	2005	0.18785	522400.	3149000.	05123124
HIGH 24-Hour					
	2001	1.46023	522300.	3149100.	01042924
	2002	1.61090	522700.	3150100.	02123124
	2003	1.45233	522300.	3149000.	03041924
	2004	3.97899	522900.	3149700.	04090624
	2005	1.38819	522500.	3148700.	05090524
HIGH 8-Hour					
	2001	3.37339	522900.	3148300.	01042616
	2002	3.49665	522800.	3149900.	02030216
	2003	3.56442	523300.	3150000.	03032016
	2004	11.52139	522900.	3149600.	04090608
	2005	3.37063	523000.	3148400.	05041616
HIGH 3-Hour					
	2001	4.15167	522900.	3148300.	01042615
	2002	4.42829	522800.	3150000.	02030212
	2003	4.42141	523200.	3149900.	03032015
	2004	14.74963	522800.	3149500.	04090521
	2005	4.20284	523100.	3149900.	05060115
HIGH 1-Hour					
	2001	7.21636	523100.	3150100.	01072320
	2002	6.61475	523300.	3150200.	02053022
	2003	6.70096	522900.	3149800.	03071414
	2004	15.48551	522861.	3149490.	04090521
	2005	6.78548	522900.	3150100.	05050104
SOURCE GROUP ID:	01059				
Annual					
	2001	0.18689	522400.	3149000.	01123124
	2002	0.18403	522400.	3149100.	02123124
	2003	0.22729	522500.	3149100.	03123124
	2004	0.19443	522400.	3149100.	04123124
	2005	0.17015	522400.	3149000.	05123124
HIGH 24-Hour					
	2001	1.34048	522300.	3149100.	01042924
	2002	1.47016	522700.	3150100.	02123124
	2003	1.33764	522300.	3149000.	03041924
	2004	3.63220	522900.	3149700.	04090624
	2005	1.28050	522400.	3148600.	05090524
HIGH 8-Hour					
	2001	3.16467	522900.	3148300.	01042616
	2002	3.20527	522800.	3150000.	02030216
	2003	3.29703	523300.	3150000.	03032016
	2004	10.05572	522800.	3149700.	04090608
	2005	3.08527	523000.	3148400.	05041616
HIGH 3-Hour					
	2001	3.91760	522900.	3148300.	01042615
	2002	4.06296	522800.	3150000.	02030212
	2003	4.10259	523200.	3149900.	03032015
	2004	13.98343	522800.	3149500.	04090521
	2005	3.86109	523100.	3150000.	05060115
HIGH 1-Hour					
	2001	6.56200	523100.	3150100.	01072320
	2002	5.88493	523300.	3150300.	02053022
	2003	6.06903	522900.	3149800.	03071414
	2004	14.73805	522800.	3149500.	04090520
	2005	6.15746	522900.	3150100.	05050104
SOURCE GROUP ID:	01035				
Annual					
	2001	0.17567	522300.	3149000.	01123124
	2002	0.17270	522400.	3149100.	02123124
	2003	0.21450	522500.	3149100.	03123124
	2004	0.18234	522400.	3149100.	04123124

	2005	0.15976	522400.	3149000.	05123124
HIGH 24-Hour					
	2001	1.26813	522300.	3149100.	01042924
	2002	1.39050	522700.	3150100.	02123124
	2003	1.26868	522300.	3149000.	03041924
	2004	3.44817	522800.	3149800.	04090624
	2005	1.22034	522900.	3148200.	05041624
HIGH 8-Hour					
	2001	3.04015	522900.	3148300.	01042616
	2002	3.04470	522800.	3150000.	02030216
	2003	3.13107	523300.	3150000.	03032016
	2004	9.59986	522800.	3149700.	04090608
	2005	2.92801	523000.	3148400.	05041616
HIGH 3-Hour					
	2001	3.77547	522900.	3148300.	01042615
	2002	3.86776	522800.	3150000.	02030212
	2003	3.90881	523200.	3149900.	03032015
	2004	13.47400	522800.	3149500.	04090521
	2005	3.66696	523100.	3150000.	05060115
HIGH 1-Hour					
	2001	6.23382	523100.	3150200.	01072320
	2002	5.60374	523300.	3150300.	02053022
	2003	5.68052	522900.	3149800.	03071414
	2004	14.24771	522800.	3149500.	04090520
	2005	5.81506	522900.	3150100.	05050104
SOURCE GROUP ID:	07595				
Annual					
	2001	0.21506	522400.	3149000.	01123124
	2002	0.21211	522400.	3149100.	02123124
	2003	0.25899	522500.	3149100.	03123124
	2004	0.22425	522400.	3149100.	04123124
	2005	0.19600	522400.	3149000.	05123124
HIGH 24-Hour					
	2001	1.51178	522300.	3149100.	01042924
	2002	1.67360	522700.	3150100.	02123124
	2003	1.50335	522300.	3149000.	03041924
	2004	4.10338	522900.	3149700.	04090624
	2005	1.43790	522500.	3148700.	05090524
HIGH 8-Hour					
	2001	3.46902	522900.	3148300.	01042616
	2002	3.62624	522800.	3149900.	02030216
	2003	3.68159	523300.	3150000.	03032016
	2004	11.99870	522900.	3149600.	04090608
	2005	3.48449	523000.	3148400.	05041616
HIGH 3-Hour					
	2001	4.25550	522900.	3148300.	01042615
	2002	4.55769	522800.	3150000.	02030212
	2003	4.56005	523200.	3149900.	03032015
	2004	14.98752	522800.	3149500.	04090521
	2005	4.34814	523100.	3149900.	05060115
HIGH 1-Hour					
	2001	7.52811	523100.	3150100.	01072320
	2002	6.89836	523300.	3150200.	02053022
	2003	6.90033	522900.	3149800.	03071414
	2004	15.89769	522861.	3149490.	04090521
	2005	7.09054	522900.	3150100.	05050104
SOURCE GROUP ID:	07559				
Annual					
	2001	0.19855	522400.	3149000.	01123124
	2002	0.19571	522400.	3149100.	02123124
	2003	0.24044	522500.	3149100.	03123124
	2004	0.20678	522400.	3149100.	04123124
	2005	0.18090	522400.	3149000.	05123124
HIGH 24-Hour					
	2001	1.41155	522300.	3149100.	01042924
	2002	1.55404	522700.	3150100.	02123124
	2003	1.40721	522300.	3149000.	03041924
	2004	3.81952	522900.	3149700.	04090624
	2005	1.34276	522400.	3148600.	05090524
HIGH 8-Hour					
	2001	3.28371	522900.	3148300.	01042616
	2002	3.36715	522800.	3150000.	02030216
	2003	3.45963	523300.	3150000.	03032016
	2004	10.83412	522900.	3149600.	04090608
	2005	3.24137	523000.	3148400.	05041616
HIGH 3-Hour					
	2001	4.05192	522900.	3148300.	01042615
	2002	4.26252	522800.	3150000.	02030212
	2003	4.29209	523200.	3149900.	03032015
	2004	14.38894	522800.	3149500.	04090521
	2005	4.05872	523100.	3149900.	05060115
HIGH 1-Hour					

	2001	6.90660	523100.	3150100.	01072320
	2002	6.28320	523300.	3150200.	02053022
	2003	6.38526	522900.	3149800.	03071414
	2004	15.12503	522800.	3149500.	04090520
	2005	6.49705	522900.	3150100.	05050104
SOURCE GROUP ID:	07535				
Annual					
	2001	0.18896	522400.	3149000.	01123124
	2002	0.18614	522400.	3149100.	02123124
	2003	0.22964	522500.	3149100.	03123124
	2004	0.19659	522400.	3149100.	04123124
	2005	0.17211	522400.	3149000.	05123124
HIGH 24-Hour					
	2001	1.35206	522300.	3149100.	01042924
	2002	1.48455	522700.	3150100.	02123124
	2003	1.35011	522300.	3149000.	03041924
	2004	3.64787	522900.	3149700.	04090624
	2005	1.29145	522400.	3148600.	05090524
HIGH 8-Hour					
	2001	3.18268	522900.	3148300.	01042616
	2002	3.22689	522800.	3150000.	02030216
	2003	3.32588	523300.	3150000.	03032016
	2004	10.09998	522900.	3149600.	04090608
	2005	3.10502	523000.	3148400.	05041616
HIGH 3-Hour					
	2001	3.93769	522900.	3148300.	01042615
	2002	4.08202	522800.	3150000.	02030212
	2003	4.13362	523200.	3149900.	03032015
	2004	14.00339	522800.	3149500.	04090521
	2005	3.89223	523100.	3150000.	05060115
HIGH 1-Hour					
	2001	6.63772	523100.	3150100.	01072320
	2002	5.93003	523300.	3150300.	02053022
	2003	6.07463	522900.	3149800.	03071414
	2004	14.75583	522800.	3149500.	04090520
	2005	6.22804	522900.	3150100.	05050104

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
   TITLEONE 2001 FPL CANAVERAL REPOWER- CT LOAD ANALYSIS, MPS 501G1 PLUS GAS 12/03/08
   TITLETWO GENERIC (10 g/s) EMISSION RATES FOR CC CTS
   MODELOPT DFAULT CONC NOWARN
   AVERTIME PERIOD 24 8 3 1
   POLLUTID GEN
   RUNORNOT RUN
CO FINISHED
**
*****************************************
** ISCST3 Source Pathway
*****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION OA1095 POINT 523095.350 3149311.860 2.180
   LOCATION OB1095 POINT 523107.900 3149267.810 2.600
   LOCATION OC1095 POINT 523135.910 3149169.320 2.990

   LOCATION OA1059 POINT 523095.350 3149311.860 2.180
   LOCATION OB1059 POINT 523107.900 3149267.810 2.600
   LOCATION OC1059 POINT 523135.910 3149169.320 2.990

   LOCATION OA1035 POINT 523095.350 3149311.860 2.180
   LOCATION OB1035 POINT 523107.900 3149267.810 2.600
   LOCATION OC1035 POINT 523135.910 3149169.320 2.990

   LOCATION OA7595 POINT 523095.350 3149311.860 2.180
   LOCATION OB7595 POINT 523107.900 3149267.810 2.600
   LOCATION OC7595 POINT 523135.910 3149169.320 2.990

   LOCATION OA7559 POINT 523095.350 3149311.860 2.180
   LOCATION OB7559 POINT 523107.900 3149267.810 2.600
   LOCATION OC7559 POINT 523135.910 3149169.320 2.990

   LOCATION OA7535 POINT 523095.350 3149311.860 2.180
   LOCATION OB7535 POINT 523107.900 3149267.810 2.600
   LOCATION OC7535 POINT 523135.910 3149169.320 2.990

** Source Parameters **
** Baseload, 95 F
   SRCPARAM OA1095 3.3333    45.4    452.0    21.2    6.71
   SRCPARAM OB1095 3.3333    45.4    452.0    21.2    6.71
   SRCPARAM OC1095 3.3333    45.4    452.0    21.2    6.71
** Baseload, 59 F
   SRCPARAM OA1059 3.3333    45.4    453.7    23.0    6.71
   SRCPARAM OB1059 3.3333    45.4    453.7    23.0    6.71
   SRCPARAM OC1059 3.3333    45.4    453.7    23.0    6.71
** Baseload, 35 F
   SRCPARAM OA1035 3.3333    45.4    454.8    24.2    6.71
   SRCPARAM OB1035 3.3333    45.4    454.8    24.2    6.71
   SRCPARAM OC1035 3.3333    45.4    454.8    24.2    6.71
** 75% Load, 95 F
   SRCPARAM OA7595 3.3333    45.4    447.0    20.8    6.71
   SRCPARAM OB7595 3.3333    45.4    447.0    20.8    6.71
   SRCPARAM OC7595 3.3333    45.4    447.0    20.8    6.71
** 75% Load, 59 F
   SRCPARAM OA7559 3.3333    45.4    448.7    22.2    6.71
   SRCPARAM OB7559 3.3333    45.4    448.7    22.2    6.71
   SRCPARAM OC7559 3.3333    45.4    448.7    22.2    6.71
** 75% Load, 35 F
   SRCPARAM OA7535 3.3333    45.4    449.8    23.1    6.71
   SRCPARAM OB7535 3.3333    45.4    449.8    23.1    6.71
   SRCPARAM OC7535 3.3333    45.4    449.8    23.1    6.71

** Building Downwash **
SO BUILDHGT OA1035-OA7595        23.47    23.47    23.47    29.57    29.57    23.47
SO BUILDHGT OA1035-OA7595        29.57    29.57    23.47    23.47    23.47    23.47
SO BUILDHGT OA1035-OA7595        23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDHGT OA1035-OA7595        23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDHGT OA1035-OA7595        23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDHGT OA1035-OA7595        23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDWID OA1035-OA7595        29.33    28.46    26.73    18.93    19.31    16.99
SO BUILDWID OA1035-OA7595        18.29    18.50    17.82    21.61    24.75    27.14
SO BUILDWID OA1035-OA7595        28.71    29.40    29.20    28.11    28.40    29.31
SO BUILDWID OA1035-OA7595        29.33    28.46    26.73    24.18    20.90    16.99
SO BUILDWID OA1035-OA7595        12.55    13.48    17.82    21.61    24.75    27.14
SO BUILDWID OA1035-OA7595        28.71    29.40    29.20    28.11    28.40    29.31
SO BUILDLEN OA1035-OA7595        21.61    24.75    27.14    16.11    14.02    29.20
SO BUILDLEN OA1035-OA7595         8.62     9.22    29.31    29.33    28.46    26.73
```

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SO BUILDLEN 0A1035-0A7595        24.18    20.90    16.99    12.56    13.48    17.82
SO BUILDLEN 0A1035-0A7595        21.61    24.75    27.14    28.71    29.40    29.20
SO BUILDLEN 0A1035-0A7595        28.11    28.40    29.31    29.33    28.46    26.73
SO BUILDLEN 0A1035-0A7595        24.18    20.90    16.99    12.56    13.48    17.82
SO XBADJ    0A1035-0A7595       -60.77   -61.11   -59.59  -102.66  -101.75   -33.48
SO XBADJ    0A1035-0A7595       -87.48   -87.57   -33.48   -32.31   -30.16   -27.09
SO XBADJ    0A1035-0A7595       -23.20   -18.60   -13.44    38.37    41.16    40.78
SO XBADJ    0A1035-0A7595        39.16    36.35    32.44     1.70     3.04     4.28
SO XBADJ    0A1035-0A7595         5.40     5.24     4.17     2.98     1.70     0.36
SO XBADJ    0A1035-0A7595        -0.98    -2.30    -3.55   -50.92   -54.63   -58.59
SO YBADJ    0A1035-0A7595        -2.75   -11.38   -19.67     9.03    -7.54     4.95
SO YBADJ    0A1035-0A7595         6.09    -8.45    -5.16    -8.35   -11.29   -13.88
SO YBADJ    0A1035-0A7595       -16.05   -17.74   -18.88   -22.60   -14.51    -5.97
SO YBADJ    0A1035-0A7595         2.75    11.38    19.67   -11.11    -8.15    -4.95
SO YBADJ    0A1035-0A7595        -1.59     1.81     5.16     8.35    11.29    13.88
SO YBADJ    0A1035-0A7595        16.05    17.74    18.88    22.60    14.51     5.97

SO BUILDHGT 0B1035-0B7595        23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDHGT 0B1035-0B7595        29.57    29.57    23.47    29.57    23.47    23.47
SO BUILDHGT 0B1035-0B7595        23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDHGT 0B1035-0B7595        23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDHGT 0B1035-0B7595        23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDHGT 0B1035-0B7595        23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDWID 0B1035-0B7595        29.33    28.46    26.73    24.18    20.90    16.99
SO BUILDWID 0B1035-0B7595        18.31    18.52    17.82    19.26    24.75    27.14
SO BUILDWID 0B1035-0B7595        28.71    29.40    29.20    28.11    28.40    29.31
SO BUILDWID 0B1035-0B7595        29.33    28.46    26.73    24.18    20.90    16.99
SO BUILDWID 0B1035-0B7595        12.56    13.48    17.82    21.61    24.75    27.14
SO BUILDWID 0B1035-0B7595        28.71    29.40    29.20    28.11    28.40    29.31
SO BUILDLEN 0B1035-0B7595        21.61    24.75    27.14    28.71    29.40    29.20
SO BUILDLEN 0B1035-0B7595         8.62     9.22    29.31    14.46    28.46    26.73
SO BUILDLEN 0B1035-0B7595        24.18    20.90    16.99    12.56    13.48    17.82
SO BUILDLEN 0B1035-0B7595        21.61    24.75    27.14    28.71    29.40    29.20
SO BUILDLEN 0B1035-0B7595        28.11    28.40    29.31    29.33    28.46    26.73
SO BUILDLEN 0B1035-0B7595        24.18    20.90    16.99    12.56    13.48    17.82
SO XBADJ    0B1035-0B7595       -19.57   -24.01   -27.71   -30.57   -32.51   -33.45
SO XBADJ    0B1035-0B7595       -87.49   -87.60   -33.17  -102.31   -29.71   -26.59
SO XBADJ    0B1035-0B7595       -22.66   -18.04   -12.87    -7.32    -4.40    -3.27
SO XBADJ    0B1035-0B7595        -2.04    -0.75     0.57     1.87     3.11     4.26
SO XBADJ    0B1035-0B7595         5.28     5.02     3.86     2.59     1.24    -0.14
SO XBADJ    0B1035-0B7595        -1.53    -2.86    -4.11    -5.24  -110.87  -113.12
SO YBADJ    0B1035-0B7595        17.26    15.48    13.22    10.56     7.59     4.38
SO YBADJ    0B1035-0B7595         6.20    -8.34    -5.64     4.89   -11.63   -14.14
SO YBADJ    0B1035-0B7595       -16.22   -17.81   -18.86   -19.33   -19.22   -18.52
SO YBADJ    0B1035-0B7595       -17.26   -15.48   -13.22   -10.56    -7.59    -4.38
SO YBADJ    0B1035-0B7595        -1.04     2.33     5.64     8.77    11.63    14.14
SO YBADJ    0B1035-0B7595        16.22    17.81    18.86    19.33     9.60    -8.63

SO BUILDHGT 0C1035-0C7595        23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDHGT 0C1035-0C7595        29.57    29.57    23.47    23.47    23.47    23.47
SO BUILDHGT 0C1035-0C7595        23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDHGT 0C1035-0C7595        23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDHGT 0C1035-0C7595        23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDHGT 0C1035-0C7595        23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDWID 0C1035-0C7595        29.33    28.46    26.73    24.18    20.90    16.99
SO BUILDWID 0C1035-0C7595        18.27    18.47    17.82    21.61    24.75    27.14
SO BUILDWID 0C1035-0C7595        28.71    29.40    29.20    28.11    28.40    29.31
SO BUILDWID 0C1035-0C7595        29.33    28.46    26.73    24.18    20.90    16.99
SO BUILDWID 0C1035-0C7595        12.56    13.48    17.82    21.61    24.75    27.14
SO BUILDWID 0C1035-0C7595        28.71    29.40    29.20    28.11    28.40    29.31
SO BUILDLEN 0C1035-0C7595        21.61    24.75    27.14    28.71    29.40    29.20
SO BUILDLEN 0C1035-0C7595         8.62     9.21    29.31    29.33    28.46    26.73
SO BUILDLEN 0C1035-0C7595        24.18    20.90    16.99    12.56    13.48    17.82
SO BUILDLEN 0C1035-0C7595        21.61    24.75    27.14    28.71    29.40    29.20
SO BUILDLEN 0C1035-0C7595        28.11    28.40    29.31    29.33    28.46    26.73
SO BUILDLEN 0C1035-0C7595        24.18    20.90    16.99    12.56    13.48    17.82
SO XBADJ    0C1035-0C7595       -19.81   -24.39   -28.22   -31.20   -33.23   -34.25
SO XBADJ    0C1035-0C7595       -87.59   -87.70   -34.04   -32.76   -30.49   -27.29
SO XBADJ    0C1035-0C7595       -23.26   -18.53   -13.23    -7.53    -4.47    -3.18
SO XBADJ    0C1035-0C7595        -1.80    -0.37     1.08     2.49     3.83     5.05
SO XBADJ    0C1035-0C7595         6.12     5.89     4.73     3.43     2.03     0.56
SO XBADJ    0C1035-0C7595        -0.92    -2.38    -3.76    -5.03    -9.01   -14.63
SO YBADJ    0C1035-0C7595        18.10    16.26    13.92    11.17     8.07     4.73
SO YBADJ    0C1035-0C7595         6.17    -8.39    -5.72    -9.00   -12.01   -14.65
SO YBADJ    0C1035-0C7595       -16.85   -18.53   -19.65   -20.17   -20.08   -19.38
SO YBADJ    0C1035-0C7595       -18.10   -16.26   -13.92   -11.17    -8.07    -4.73
SO YBADJ    0C1035-0C7595        -1.25     2.27     5.73     9.00    12.01    14.65
SO YBADJ    0C1035-0C7595        16.85    18.53    19.65    20.17    20.08    19.38

   SRCGROUP 01095 0A1095 0B1095 0C1095
   SRCGROUP 01059 0A1059 0B1059 0C1059
   SRCGROUP 01035 0A1035 0B1035 0C1035
```

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   SRCGROUP 07595 0A7595 0B7595 0C7595
   SRCGROUP 07559 0A7559 0B7559 0C7559
   SRCGROUP 07535 0A7535 0B7535 0C7535

SO FINISHED
**
****************************************
** ISCST3 Receptor Pathway
****************************************
**
**
RE STARTING
   INCLUDED PCC0924.ROU
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
**    SURFFILE C:\amodmet\DABJAX01.SFC
**    PROFFILE C:\amodmet\DABJAX01.PFL
   SURFFILE C:\amodmet\DABJAX01.SFC
   PROFFILE C:\amodmet\DABJAX01.PFL
   SURFDATA 12834 2001 DAYTONA_BEACH/REGIONAL_ARPT
   UAIRDATA 13889 2001 JACKSONVILLE/INT'L_ARPT
   PROFBASE 31 FEET
ME FINISHED
**
****************************************
** AERMOD Output Pathway
****************************************
**
**
OU STARTING
   RECTABLE ALLAVE FIRST
OU FINISHED
**
```

AERMOD OUTPUT FILE NUMBER 1 :GENOIL.001
AERMOD OUTPUT FILE NUMBER 2 :GENOIL.002
AERMOD OUTPUT FILE NUMBER 3 :GENOIL.003
AERMOD OUTPUT FILE NUMBER 4 :GENOIL.004
AERMOD OUTPUT FILE NUMBER 5 :GENOIL.005
First title for last output file is: 2001 FPL CANAVERAL REPOWER- CT LOAD ANALYSIS, SIEMENS OIL 9/26/08
Second title for last output file is: GENERIC (10 g/s) EMISSION RATES FOR CC CTS

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	01095				
Annual					
	2001	0.21632	522400.	3149000.	01123124
	2002	0.21327	522400.	3149100.	02123124
	2003	0.26034	522500.	3149100.	03123124
	2004	0.22562	522400.	3149100.	04123124
	2005	0.19702	522400.	3149000.	05123124
HIGH 24-Hour					
	2001	1.52126	522300.	3149100.	01042924
	2002	1.68367	522700.	3150100.	02123124
	2003	1.51040	522300.	3149000.	03041924
	2004	4.15595	522900.	3149700.	04090624
	2005	1.44666	522500.	3148700.	05090524
HIGH 8-Hour					
	2001	3.50136	522900.	3148300.	01042616
	2002	3.66731	522800.	3149900.	02030216
	2003	3.69862	523300.	3150000.	03032016
	2004	12.23321	522900.	3149600.	04090608
	2005	3.52219	523000.	3148400.	05041616
HIGH 3-Hour					
	2001	4.28858	522900.	3148300.	01042615
	2002	4.61239	522800.	3150000.	02030212
	2003	4.58454	523200.	3149900.	03032015
	2004	15.11613	522800.	3149500.	04090521
	2005	4.37785	523100.	3149900.	05060115
HIGH 1-Hour					
	2001	7.62990	523100.	3150100.	01072320
	2002	6.98821	523300.	3150200.	02053022
	2003	7.01908	522900.	3149800.	03071414
	2004	16.11595	522861.	3149490.	04090521
	2005	7.19582	522900.	3150100.	05050104
SOURCE GROUP ID:	01059				
Annual					
	2001	0.19239	522400.	3149000.	01123124
	2002	0.18950	522400.	3149100.	02123124
	2003	0.23347	522500.	3149100.	03123124
	2004	0.20027	522400.	3149100.	04123124
	2005	0.17516	522400.	3149000.	05123124
HIGH 24-Hour					
	2001	1.37512	522300.	3149100.	01042924
	2002	1.50991	522700.	3150100.	02123124
	2003	1.37052	522300.	3149000.	03041924
	2004	3.73599	522900.	3149700.	04090624
	2005	1.31020	522400.	3148600.	05090524
HIGH 8-Hour					
	2001	3.22380	522900.	3148300.	01042616
	2002	3.28868	522800.	3150000.	02030216
	2003	3.37488	523300.	3150000.	03032016
	2004	10.49449	522900.	3149600.	04090608
	2005	3.16505	523000.	3148400.	05041616
HIGH 3-Hour					
	2001	3.98461	522900.	3148300.	01042615
	2002	4.17280	522800.	3150000.	02030212
	2003	4.19434	523200.	3149900.	03032015
	2004	14.22184	522800.	3149500.	04090521
	2005	3.95552	523100.	3149900.	05060115
HIGH 1-Hour					
	2001	6.71759	523100.	3150100.	01072320
	2002	6.07905	523300.	3150300.	02053022
	2003	6.26020	522900.	3149800.	03071414
	2004	14.96668	522800.	3149500.	04090520
	2005	6.31376	522900.	3150100.	05050104
SOURCE GROUP ID:	01035				
Annual					
	2001	0.17983	522300.	3149000.	01123124
	2002	0.17695	522400.	3149100.	02123124
	2003	0.21931	522500.	3149100.	03123124
	2004	0.18689	522400.	3149100.	04123124

	2005	0.16366	522400.	3149000.	05123124
HIGH 24-Hour					
	2001	1.29559	522300.	3149100.	01042924
	2002	1.42043	522700.	3150100.	02123124
	2003	1.29474	522300.	3149000.	03041924
	2004	3.50827	522800.	3149800.	04090624
	2005	1.24230	522900.	3148200.	05041624
HIGH 8-Hour					
	2001	3.08800	522900.	3148300.	01042616
	2002	3.10625	522800.	3150000.	02030216
	2003	3.19474	523300.	3150000.	03032016
	2004	9.78244	522800.	3149700.	04090608
	2005	2.98668	523000.	3148400.	05041616
HIGH 3-Hour					
	2001	3.83009	522900.	3148300.	01042615
	2002	3.94371	522800.	3150000.	02030212
	2003	3.98342	523200.	3149900.	03032015
	2004	13.67879	522800.	3149500.	04090521
	2005	3.74038	523100.	3150000.	05060115
HIGH 1-Hour					
	2001	6.34868	523100.	3150100.	01072320
	2002	5.70578	523300.	3150300.	02053022
	2003	5.83519	522900.	3149800.	03071414
	2004	14.44528	522800.	3149500.	04090520
	2005	5.94512	522900.	3150100.	05050104
SOURCE GROUP ID:	07595				
Annual					
	2001	0.27452	522400.	3149000.	01123124
	2002	0.27020	522400.	3149100.	02123124
	2003	0.32431	522500.	3149100.	03123124
	2004	0.28611	522400.	3149100.	04123124
	2005	0.24987	522400.	3149000.	05123124
HIGH 24-Hour					
	2001	1.86318	522400.	3149100.	01042924
	2002	2.13205	522700.	3150000.	02123124
	2003	1.83688	522400.	3149100.	03041924
	2004	5.22180	522900.	3149600.	04090624
	2005	1.80461	523000.	3148400.	05041624
HIGH 8-Hour					
	2001	4.33916	523000.	3148500.	01042616
	2002	4.53211	522800.	3149900.	02030216
	2003	4.42552	523300.	3149900.	03032016
	2004	15.28533	522900.	3149600.	04090608
	2005	4.36200	523000.	3148400.	05041616
HIGH 3-Hour					
	2001	5.25868	523000.	3148400.	01110515
	2002	5.92006	522900.	3149800.	02030212
	2003	5.47904	523300.	3149800.	03021515
	2004	17.73319	522874.	3149443.	04090521
	2005	5.57044	522900.	3150100.	05050106
HIGH 1-Hour					
	2001	10.10864	523100.	3149900.	01072320
	2002	8.97631	523200.	3150000.	02053022
	2003	8.34421	522900.	3149800.	03071414
	2004	19.58873	522925.	3149506.	04090522
	2005	9.53062	522900.	3150000.	05050104
SOURCE GROUP ID:	07559				
Annual					
	2001	0.24966	522400.	3149000.	01123124
	2002	0.24605	522400.	3149100.	02123124
	2003	0.29731	522500.	3149100.	03123124
	2004	0.26049	522400.	3149100.	04123124
	2005	0.22741	522400.	3149000.	05123124
HIGH 24-Hour					
	2001	1.71832	522300.	3149100.	01042924
	2002	1.93480	522700.	3150000.	02123124
	2003	1.69656	522300.	3149000.	03041924
	2004	4.75657	522900.	3149600.	04090624
	2005	1.64619	523000.	3148400.	05041624
HIGH 8-Hour					
	2001	3.92432	522900.	3148300.	01042616
	2002	4.17900	522800.	3149900.	02030216
	2003	4.11671	523300.	3150000.	03032016
	2004	14.10174	522900.	3149600.	04090608
	2005	4.00130	523000.	3148400.	05041616
HIGH 3-Hour					
	2001	4.78690	523000.	3148400.	01110515
	2002	5.30747	522900.	3149800.	02030212
	2003	5.09886	523200.	3149900.	03032015
	2004	16.58162	522874.	3149443.	04090521
	2005	5.06700	522900.	3150100.	05050106
HIGH 1-Hour					

	2001	9.09117	523100.	3150000.	01072320
	2002	8.10855	523300.	3150100.	02053022
	2003	7.85748	522900.	3149800.	03071414
	2004	18.01757	522893.	3149498.	04090521
	2005	8.58782	522900.	3150000.	05050104
SOURCE GROUP ID:	07535				
Annual					
	2001	0.23649	522400.	3149000.	01123124
	2002	0.23316	522400.	3149100.	02123124
	2003	0.28282	522500.	3149100.	03123124
	2004	0.24679	522400.	3149100.	04123124
	2005	0.21545	522400.	3149000.	05123124
HIGH 24-Hour					
	2001	1.64075	522300.	3149100.	01042924
	2002	1.83298	522700.	3150000.	02123124
	2003	1.62424	522300.	3149000.	03041924
	2004	4.50672	522900.	3149600.	04090624
	2005	1.56578	523000.	3148400.	05041624
HIGH 8-Hour					
	2001	3.75493	522900.	3148300.	01042616
	2002	3.98114	522800.	3149900.	02030216
	2003	3.95598	523300.	3150000.	03032016
	2004	13.41490	522900.	3149600.	04090608
	2005	3.81409	523000.	3148400.	05041616
HIGH 3-Hour					
	2001	4.58478	522900.	3148300.	01042615
	2002	4.97352	522900.	3149800.	02030212
	2003	4.90076	523200.	3149900.	03032015
	2004	15.87759	522874.	3149443.	04090521
	2005	4.77083	522900.	3150100.	05050106
HIGH 1-Hour					
	2001	8.52629	523100.	3150000.	01072320
	2002	7.65054	523300.	3150200.	02053022
	2003	7.53958	522900.	3149800.	03071414
	2004	17.26897	522893.	3149498.	04090521
	2005	8.03820	522900.	3150000.	05050104

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
   TITLEONE 2001 FPL CANAVERAL REPOWER- CT LOAD ANALYSIS, SIEMENS OIL 9/26/08
   TITLETWO GENERIC (10 g/s) EMISSION RATES FOR CC CTS
   MODELOPT DFAULT CONC NOWARN
   AVERTIME PERIOD 24 8 3 1
   POLLUTID GEN
   RUNORNOT RUN
CO FINISHED
**
****************************************
** ISCST3 Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION OA1095 POINT 523095.350 3149311.860 2.180
   LOCATION OB1095 POINT 523107.900 3149267.810 2.600
   LOCATION OC1095 POINT 523135.910 3149169.320 2.990

   LOCATION OA1059 POINT 523095.350 3149311.860 2.180
   LOCATION OB1059 POINT 523107.900 3149267.810 2.600
   LOCATION OC1059 POINT 523135.910 3149169.320 2.990

   LOCATION OA1035 POINT 523095.350 3149311.860 2.180
   LOCATION OB1035 POINT 523107.900 3149267.810 2.600
   LOCATION OC1035 POINT 523135.910 3149169.320 2.990

   LOCATION OA7595 POINT 523095.350 3149311.860 2.180
   LOCATION OB7595 POINT 523107.900 3149267.810 2.600
   LOCATION OC7595 POINT 523135.910 3149169.320 2.990

   LOCATION OA7559 POINT 523095.350 3149311.860 2.180
   LOCATION OB7559 POINT 523107.900 3149267.810 2.600
   LOCATION OC7559 POINT 523135.910 3149169.320 2.990

   LOCATION OA7535 POINT 523095.350 3149311.860 2.180
   LOCATION OB7535 POINT 523107.900 3149267.810 2.600
   LOCATION OC7535 POINT 523135.910 3149169.320 2.990

** Source Parameters **
** Baseload, 95 F
   SRCPARAM OA1095 3.3333    45.4   452.0    20.31   6.71
   SRCPARAM OB1095 3.3333    45.4   452.0    20.31   6.71
   SRCPARAM OC1095 3.3333    45.4   452.0    20.31   6.71
** Baseload, 59 F
   SRCPARAM OA1059 3.3333    45.4   453.7    22.42   6.71
   SRCPARAM OB1059 3.3333    45.4   453.7    22.42   6.71
   SRCPARAM OC1059 3.3333    45.4   453.7    22.42   6.71
** Baseload, 35 F
   SRCPARAM OA1035 3.3333    45.4   454.8    23.70   6.71
   SRCPARAM OB1035 3.3333    45.4   454.8    23.70   6.71
   SRCPARAM OC1035 3.3333    45.4   454.8    23.70   6.71
** 75% Load, 95 F
   SRCPARAM OA7595 3.3333    45.4   447.0    16.63   6.71
   SRCPARAM OB7595 3.3333    45.4   447.0    16.63   6.71
   SRCPARAM OC7595 3.3333    45.4   447.0    16.63   6.71
** 75% Load, 59 F
   SRCPARAM OA7559 3.3333    45.4   448.7    18.04   6.71
   SRCPARAM OB7559 3.3333    45.4   448.7    18.04   6.71
   SRCPARAM OC7559 3.3333    45.4   448.7    18.04   6.71
** 75% Load, 35 F
   SRCPARAM OA7535 3.3333    45.4   449.8    18.88   6.71
   SRCPARAM OB7535 3.3333    45.4   449.8    18.88   6.71
   SRCPARAM OC7535 3.3333    45.4   449.8    18.88   6.71

** Building Downwash **
SO BUILDHGT OA1035-OA7595        23.47   23.47   23.47   29.57   29.57   23.47
SO BUILDHGT OA1035-OA7595        29.57   29.57   23.47   23.47   23.47   23.47
SO BUILDHGT OA1035-OA7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT OA1035-OA7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT OA1035-OA7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT OA1035-OA7595        23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDWID OA1035-OA7595        29.33   28.46   26.73   18.93   19.31   16.99
SO BUILDWID OA1035-OA7595        18.29   18.50   17.82   21.61   24.75   27.14
SO BUILDWID OA1035-OA7595        28.71   29.40   29.20   28.11   28.40   29.31
SO BUILDWID OA1035-OA7595        29.33   28.46   26.73   24.18   20.90   16.99
SO BUILDWID OA1035-OA7595        12.55   13.48   17.82   21.61   24.75   27.14
SO BUILDWID OA1035-OA7595        28.71   29.40   29.20   28.11   28.40   29.31
SO BUILDLEN OA1035-OA7595        21.61   24.75   27.14   16.11   14.02   29.20
SO BUILDLEN OA1035-OA7595         8.62    9.22   29.31   29.33   28.46   26.73
```

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SO BUILDLEN 0A1035-0A7595      24.18   20.90   16.99   12.56   13.48   17.82
SO BUILDLEN 0A1035-0A7595      21.61   24.75   27.14   28.71   29.40   29.20
SO BUILDLEN 0A1035-0A7595      28.11   28.40   29.31   29.33   28.46   26.73
SO BUILDLEN 0A1035-0A7595      24.18   20.90   16.99   12.56   13.48   17.82
SO XBADJ    0A1035-0A7595     -60.77  -61.11  -59.59 -102.66 -101.75  -33.48
SO XBADJ    0A1035-0A7595     -87.48  -87.57  -33.48  -32.31  -30.16  -27.09
SO XBADJ    0A1035-0A7595     -23.20  -18.60  -13.44   38.37   41.16   40.78
SO XBADJ    0A1035-0A7595      39.16   36.35   32.44    1.70    3.04    4.28
SO XBADJ    0A1035-0A7595       5.40    5.24    4.17    2.98    1.70    0.36
SO XBADJ    0A1035-0A7595      -0.98   -2.30   -3.55  -50.92  -54.63  -58.59
SO YBADJ    0A1035-0A7595      -2.75  -11.38  -19.67    9.03   -7.54    4.95
SO YBADJ    0A1035-0A7595       6.09   -8.45   -5.16   -8.35  -11.29  -13.88
SO YBADJ    0A1035-0A7595     -16.05  -17.74  -18.88  -22.60  -14.51   -5.97
SO YBADJ    0A1035-0A7595       2.75   11.38   19.67  -11.11   -8.15   -4.95
SO YBADJ    0A1035-0A7595      -1.59    1.81    5.16    8.35   11.29   13.88
SO YBADJ    0A1035-0A7595      16.05   17.74   18.88   22.60   14.51    5.97

SO BUILDHGT 0B1035-0B7595      23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT 0B1035-0B7595      29.57   29.57   23.47   29.57   23.47   23.47
SO BUILDHGT 0B1035-0B7595      23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT 0B1035-0B7595      23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT 0B1035-0B7595      23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT 0B1035-0B7595      23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDWID 0B1035-0B7595      29.33   28.46   26.73   24.18   20.90   16.99
SO BUILDWID 0B1035-0B7595      18.31   18.52   17.82   19.26   24.75   27.14
SO BUILDWID 0B1035-0B7595      28.71   29.40   29.20   28.11   28.40   29.31
SO BUILDWID 0B1035-0B7595      29.33   28.46   26.73   24.18   20.90   16.99
SO BUILDWID 0B1035-0B7595      12.56   13.48   17.82   21.61   24.75   27.14
SO BUILDWID 0B1035-0B7595      28.71   29.40   29.20   28.11   28.40   29.31
SO BUILDLEN 0B1035-0B7595      21.61   24.75   27.14   28.71   29.40   29.20
SO BUILDLEN 0B1035-0B7595       8.62    9.22   29.31   14.46   28.46   26.73
SO BUILDLEN 0B1035-0B7595      24.18   20.90   16.99   12.56   13.48   17.82
SO BUILDLEN 0B1035-0B7595      21.61   24.75   27.14   28.71   29.40   29.20
SO BUILDLEN 0B1035-0B7595      28.11   28.40   29.31   29.33   28.46   26.73
SO BUILDLEN 0B1035-0B7595      24.18   20.90   16.99   12.56   13.48   17.82
SO XBADJ    0B1035-0B7595     -19.57  -24.01  -27.71  -30.57  -32.51  -33.45
SO XBADJ    0B1035-0B7595     -87.49  -87.60  -33.17 -102.31  -29.71  -26.59
SO XBADJ    0B1035-0B7595     -22.66  -18.04  -12.87   -7.32   -4.40   -3.27
SO XBADJ    0B1035-0B7595      -2.04   -0.75    0.57    1.87    3.11    4.26
SO XBADJ    0B1035-0B7595       5.28    5.02    3.86    2.59    1.24   -0.14
SO XBADJ    0B1035-0B7595      -1.53   -2.86   -4.11   -5.24 -110.87 -113.12
SO YBADJ    0B1035-0B7595      17.26   15.48   13.22   10.56    7.59    4.38
SO YBADJ    0B1035-0B7595       6.20   -8.34   -5.64    4.89  -11.63  -14.14
SO YBADJ    0B1035-0B7595     -16.22  -17.81  -18.86  -19.33  -19.22  -18.52
SO YBADJ    0B1035-0B7595     -17.26  -15.48  -13.22  -10.56   -7.59   -4.38
SO YBADJ    0B1035-0B7595      -1.04    2.33    5.64    8.77   11.63   14.14
SO YBADJ    0B1035-0B7595      16.22   17.81   18.86   19.33    9.60   -8.63

SO BUILDHGT 0C1035-0C7595      23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT 0C1035-0C7595      29.57   29.57   23.47   23.47   23.47   23.47
SO BUILDHGT 0C1035-0C7595      23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT 0C1035-0C7595      23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT 0C1035-0C7595      23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT 0C1035-0C7595      23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDWID 0C1035-0C7595      29.33   28.46   26.73   24.18   20.90   16.99
SO BUILDWID 0C1035-0C7595      18.27   18.47   17.82   21.61   24.75   27.14
SO BUILDWID 0C1035-0C7595      28.71   29.40   29.20   28.11   28.40   29.31
SO BUILDWID 0C1035-0C7595      29.33   28.46   26.73   24.18   20.90   16.99
SO BUILDWID 0C1035-0C7595      12.56   13.48   17.82   21.61   24.75   27.14
SO BUILDWID 0C1035-0C7595      28.71   29.40   29.20   28.11   28.40   29.31
SO BUILDLEN 0C1035-0C7595      21.61   24.75   27.14   28.71   29.40   29.20
SO BUILDLEN 0C1035-0C7595       8.62    9.21   29.31   29.33   28.46   26.73
SO BUILDLEN 0C1035-0C7595      24.18   20.90   16.99   12.56   13.48   17.82
SO BUILDLEN 0C1035-0C7595      21.61   24.75   27.14   28.71   29.40   29.20
SO BUILDLEN 0C1035-0C7595      28.11   28.40   29.31   29.33   28.46   26.73
SO BUILDLEN 0C1035-0C7595      24.18   20.90   16.99   12.56   13.48   17.82
SO XBADJ    0C1035-0C7595     -19.81  -24.39  -28.22  -31.20  -33.23  -34.25
SO XBADJ    0C1035-0C7595     -87.59  -87.70  -34.04  -32.76  -30.49  -27.29
SO XBADJ    0C1035-0C7595     -23.26  -18.53  -13.23   -7.53   -4.47   -3.18
SO XBADJ    0C1035-0C7595      -1.80   -0.37    1.08    2.49    3.83    5.05
SO XBADJ    0C1035-0C7595       6.12    5.89    4.73    3.43    2.03    0.56
SO XBADJ    0C1035-0C7595      -0.92   -2.38   -3.76   -5.03   -9.01  -14.63
SO YBADJ    0C1035-0C7595      18.10   16.26   13.92   11.17    8.07    4.73
SO YBADJ    0C1035-0C7595       6.17   -8.39   -5.72   -9.00  -12.01  -14.65
SO YBADJ    0C1035-0C7595     -16.85  -18.53  -19.65  -20.17  -20.08  -19.38
SO YBADJ    0C1035-0C7595     -18.10  -16.26  -13.92  -11.17   -8.07   -4.73
SO YBADJ    0C1035-0C7595      -1.25    2.27    5.73    9.00   12.01   14.65
SO YBADJ    0C1035-0C7595      16.85   18.53   19.65   20.17   20.08   19.38

   SRCGROUP 01095 0A1095 0B1095 0C1095
   SRCGROUP 01059 0A1059 0B1059 0C1059
   SRCGROUP 01035 0A1035 0B1035 0C1035
```

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   SRCGROUP 07595 0A7595 0B7595 0C7595
   SRCGROUP 07559 0A7559 0B7559 0C7559
   SRCGROUP 07535 0A7535 0B7535 0C7535

SO FINISHED
**
*****************************************
** ISCST3 Receptor Pathway
*****************************************
**
**
RE STARTING
   INCLUDED PCC0924.ROU
RE FINISHED
**
*****************************************
** AERMOD Meteorology Pathway
*****************************************
**
**
ME STARTING
**   SURFFILE C:\amodmet\DABJAX01.SFC
**   PROFFILE C:\amodmet\DABJAX01.PFL
   SURFFILE C:\amodmet\DABJAX01.SFC
   PROFFILE C:\amodmet\DABJAX01.PFL
   SURFDATA 12834 2001 DAYTONA_BEACH/REGIONAL_ARPT
   UAIRDATA 13889 2001 JACKSONVILLE/INT'L_ARPT
   PROFBASE 31 FEET
ME FINISHED
**
*****************************************
** AERMOD Output Pathway
*****************************************
**
**
OU STARTING
   RECTABLE ALLAVE FIRST
OU FINISHED
**
```

PREDICTED SO_2 IMPACTS FOR CCEC

1. **SUMMARY FILES FOR:**
   - **CTS/HRSGS AND FUEL HEATER**
   - **CTS/HRSGS, FUEL HEATER, AND GAS COMPRESSOR STATION**
2. **EXAMPLE INPUT FILE**

AERBOB RELEASE 020304

AERMOD OUTPUT FILE NUMBER 1 :SO2GAS.001
AERMOD OUTPUT FILE NUMBER 2 :SO2GAS.002
AERMOD OUTPUT FILE NUMBER 3 :SO2GAS.003
AERMOD OUTPUT FILE NUMBER 4 :SO2GAS.004
AERMOD OUTPUT FILE NUMBER 5 :SO2GAS.005
First title for last output file is: 2001 FPL CANAVERAL REPOWER- SO2 GAS (SH 35F/100%; MPS 95F/100%) 12/04/08
Second title for last output file is: SO2 EMISSION RATES PER CTS

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	MG				
Annual					
	2001	0.30380	522500.	3149100.	01123124
	2002	0.30458	522500.	3149100.	02123124
	2003	0.34474	522500.	3149100.	03123124
	2004	0.31475	522500.	3149100.	04123124
	2005	0.28316	522500.	3149100.	05123124
HIGH 24-Hour					
	2001	1.77468	523200.	3149900.	01072324
	2002	2.26684	522800.	3149900.	02123124
	2003	1.90655	522500.	3149100.	03041924
	2004	4.32742	522900.	3149700.	04090624
	2005	1.75065	522500.	3149000.	05082424
HSH 24-Hour					
	2001	1.52247	522400.	3149100.	01042124
	2002	1.71243	522800.	3149900.	02030224
	2003	1.73340	522400.	3149000.	03062324
	2004	2.92370	522900.	3149500.	04090624
	2005	1.54006	522700.	3148600.	05072524
HIGH 3-Hour					
	2001	4.80216	522100.	3149000.	01031921
	2002	4.92677	522900.	3149800.	02030212
	2003	5.05360	523300.	3149800.	03021515
	2004	13.52189	522925.	3149506.	04090524
	2005	5.55376	523000.	3149800.	05050106
HSH 3-Hour					
	2001	4.33396	523000.	3148500.	01110515
	2002	4.14396	523300.	3150000.	02012415
	2003	4.72889	523300.	3149800.	03032012
	2004	11.52371	522861.	3149490.	04090524
	2005	4.65303	523000.	3149800.	05040712
SOURCE GROUP ID:	SH				
Annual					
	2001	0.29829	522500.	3149100.	01123124
	2002	0.29953	522500.	3149100.	02123124
	2003	0.34211	522500.	3149100.	03123124
	2004	0.30932	522500.	3149100.	04123124
	2005	0.27810	522500.	3149100.	05123124
HIGH 24-Hour					
	2001	1.75769	523200.	3149900.	01072324
	2002	2.24866	522700.	3150000.	02123124
	2003	1.89644	522500.	3149100.	03041924
	2004	4.26934	522900.	3149700.	04090624
	2005	1.71055	522500.	3149000.	05082424
HSH 24-Hour					
	2001	1.50716	522400.	3149100.	01042124
	2002	1.70349	522800.	3149900.	02030224
	2003	1.73980	522400.	3149000.	03062324
	2004	2.84599	522600.	3148400.	04092524
	2005	1.53387	522700.	3148600.	05072524
HIGH 3-Hour					
	2001	4.67251	523300.	3149900.	01022515
	2002	4.81924	522900.	3149800.	02030212
	2003	5.08756	523300.	3149800.	03021515
	2004	13.53277	522900.	3149500.	04090524
	2005	5.34544	523000.	3149900.	05050106
HSH 3-Hour					
	2001	4.28435	523200.	3149900.	01072315
	2002	4.21483	523300.	3150000.	02012415
	2003	4.69655	523300.	3149900.	03032012
	2004	11.67468	522861.	3149490.	04090524
	2005	4.59997	523000.	3149900.	05040712

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

AERBOB RELEASE 020304

AERMOD OUTPUT FILE NUMBER 1 :SO2GASC7.001
AERMOD OUTPUT FILE NUMBER 2 :SO2GASC7.002
AERMOD OUTPUT FILE NUMBER 3 :SO2GASC7.003
AERMOD OUTPUT FILE NUMBER 4 :SO2GASC7.004
AERMOD OUTPUT FILE NUMBER 5 :SO2GASC7.005
First title for last output file is: 2001 FPL CCEC- SO2 GAS (SH 35F/100%; MPS 95F/100%) 12/04/08
Second title for last output file is: SO2 EMISSION RATES PER CTS

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	MG				
Annual					
	2001	0.35360	522500.	3149100.	01123124
	2002	0.35304	522600.	3149200.	02123124
	2003	0.39699	522600.	3149200.	03123124
	2004	0.37269	522600.	3149200.	04123124
	2005	0.33531	522600.	3149200.	05123124
HIGH 24-Hour					
	2001	1.89126	522400.	3149100.	01042924
	2002	2.34388	522800.	3149900.	02123124
	2003	2.06411	522500.	3149100.	03041924
	2004	4.53445	522900.	3149600.	04090624
	2005	1.89481	522400.	3149000.	05082424
HSH 24-Hour					
	2001	1.67403	522400.	3149100.	01042124
	2002	1.80637	522800.	3149800.	02030224
	2003	1.96298	522700.	3149400.	03070624
	2004	3.06068	522893.	3149498.	04090524
	2005	1.66308	522500.	3149400.	05040624
HIGH 3-Hour					
	2001	4.92169	522100.	3149000.	01031921
	2002	5.00625	522900.	3149800.	02030212
	2003	5.12308	523300.	3149800.	03021515
	2004	13.69825	522900.	3149500.	04090524
	2005	5.76918	523000.	3149800.	05050106
HSH 3-Hour					
	2001	4.51533	522500.	3149300.	01031115
	2002	4.31789	522700.	3149400.	02031615
	2003	4.85456	522800.	3149600.	03040715
	2004	12.02616	522861.	3149490.	04090524
	2005	4.73570	523000.	3149800.	05040712
SOURCE GROUP ID:	SH				
Annual					
	2001	0.34808	522500.	3149100.	01123124
	2002	0.34721	522600.	3149200.	02123124
	2003	0.39302	522600.	3149200.	03123124
	2004	0.36627	522600.	3149200.	04123124
	2005	0.32969	522600.	3149200.	05123124
HIGH 24-Hour					
	2001	1.89518	522300.	3149100.	01042924
	2002	2.31900	522700.	3150000.	02123124
	2003	2.05400	522500.	3149100.	03041924
	2004	4.49058	522900.	3149600.	04090624
	2005	1.86658	522400.	3149000.	05082424
HSH 24-Hour					
	2001	1.65872	522400.	3149100.	01042124
	2002	1.79115	522800.	3149900.	02030224
	2003	1.94348	522700.	3149400.	03070624
	2004	3.09412	522893.	3149498.	04090524
	2005	1.64956	522500.	3149400.	05040624
HIGH 3-Hour					
	2001	4.72730	523200.	3149800.	01022515
	2002	4.89872	522900.	3149800.	02030212
	2003	5.15704	523300.	3149800.	03021515
	2004	13.77394	522900.	3149500.	04090524
	2005	5.49844	523000.	3149900.	05050106
HSH 3-Hour					
	2001	4.49870	522500.	3149300.	01031115
	2002	4.26322	523300.	3150000.	02012415
	2003	4.82215	522800.	3149600.	03040715
	2004	12.17713	522861.	3149490.	04090524
	2005	4.66320	523000.	3149900.	05040712

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
   TITLEONE 2001 FPL CCEC- SO2 GAS (SH 35F/100%; MPS 95F/100%) 12/04/08
   TITLETWO SO2 EMISSION RATES PER CTS
   MODELOPT DFAULT CONC NOWARN
   AVERTIME PERIOD 24 3
   POLLUTID GEN
   RUNORNOT RUN
CO FINISHED
**
****************************************
** ISCST3 Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **

   LOCATION MGA1095 POINT 523095.350 3149311.860 2.180
   LOCATION MGB1095 POINT 523107.900 3149267.810 2.600
   LOCATION MGC1095 POINT 523135.910 3149169.320 2.990

   LOCATION SHA1035 POINT 523095.350 3149311.860 2.180
   LOCATION SHB1035 POINT 523107.900 3149267.810 2.600
   LOCATION SHC1035 POINT 523135.910 3149169.320 2.990

   LOCATION FGH1 POINT 523060.500 3149312.940 2.930

   LOCATION CSE1 POINT 522930.291 3149329.291 5.370
   LOCATION CSE2 POINT 522935.674 3149330.744 5.460
   LOCATION CSE3 POINT 522940.663 3149331.809 5.500
   LOCATION CSE4 POINT 522945.635 3149332.919 5.500

** Source Parameters **
** Baseload, 95 F with duct firing
   SRCPARAM MGA1095 2.09     45.4   357.6   17.3   6.71
   SRCPARAM MGB1095 2.09     45.4   357.6   17.3   6.71
   SRCPARAM MGC1095 2.09     45.4   357.6   17.3   6.71

** Baseload, 35 F with duct firing
   SRCPARAM SHA1035 2.23     45.4   358.6   18.54  6.71
   SRCPARAM SHB1035 2.23     45.4   358.6   18.54  6.71
   SRCPARAM SHC1035 2.23     45.4   358.6   18.54  6.71

   SRCPARAM FGH1  0.0068 9.144 533.150 32.02 0.305

** 7 COMP ENG 3516/ ASSUME 3 WITH 2X EMISSIONS
   SRCPARAM CSE1 0.0144 12.2 729.800 49.50000 0.305
   SRCPARAM CSE2 0.0144 12.2 729.800 49.50000 0.305
   SRCPARAM CSE3 0.0144 12.2 729.800 49.50000 0.305
   SRCPARAM CSE4 0.0072 12.2 729.800 49.50000 0.305

** Building Downwash **
SO BUILDHGT MGA1095         23.47    23.47    23.47    29.57    29.57    23.47
SO BUILDHGT MGA1095         29.57    29.57    23.47    23.47    23.47    23.47
SO BUILDHGT MGA1095         23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDHGT MGA1095         23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDHGT MGA1095         23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDHGT MGA1095         23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDWID MGA1095         29.33    28.46    26.73    18.93    19.31    16.99
SO BUILDWID MGA1095         18.29    18.50    17.82    21.61    24.75    27.14
SO BUILDWID MGA1095         28.71    29.40    29.20    28.11    28.40    29.31
SO BUILDWID MGA1095         29.33    28.46    26.73    24.18    20.90    16.99
SO BUILDWID MGA1095         12.55    13.48    17.82    21.61    24.75    27.14
SO BUILDWID MGA1095         28.71    29.40    29.20    28.11    28.40    29.31
SO BUILDLEN MGA1095         21.61    24.75    27.14    16.11    14.02    29.20
SO BUILDLEN MGA1095          8.62     9.22    29.31    29.33    28.46    26.73
SO BUILDLEN MGA1095         24.18    20.90    16.99    12.56    13.48    17.82
SO BUILDLEN MGA1095         21.61    24.75    27.14    28.71    29.40    29.20
SO BUILDLEN MGA1095         28.11    28.40    29.31    29.33    28.46    26.73
SO BUILDLEN MGA1095         24.18    20.90    16.99    12.56    13.48    17.82
SO XBADJ    MGA1095        -60.77   -61.11   -59.59  -102.66  -101.75   -33.48
SO XBADJ    MGA1095        -87.48   -87.57   -33.48   -32.31   -30.16   -27.09
SO XBADJ    MGA1095        -23.20   -18.60   -13.44    38.37    41.16    40.78
SO XBADJ    MGA1095         39.16    36.35    32.44     1.70     3.04     4.28
SO XBADJ    MGA1095          5.40     5.24     4.17     2.98     1.70     0.36
SO XBADJ    MGA1095         -0.98    -2.30    -3.55   -50.92   -54.63   -58.59
SO YBADJ    MGA1095         -2.75   -11.38   -19.67     9.03    -7.54     4.95
SO YBADJ    MGA1095          6.09    -8.45    -5.16    -8.35   -11.29   -13.88
SO YBADJ    MGA1095        -16.05   -17.74   -18.88   -22.60   -14.51    -5.97
SO YBADJ    MGA1095          2.75    11.38    19.67   -11.11    -8.15    -4.95
SO YBADJ    MGA1095         -1.59     1.81     5.16     8.35    11.29    13.88
```

SO YBADJ	MGA1095	16.05	17.74	18.88	22.60	14.51	5.97
SO BUILDHGT	MGB1095	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	MGB1095	29.57	29.57	23.47	29.57	23.47	23.47
SO BUILDHGT	MGB1095	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	MGB1095	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	MGB1095	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	MGB1095	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDWID	MGB1095	29.33	28.46	26.73	24.18	20.90	16.99
SO BUILDWID	MGB1095	18.31	18.52	17.82	19.26	24.75	27.14
SO BUILDWID	MGB1095	28.71	29.40	29.20	28.11	28.40	29.31
SO BUILDWID	MGB1095	29.33	28.46	26.73	24.18	20.90	16.99
SO BUILDWID	MGB1095	12.56	13.48	17.82	21.61	24.75	27.14
SO BUILDWID	MGB1095	28.71	29.40	29.20	28.11	28.40	29.31
SO BUILDLEN	MGB1095	21.61	24.75	27.14	28.71	29.40	29.20
SO BUILDLEN	MGB1095	8.62	9.22	29.31	14.46	28.46	26.73
SO BUILDLEN	MGB1095	24.18	20.90	16.99	12.56	13.48	17.82
SO BUILDLEN	MGB1095	21.61	24.75	27.14	28.71	29.40	29.20
SO BUILDLEN	MGB1095	28.11	28.40	29.31	29.33	28.46	26.73
SO BUILDLEN	MGB1095	24.18	20.90	16.99	12.56	13.48	17.82
SO XBADJ	MGB1095	-19.57	-24.01	-27.71	-30.57	-32.51	-33.45
SO XBADJ	MGB1095	-87.49	-87.60	-33.17	-102.31	-29.71	-26.59
SO XBADJ	MGB1095	-22.66	-18.04	-12.87	-7.32	-4.40	-3.27
SO XBADJ	MGB1095	-2.04	-0.75	0.57	1.87	3.11	4.26
SO XBADJ	MGB1095	5.28	5.02	3.86	2.59	1.24	-0.14
SO XBADJ	MGB1095	-1.53	-2.86	-4.11	-5.24	-110.87	-113.12
SO YBADJ	MGB1095	17.26	15.48	13.22	10.56	7.59	4.38
SO YBADJ	MGB1095	6.20	-8.34	-5.64	4.89	-11.63	-14.14
SO YBADJ	MGB1095	-16.22	-17.81	-18.86	-19.33	-19.22	-18.52
SO YBADJ	MGB1095	-17.26	-15.48	-13.22	-10.56	-7.59	-4.38
SO YBADJ	MGB1095	-1.04	2.33	5.64	8.77	11.63	14.14
SO YBADJ	MGB1095	16.22	17.81	18.86	19.33	9.60	-8.63
SO BUILDHGT	MGC1095	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	MGC1095	29.57	29.57	23.47	23.47	23.47	23.47
SO BUILDHGT	MGC1095	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	MGC1095	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	MGC1095	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	MGC1095	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDWID	MGC1095	29.33	28.46	26.73	24.18	20.90	16.99
SO BUILDWID	MGC1095	18.27	18.47	17.82	21.61	24.75	27.14
SO BUILDWID	MGC1095	28.71	29.40	29.20	28.11	28.40	29.31
SO BUILDWID	MGC1095	29.33	28.46	26.73	24.18	20.90	16.99
SO BUILDWID	MGC1095	12.56	13.48	17.82	21.61	24.75	27.14
SO BUILDWID	MGC1095	28.71	29.40	29.20	28.11	28.40	29.31
SO BUILDLEN	MGC1095	21.61	24.75	27.14	28.71	29.40	29.20
SO BUILDLEN	MGC1095	8.62	9.21	29.31	29.33	28.46	26.73
SO BUILDLEN	MGC1095	24.18	20.90	16.99	12.56	13.48	17.82
SO BUILDLEN	MGC1095	21.61	24.75	27.14	28.71	29.40	29.20
SO BUILDLEN	MGC1095	28.11	28.40	29.31	29.33	28.46	26.73
SO BUILDLEN	MGC1095	24.18	20.90	16.99	12.56	13.48	17.82
SO XBADJ	MGC1095	-19.81	-24.39	-28.22	-31.20	-33.23	-34.25
SO XBADJ	MGC1095	-87.59	-87.70	-34.04	-32.76	-30.49	-27.29
SO XBADJ	MGC1095	-23.26	-18.53	-13.23	-7.53	-4.47	-3.18
SO XBADJ	MGC1095	-1.80	-0.37	1.08	2.49	3.83	5.05
SO XBADJ	MGC1095	6.12	5.89	4.73	3.43	2.03	0.56
SO XBADJ	MGC1095	-0.92	-2.38	-3.76	-5.03	-9.01	-14.63
SO YBADJ	MGC1095	18.10	16.26	13.92	11.17	8.07	4.73
SO YBADJ	MGC1095	6.17	-8.39	-5.72	-9.00	-12.01	-14.65
SO YBADJ	MGC1095	-16.85	-18.53	-19.65	-20.17	-20.08	-19.38
SO YBADJ	MGC1095	-18.10	-16.26	-13.92	-11.17	-8.07	-4.73
SO YBADJ	MGC1095	-1.25	2.27	5.73	9.00	12.01	14.65
SO YBADJ	MGC1095	16.85	18.53	19.65	20.17	20.08	19.38
SO BUILDHGT	SHA1035	23.47	23.47	23.47	29.57	29.57	23.47
SO BUILDHGT	SHA1035	29.57	29.57	23.47	23.47	23.47	23.47
SO BUILDHGT	SHA1035	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	SHA1035	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	SHA1035	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	SHA1035	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDWID	SHA1035	29.33	28.46	26.73	18.93	19.31	16.99
SO BUILDWID	SHA1035	18.29	18.50	17.82	21.61	24.75	27.14
SO BUILDWID	SHA1035	28.71	29.40	29.20	28.11	28.40	29.31
SO BUILDWID	SHA1035	29.33	28.46	26.73	24.18	20.90	16.99
SO BUILDWID	SHA1035	12.55	13.48	17.82	21.61	24.75	27.14
SO BUILDWID	SHA1035	28.71	29.40	29.20	28.11	28.40	29.31
SO BUILDLEN	SHA1035	21.61	24.75	27.14	16.11	14.02	29.20
SO BUILDLEN	SHA1035	8.62	9.22	29.31	29.33	28.46	26.73
SO BUILDLEN	SHA1035	24.18	20.90	16.99	12.56	13.48	17.82
SO BUILDLEN	SHA1035	21.61	24.75	27.14	28.71	29.40	29.20
SO BUILDLEN	SHA1035	28.11	28.40	29.31	29.33	28.46	26.73
SO BUILDLEN	SHA1035	24.18	20.90	16.99	12.56	13.48	17.82

SO	XBADJ	SHA1035	-60.77	-61.11	-59.59	-102.66	-101.75	-33.48
SO	XBADJ	SHA1035	-87.48	-87.57	-33.48	-32.31	-30.16	-27.09
SO	XBADJ	SHA1035	-23.20	-18.60	-13.44	38.37	41.16	40.78
SO	XBADJ	SHA1035	39.16	36.35	32.44	1.70	3.04	4.28
SO	XBADJ	SHA1035	5.40	5.24	4.17	2.98	1.70	0.36
SO	XBADJ	SHA1035	-0.98	-2.30	-3.55	-50.92	-54.63	-58.59
SO	YBADJ	SHA1035	-2.75	-11.38	-19.67	9.03	-7.54	4.95
SO	YBADJ	SHA1035	6.09	-8.45	-5.16	-8.35	-11.29	-13.88
SO	YBADJ	SHA1035	-16.05	-17.74	-18.88	-22.60	-14.51	-5.97
SO	YBADJ	SHA1035	2.75	11.38	19.67	-11.11	-8.15	-4.95
SO	YBADJ	SHA1035	-1.59	1.81	5.16	8.35	11.29	13.88
SO	YBADJ	SHA1035	16.05	17.74	18.88	22.60	14.51	5.97
SO	BUILDHGT	SHB1035	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHB1035	29.57	29.57	23.47	29.57	23.47	23.47
SO	BUILDHGT	SHB1035	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHB1035	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHB1035	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHB1035	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDWID	SHB1035	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	SHB1035	18.31	18.52	17.82	19.26	24.75	27.14
SO	BUILDWID	SHB1035	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDWID	SHB1035	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	SHB1035	12.56	13.48	17.82	21.61	24.75	27.14
SO	BUILDWID	SHB1035	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDLEN	SHB1035	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	SHB1035	8.62	9.22	29.31	14.46	28.46	26.73
SO	BUILDLEN	SHB1035	24.18	20.90	16.99	12.56	13.48	17.82
SO	BUILDLEN	SHB1035	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	SHB1035	28.11	28.40	29.31	29.33	28.46	26.73
SO	BUILDLEN	SHB1035	24.18	20.90	16.99	12.56	13.48	17.82
SO	XBADJ	SHB1035	-19.57	-24.01	-27.71	-30.57	-32.51	-33.45
SO	XBADJ	SHB1035	-87.49	-87.60	-33.17	-102.31	-29.71	-26.59
SO	XBADJ	SHB1035	-22.66	-18.04	-12.87	-7.32	-4.40	-3.27
SO	XBADJ	SHB1035	-2.04	-0.75	0.57	1.87	3.11	4.26
SO	XBADJ	SHB1035	5.28	5.02	3.86	2.59	1.24	-0.14
SO	XBADJ	SHB1035	-1.53	-2.86	-4.11	-5.24	-110.87	-113.12
SO	YBADJ	SHB1035	17.26	15.48	13.22	10.56	7.59	4.38
SO	YBADJ	SHB1035	6.20	-8.34	-5.64	4.89	-11.63	-14.14
SO	YBADJ	SHB1035	-16.22	-17.81	-18.86	-19.33	-19.22	-18.52
SO	YBADJ	SHB1035	-17.26	-15.48	-13.22	-10.56	-7.59	-4.38
SO	YBADJ	SHB1035	-1.04	2.33	5.64	8.77	11.63	14.14
SO	YBADJ	SHB1035	16.22	17.81	18.86	19.33	9.60	-8.63
SO	BUILDHGT	SHC1035	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHC1035	29.57	29.57	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHC1035	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHC1035	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHC1035	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHC1035	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDWID	SHC1035	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	SHC1035	18.27	18.47	17.82	21.61	24.75	27.14
SO	BUILDWID	SHC1035	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDWID	SHC1035	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	SHC1035	12.56	13.48	17.82	21.61	24.75	27.14
SO	BUILDWID	SHC1035	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDLEN	SHC1035	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	SHC1035	8.62	9.21	29.31	29.33	28.46	26.73
SO	BUILDLEN	SHC1035	24.18	20.90	16.99	12.56	13.48	17.82
SO	BUILDLEN	SHC1035	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	SHC1035	28.11	28.40	29.31	29.33	28.46	26.73
SO	BUILDLEN	SHC1035	24.18	20.90	16.99	12.56	13.48	17.82
SO	XBADJ	SHC1035	-19.81	-24.39	-28.22	-31.20	-33.23	-34.25
SO	XBADJ	SHC1035	-87.59	-87.70	-34.04	-32.76	-30.49	-27.29
SO	XBADJ	SHC1035	-23.26	-18.53	-13.23	-7.53	-4.47	-3.18
SO	XBADJ	SHC1035	-1.80	-0.37	1.08	2.49	3.83	5.05
SO	XBADJ	SHC1035	6.12	5.89	4.73	3.43	2.03	0.56
SO	XBADJ	SHC1035	-0.92	-2.38	-3.76	-5.03	-9.01	-14.63
SO	YBADJ	SHC1035	18.10	16.26	13.92	11.17	8.07	4.73
SO	YBADJ	SHC1035	6.17	-8.39	-5.72	-9.00	-12.01	-14.65
SO	YBADJ	SHC1035	-16.85	-18.53	-19.65	-20.17	-20.08	-19.38
SO	YBADJ	SHC1035	-18.10	-16.26	-13.92	-11.17	-8.07	-4.73
SO	YBADJ	SHC1035	-1.25	2.27	5.73	9.00	12.01	14.65
SO	YBADJ	SHC1035	16.85	18.53	19.65	20.17	20.08	19.38
SO	BUILDHGT	FGH1	23.47	23.47	23.47	29.57	29.57	29.57
SO	BUILDHGT	FGH1	29.57	29.57	23.47	23.47	23.47	23.47
SO	BUILDHGT	FGH1	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	FGH1	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	FGH1	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	FGH1	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDWID	FGH1	29.33	28.46	26.73	18.93	19.29	19.08

SO	BUILDWID	FGH1	18.29	18.50	17.82	21.61	24.75	27.14
SO	BUILDWID	FGH1	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDWID	FGH1	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	FGH1	12.55	13.48	17.82	21.61	24.75	27.14
SO	BUILDWID	FGH1	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDLEN	FGH1	21.61	24.75	27.14	16.11	14.01	11.49
SO	BUILDLEN	FGH1	8.62	9.22	29.31	29.33	28.46	26.73
SO	BUILDLEN	FGH1	24.18	20.90	16.99	12.55	13.48	17.82
SO	BUILDLEN	FGH1	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	FGH1	28.11	28.40	29.31	29.33	28.46	26.73
SO	BUILDLEN	FGH1	24.18	20.90	16.99	12.56	13.48	17.82
SO	XBADJ	FGH1	-14.17	-12.76	-10.96	-81.09	-57.07	-56.95
SO	XBADJ	FGH1	-55.10	-53.44	1.37	2.20	2.96	3.63
SO	XBADJ	FGH1	42.66	4.63	4.92	5.06	2.19	-2.67
SO	XBADJ	FGH1	-7.45	-12.00	-16.18	-19.88	-22.96	-25.36
SO	XBADJ	FGH1	-26.98	-28.89	-30.68	-31.53	-31.42	-30.36
SO	XBADJ	FGH1	-66.85	-67.90	-66.90	-63.86	-61.75	-15.14
SO	YBADJ	FGH1	-16.86	-17.19	-16.99	-18.36	10.94	2.08
SO	YBADJ	FGH1	-6.85	-15.56	-6.24	-3.36	-0.38	2.61
SO	YBADJ	FGH1	-20.32	8.26	10.76	12.92	14.70	16.02
SO	YBADJ	FGH1	16.86	17.19	16.99	16.28	15.08	13.41
SO	YBADJ	FGH1	11.34	8.92	6.24	3.36	0.38	-2.61
SO	YBADJ	FGH1	20.32	10.51	0.37	-9.78	-19.63	-16.02

SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	29.57	29.57
SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDWID	CSE1	24.60	24.06	22.80	20.83	18.24	15.09
SO	BUILDWID	CSE1	11.48	10.72	14.40	17.65	20.36	22.46
SO	BUILDWID	CSE1	23.87	24.56	24.50	23.69	23.44	24.39
SO	BUILDWID	CSE1	24.60	24.06	22.80	20.83	18.24	15.09
SO	BUILDWID	CSE1	11.48	10.72	14.40	17.65	18.77	17.70
SO	BUILDWID	CSE1	23.87	24.56	24.50	23.69	23.44	24.39
SO	BUILDLEN	CSE1	17.65	20.36	22.46	23.87	24.56	24.50
SO	BUILDLEN	CSE1	23.69	23.44	24.39	24.60	24.06	22.80
SO	BUILDLEN	CSE1	20.83	18.24	15.09	11.48	10.72	14.40
SO	BUILDLEN	CSE1	17.65	20.36	22.46	23.87	24.56	24.50
SO	BUILDLEN	CSE1	23.69	23.44	24.39	24.60	16.46	17.96
SO	BUILDLEN	CSE1	20.83	18.24	15.09	11.48	10.72	14.40
SO	XBADJ	CSE1	-5.61	-5.76	-5.73	-5.53	-5.16	-4.63
SO	XBADJ	CSE1	-3.96	-3.81	-4.50	-5.06	-5.46	-5.69
SO	XBADJ	CSE1	-5.75	-5.64	-5.35	-4.91	-5.90	-9.11
SO	XBADJ	CSE1	-12.04	-14.61	-16.73	-18.34	-19.40	-19.87
SO	XBADJ	CSE1	-19.73	-19.63	-19.89	-19.55	-101.67	-102.52
SO	XBADJ	CSE1	-15.08	-12.60	-9.74	-6.58	-4.81	-5.29
SO	YBADJ	CSE1	-7.24	-6.58	-5.71	-4.67	-3.48	-2.19
SO	YBADJ	CSE1	-0.84	0.55	1.91	3.22	4.43	5.50
SO	YBADJ	CSE1	6.41	7.12	7.62	7.88	7.91	7.69
SO	YBADJ	CSE1	7.24	6.58	5.71	4.67	3.48	2.19
SO	YBADJ	CSE1	0.84	-0.55	-1.91	-3.22	8.72	-7.64
SO	YBADJ	CSE1	-6.41	-7.12	-7.62	-7.88	-7.91	-7.69

SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	29.57	29.57
SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDWID	CSE2	24.60	24.06	22.80	20.83	18.24	15.09
SO	BUILDWID	CSE2	11.48	10.72	14.40	17.65	20.36	22.46
SO	BUILDWID	CSE2	23.87	24.56	24.50	23.69	23.44	24.39
SO	BUILDWID	CSE2	24.60	24.06	22.80	20.83	18.24	15.09
SO	BUILDWID	CSE2	11.48	10.72	14.40	17.65	18.62	17.70
SO	BUILDWID	CSE2	23.87	24.56	24.50	23.69	23.44	24.39
SO	BUILDLEN	CSE2	17.65	20.36	22.46	23.87	24.56	24.50
SO	BUILDLEN	CSE2	23.69	23.44	24.39	24.60	24.06	22.80
SO	BUILDLEN	CSE2	20.83	18.24	15.09	11.48	10.72	14.40
SO	BUILDLEN	CSE2	17.65	20.36	22.46	23.87	24.56	24.50
SO	BUILDLEN	CSE2	23.69	23.44	24.39	24.60	16.46	17.96
SO	BUILDLEN	CSE2	20.83	18.24	15.09	11.48	10.72	14.40
SO	XBADJ	CSE2	-7.97	-8.96	-9.68	-10.10	-10.21	-10.02
SO	XBADJ	CSE2	-9.52	-9.37	-9.89	-10.11	-10.02	-9.63
SO	XBADJ	CSE2	-8.94	-7.98	-6.79	-5.38	-5.41	-7.66
SO	XBADJ	CSE2	-9.68	-11.40	-12.78	-13.77	-14.34	-14.48
SO	XBADJ	CSE2	-14.17	-14.08	-14.51	-14.50	-97.11	-98.58
SO	XBADJ	CSE2	-11.89	-10.25	-8.30	-6.10	-5.31	-6.74
SO	YBADJ	CSE2	-2.20	-2.01	-1.77	-1.48	-1.14	-0.76
SO	YBADJ	CSE2	-0.36	0.05	0.46	0.85	1.22	1.55

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SO YBADJ    CSE2        1.84    2.06    2.23    2.33    2.35    2.31
SO YBADJ    CSE2        2.20    2.01    1.77    1.48    1.14    0.76
SO YBADJ    CSE2        0.36   -0.05   -0.46   -0.85   11.93   -3.69
SO YBADJ    CSE2       -1.84   -2.06   -2.23   -2.33   -2.35   -2.31


SO BUILDHGT CSE3        6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE3        6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE3        6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE3        6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE3        6.10    6.10    6.10    6.10   29.57   29.57
SO BUILDHGT CSE3       29.57    6.10    6.10    6.10    6.10    6.10
SO BUILDWID CSE3       24.60   24.06   22.80   20.83   18.24   15.09
SO BUILDWID CSE3       11.48   10.72   14.40   17.65   20.36   22.46
SO BUILDWID CSE3       23.87   24.56   24.50   23.69   23.44   24.39
SO BUILDWID CSE3       24.60   24.06   22.80   20.83   18.24   15.09
SO BUILDWID CSE3       11.48   10.72   14.40   17.65   18.43   17.70
SO BUILDWID CSE3       16.10   24.56   24.50   23.69   23.44   24.39
SO BUILDLEN CSE3       17.65   20.36   22.46   23.87   24.56   24.50
SO BUILDLEN CSE3       23.69   23.44   24.39   24.60   24.06   22.80
SO BUILDLEN CSE3       20.83   18.24   15.09   11.48   10.72   14.40
SO BUILDLEN CSE3       17.65   20.36   22.46   23.87   24.56   24.50
SO BUILDLEN CSE3       23.69   23.44   24.39   24.60   16.46   17.96
SO BUILDLEN CSE3       18.91   18.24   15.09   11.48   10.72   14.40
SO XBADJ    CSE3       -9.89  -11.67  -13.09  -14.12  -14.72  -14.87
SO XBADJ    CSE3      -14.57  -14.46  -14.88  -14.83  -14.34  -13.41
SO XBADJ    CSE3      -12.08  -10.38   -8.36   -6.09   -5.23   -6.59
SO XBADJ    CSE3       -7.76   -8.70   -9.36   -9.75   -9.84   -9.62
SO XBADJ    CSE3       -9.12   -8.98   -9.52   -9.77  -92.79  -94.79
SO XBADJ    CSE3      -93.92   -7.86   -6.73   -5.40   -5.49   -7.81
SO YBADJ    CSE3        2.53    2.31    2.02    1.66    1.26    0.81
SO YBADJ    CSE3        0.34   -0.13   -0.61   -1.06   -1.49   -1.87
SO YBADJ    CSE3       -2.19   -2.44   -2.62   -2.72   -2.74   -2.68
SO YBADJ    CSE3       -2.53   -2.31   -2.02   -1.66   -1.26   -0.81
SO YBADJ    CSE3       -0.34    0.13    0.61    1.06   14.64   -0.27
SO YBADJ    CSE3      -15.17    2.44    2.62    2.72    2.74    2.68


SO BUILDHGT CSE4        6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE4        6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE4        6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE4        6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE4        6.10    6.10    6.10    6.10   29.57   29.57
SO BUILDHGT CSE4       29.57    6.10    6.10    6.10    6.10    6.10
SO BUILDWID CSE4       24.60   24.06   22.80   20.83   18.24   15.09
SO BUILDWID CSE4       11.48   10.72   14.40   17.65   20.36   22.46
SO BUILDWID CSE4       23.87   24.56   24.50   23.69   23.44   24.39
SO BUILDWID CSE4       24.60   24.06   22.80   20.83   18.24   15.09
SO BUILDWID CSE4       11.48   10.72   14.40   17.65   18.19   17.70
SO BUILDWID CSE4       16.10   24.56   24.50   23.69   23.44   24.39
SO BUILDLEN CSE4       17.65   20.36   22.46   23.87   24.56   24.50
SO BUILDLEN CSE4       23.69   23.44   24.39   24.60   24.06   22.80
SO BUILDLEN CSE4       20.83   18.24   15.09   11.48   10.72   14.40
SO BUILDLEN CSE4       17.65   20.36   22.46   23.87   24.56   24.50
SO BUILDLEN CSE4       23.69   23.44   24.39   24.60   16.46   17.96
SO BUILDLEN CSE4       18.91   18.24   15.09   11.48   10.72   14.40
SO XBADJ    CSE4      -11.85  -14.41  -16.54  -18.17  -19.24  -19.73
SO XBADJ    CSE4      -19.62  -19.55  -19.85  -19.54  -18.63  -17.16
SO XBADJ    CSE4      -15.17  -12.72   -9.88   -6.74   -5.00   -5.48
SO XBADJ    CSE4       -5.81   -5.95   -5.92   -5.70   -5.31   -4.76
SO XBADJ    CSE4       -4.07   -3.89   -4.55   -5.07  -88.49  -91.04
SO XBADJ    CSE4      -90.82   -5.52   -5.21   -4.74   -5.72   -8.92
SO YBADJ    CSE4        7.24    6.60    5.77    4.76    3.60    2.34
SO YBADJ    CSE4        1.00   -0.36   -1.72   -3.02   -4.23   -5.31
SO YBADJ    CSE4       -6.23   -6.96   -7.48   -7.78   -7.83   -7.65
SO YBADJ    CSE4       -7.24   -6.60   -5.77   -4.76   -3.60   -2.34
SO YBADJ    CSE4       -1.00    0.36    1.72    3.02   17.38    3.18
SO YBADJ    CSE4      -11.12    6.96    7.48    7.78    7.83    7.65

   SRCGROUP MG MGA1095 MGB1095 MGC1095 FGH1 CSE1-CSE4
   SRCGROUP SH SHA1035 SHB1035 SHC1035 FGH1 CSE1-CSE4

SO FINISHED
**
****************************************
** ISCST3 Receptor Pathway
****************************************
**
**
RE STARTING
   INCLUDED PCC0924.ROU
RE FINISHED
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**
*****************************************
** AERMOD Meteorology Pathway
*****************************************
**
**
ME STARTING
**    SURFFILE C:\amodmet\DABJAX01.SFC
**    PROFFILE C:\amodmet\DABJAX01.PFL
   SURFFILE DABJAX01.SFC
   PROFFILE DABJAX01.PFL
   SURFDATA 12834 2001 DAYTONA_BEACH/REGIONAL_ARPT
   UAIRDATA 13889 2001 JACKSONVILLE/INT'L_ARPT
   PROFBASE 31 FEET
ME FINISHED
**
*****************************************
** AERMOD Output Pathway
*****************************************
**
**
OU STARTING
   RECTABLE ALLAVE FIRST SECOND
OU FINISHED
**
```

PREDICTED PM_{10} IMPACTS FOR CCEC

1. **SUMMARY FILES FOR:**
   - **CTS/HRSGS AND FUEL HEATER**
   - **CTS/HRSGS, FUEL HEATER,
AND GAS COMPRESSOR STATION**
2. **EXAMPLE INPUT FILE**

AERBOB RELEASE 020304

AERMOD OUTPUT FILE NUMBER 1 :PMOIL.001
AERMOD OUTPUT FILE NUMBER 2 :PMOIL.002
AERMOD OUTPUT FILE NUMBER 3 :PMOIL.003
AERMOD OUTPUT FILE NUMBER 4 :PMOIL.004
AERMOD OUTPUT FILE NUMBER 5 :PMOIL.005
First title for last output file is: 2001 FPL CANAVERAL REPOWER- PM OIL SH(95F&75%LD) MPS(59F&75%) 12/05/08
Second title for last output file is: PM EMISSION RATES PER CTS

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	MG				
Annual					
	2001	0.27366	522400.	3149000.	01123124
	2002	0.26977	522400.	3149100.	02123124
	2003	0.33130	522500.	3149100.	03123124
	2004	0.28473	522400.	3149100.	04123124
	2005	0.24912	522400.	3149000.	05123124
HIGH 24-Hour					
	2001	1.93741	522300.	3149100.	01042924
	2002	2.14198	522700.	3150100.	02123124
	2003	1.93965	522300.	3149000.	03041924
	2004	5.22118	522900.	3149700.	04090624
	2005	1.84368	522500.	3148700.	05090524
HSH 24-Hour					
	2001	1.61619	522300.	3148900.	01050524
	2002	1.83341	522800.	3149900.	02030224
	2003	1.85948	522400.	3149000.	03062324
	2004	3.56154	522800.	3149600.	04090624
	2005	1.56012	522900.	3148400.	05041724
SOURCE GROUP ID:	SH				
Annual					
	2001	0.31394	522400.	3149000.	01123124
	2002	0.30982	522500.	3149100.	02123124
	2003	0.37086	522500.	3149100.	03123124
	2004	0.32692	522400.	3149100.	04123124
	2005	0.28555	522400.	3149000.	05123124
HIGH 24-Hour					
	2001	2.12373	522400.	3149100.	01042924
	2002	2.44284	522700.	3150000.	02123124
	2003	2.11745	522500.	3149100.	03041924
	2004	5.93268	522900.	3149600.	04090624
	2005	2.05612	523000.	3148400.	05041624
HSH 24-Hour					
	2001	1.81540	523000.	3148500.	01082624
	2002	2.08154	522800.	3149900.	02030224
	2003	2.00435	522400.	3149000.	03062324
	2004	3.97097	522925.	3149506.	04090524
	2005	1.67525	522900.	3148400.	05041724

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

AERBOB RELEASE 020304

AERMOD OUTPUT FILE NUMBER 1 :PMOILC7.001
AERMOD OUTPUT FILE NUMBER 2 :PMOILC7.002
AERMOD OUTPUT FILE NUMBER 3 :PMOILC7.003
AERMOD OUTPUT FILE NUMBER 4 :PMOILC7.004
AERMOD OUTPUT FILE NUMBER 5 :PMOILC7.005
First title for last output file is: 2001 FPL CCEC- PM OIL SH(95F&75%LD) MPS(59F&75%) W/7 COMP ENG 40FT 12/05/08
Second title for last output file is: PM EMISSION RATES PER CTS

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID: MG					
Annual					
	2001	0.38354	522700.	3149200.	01123124
	2002	0.36392	522700.	3149200.	02123124
	2003	0.43804	522700.	3149200.	03123124
	2004	0.39075	522700.	3149200.	04123124
	2005	0.36639	522700.	3149200.	05123124
HIGH 24-Hour					
	2001	3.20038	522924.	3149254.	01110524
	2002	2.69838	522900.	3149200.	02052024
	2003	2.34042	522700.	3149400.	03051824
	2004	5.48154	522900.	3149700.	04090624
	2005	3.02944	522900.	3149200.	05041624
HSH 24-Hour					
	2001	2.21887	522900.	3149200.	01021824
	2002	2.66145	522900.	3149200.	02052224
	2003	2.14054	522900.	3149200.	03110924
	2004	4.10198	522800.	3149600.	04090624
	2005	2.24114	522936.	3149207.	05090824
SOURCE GROUP ID: SH					
Annual					
	2001	0.42103	522700.	3149200.	01123124
	2002	0.40480	522600.	3149200.	02123124
	2003	0.47556	522700.	3149200.	03123124
	2004	0.43434	522600.	3149200.	04123124
	2005	0.40294	522700.	3149200.	05123124
HIGH 24-Hour					
	2001	3.20039	522924.	3149254.	01110524
	2002	2.69841	522900.	3149200.	02052024
	2003	2.50357	522700.	3149400.	03051824
	2004	6.41967	522900.	3149600.	04090624
	2005	3.02948	522900.	3149200.	05041624
HSH 24-Hour					
	2001	2.21888	522900.	3149200.	01021824
	2002	2.66148	522900.	3149200.	02052224
	2003	2.27504	522700.	3149400.	03070624
	2004	4.65471	522893.	3149498.	04090524
	2005	2.24114	522936.	3149207.	05090824

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
   TITLEONE 2001 FPL CCEC- PM OIL SH(95F&75%LD) MPS(59F&75%) W/7 COMP ENG 40FT 12/05/08
   TITLETWO PM EMISSION RATES PER CTS
   MODELOPT DFAULT CONC NOWARN
   AVERTIME PERIOD 24
   POLLUTID GEN
   RUNORNOT RUN
CO FINISHED
**
******************************************
** ISCST3 Source Pathway
******************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **

   LOCATION MGA7559 POINT 523095.350 3149311.860 2.180
   LOCATION MGB7559 POINT 523107.900 3149267.810 2.600
   LOCATION MGC7559 POINT 523135.910 3149169.320 2.990

   LOCATION SHA7595 POINT 523095.350 3149311.860 2.180
   LOCATION SHB7595 POINT 523107.900 3149267.810 2.600
   LOCATION SHC7595 POINT 523135.910 3149169.320 2.990

   LOCATION FGH1 POINT 523060.500 3149312.940 2.930

   LOCATION CSE1 POINT 522930.291 3149329.291 5.370
   LOCATION CSE2 POINT 522935.674 3149330.744 5.460
   LOCATION CSE3 POINT 522940.663 3149331.809 5.500
   LOCATION CSE4 POINT 522945.635 3149332.919 5.500

** Source Parameters **
** 75% Load, 59 F
   SRCPARAM MGA7559 4.55     45.4    448.7    22.2    6.71
   SRCPARAM MGB7559 4.55     45.4    448.7    22.2    6.71
   SRCPARAM MGC7559 4.55     45.4    448.7    22.2    6.71

** 75% Load, 95 F
   SRCPARAM SHA7595 3.78     45.4    447.0    16.63   6.71
   SRCPARAM SHB7595 3.78     45.4    447.0    16.63   6.71
   SRCPARAM SHC7595 3.78     45.4    447.0    16.63   6.71

   SRCPARAM FGH1  0.0025 9.144 533.150 32.02 0.305

** 7 COMP ENG 3516/ ASSUME 3 WITH 2X EMISSIONS
   SRCPARAM CSE1 0.0255 12.2 729.800 49.50000 0.305
   SRCPARAM CSE2 0.0255 12.2 729.800 49.50000 0.305
   SRCPARAM CSE3 0.0255 12.2 729.800 49.50000 0.305
   SRCPARAM CSE4 0.0127 12.2 729.800 49.50000 0.305

** Building Downwash **
SO BUILDHGT MGA7559       23.47   23.47   23.47   29.57   29.57   23.47
SO BUILDHGT MGA7559       29.57   29.57   23.47   23.47   23.47   23.47
SO BUILDHGT MGA7559       23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT MGA7559       23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT MGA7559       23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDHGT MGA7559       23.47   23.47   23.47   23.47   23.47   23.47
SO BUILDWID MGA7559       29.33   28.46   26.73   18.93   19.31   16.99
SO BUILDWID MGA7559       18.29   18.50   17.82   21.61   24.75   27.14
SO BUILDWID MGA7559       28.71   29.40   29.20   28.11   28.40   29.31
SO BUILDWID MGA7559       29.33   28.46   26.73   24.18   20.90   16.99
SO BUILDWID MGA7559       12.55   13.48   17.82   21.61   24.75   27.14
SO BUILDWID MGA7559       28.71   29.40   29.20   28.11   28.40   29.31
SO BUILDLEN MGA7559       21.61   24.75   27.14   16.11   14.02   29.20
SO BUILDLEN MGA7559        8.62    9.22   29.31   29.33   28.46   26.73
SO BUILDLEN MGA7559       24.18   20.90   16.99   12.56   13.48   17.82
SO BUILDLEN MGA7559       21.61   24.75   27.14   28.71   29.40   29.20
SO BUILDLEN MGA7559       28.11   28.40   29.31   29.33   28.46   26.73
SO BUILDLEN MGA7559       24.18   20.90   16.99   12.56   13.48   17.82
SO XBADJ    MGA7559      -60.77  -61.11  -59.59 -102.66 -101.75  -33.48
SO XBADJ    MGA7559      -87.48  -87.57  -33.48  -32.31  -30.16  -27.09
SO XBADJ    MGA7559      -23.20  -18.60  -13.44   38.37   41.16   40.78
SO XBADJ    MGA7559       39.16   36.35   32.44    1.70    3.04    4.28
SO XBADJ    MGA7559        5.40    5.24    4.17    2.98    1.70    0.36
SO XBADJ    MGA7559       -0.98   -2.30   -3.55  -50.92  -54.63  -58.59
SO YBADJ    MGA7559       -2.75  -11.38  -19.67    9.03   -7.54    4.95
SO YBADJ    MGA7559        6.09   -8.45   -5.16   -8.35  -11.29  -13.88
SO YBADJ    MGA7559      -16.05  -17.74  -18.88  -22.60  -14.51   -5.97
SO YBADJ    MGA7559        2.75   11.38   19.67  -11.11   -8.15   -4.95
SO YBADJ    MGA7559       -1.59    1.81    5.16    8.35   11.29   13.88
```

SO	YBADJ	MGA7559	16.05	17.74	18.88	22.60	14.51	5.97
SO	BUILDHGT	MGB7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	MGB7559	29.57	29.57	23.47	29.57	23.47	23.47
SO	BUILDHGT	MGB7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	MGB7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	MGB7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	MGB7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDWID	MGB7559	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	MGB7559	18.31	18.52	17.82	19.26	24.75	27.14
SO	BUILDWID	MGB7559	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDWID	MGB7559	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	MGB7559	12.56	13.48	17.82	21.61	24.75	27.14
SO	BUILDWID	MGB7559	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDLEN	MGB7559	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	MGB7559	8.62	9.22	29.31	14.46	28.46	26.73
SO	BUILDLEN	MGB7559	24.18	20.90	16.99	12.56	13.48	17.82
SO	BUILDLEN	MGB7559	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	MGB7559	28.11	28.40	29.31	29.33	28.46	26.73
SO	BUILDLEN	MGB7559	24.18	20.90	16.99	12.56	13.48	17.82
SO	XBADJ	MGB7559	-19.57	-24.01	-27.71	-30.57	-32.51	-33.45
SO	XBADJ	MGB7559	-87.49	-87.60	-33.17	-102.31	-29.71	-26.59
SO	XBADJ	MGB7559	-22.66	-18.04	-12.87	-7.32	-4.40	-3.27
SO	XBADJ	MGB7559	-2.04	-0.75	0.57	1.87	3.11	4.26
SO	XBADJ	MGB7559	5.28	5.02	3.86	2.59	1.24	-0.14
SO	XBADJ	MGB7559	-1.53	-2.86	-4.11	-5.24	-110.87	-113.12
SO	YBADJ	MGB7559	17.26	15.48	13.22	10.56	7.59	4.38
SO	YBADJ	MGB7559	6.20	-8.34	-5.64	4.89	-11.63	-14.14
SO	YBADJ	MGB7559	-16.22	-17.81	-18.86	-19.33	-19.22	-18.52
SO	YBADJ	MGB7559	-17.26	-15.48	-13.22	-10.56	-7.59	-4.38
SO	YBADJ	MGB7559	-1.04	2.33	5.64	8.77	11.63	14.14
SO	YBADJ	MGB7559	16.22	17.81	18.86	19.33	9.60	-8.63
SO	BUILDHGT	MGC7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	MGC7559	29.57	29.57	23.47	23.47	23.47	23.47
SO	BUILDHGT	MGC7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	MGC7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	MGC7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	MGC7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDWID	MGC7559	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	MGC7559	18.27	18.47	17.82	21.61	24.75	27.14
SO	BUILDWID	MGC7559	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDWID	MGC7559	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	MGC7559	12.56	13.48	17.82	21.61	24.75	27.14
SO	BUILDWID	MGC7559	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDLEN	MGC7559	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	MGC7559	8.62	9.21	29.31	29.33	28.46	26.73
SO	BUILDLEN	MGC7559	24.18	20.90	16.99	12.56	13.48	17.82
SO	BUILDLEN	MGC7559	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	MGC7559	28.11	28.40	29.31	29.33	28.46	26.73
SO	BUILDLEN	MGC7559	24.18	20.90	16.99	12.56	13.48	17.82
SO	XBADJ	MGC7559	-19.81	-24.39	-28.22	-31.20	-33.23	-34.25
SO	XBADJ	MGC7559	-87.59	-87.70	-34.04	-32.76	-30.49	-27.29
SO	XBADJ	MGC7559	-23.26	-18.53	-13.23	-7.53	-4.47	-3.18
SO	XBADJ	MGC7559	-1.80	-0.37	1.08	2.49	3.83	5.05
SO	XBADJ	MGC7559	6.12	5.89	4.73	3.43	2.03	0.56
SO	XBADJ	MGC7559	-0.92	-2.38	-3.76	-5.03	-9.01	-14.63
SO	YBADJ	MGC7559	18.10	16.26	13.92	11.17	8.07	4.73
SO	YBADJ	MGC7559	6.17	-8.39	-5.72	-9.00	-12.01	-14.65
SO	YBADJ	MGC7559	-16.85	-18.53	-19.65	-20.17	-20.08	-19.38
SO	YBADJ	MGC7559	-18.10	-16.26	-13.92	-11.17	-8.07	-4.73
SO	YBADJ	MGC7559	-1.25	2.27	5.73	9.00	12.01	14.65
SO	YBADJ	MGC7559	16.85	18.53	19.65	20.17	20.08	19.38
SO	BUILDHGT	SHA7595	23.47	23.47	23.47	29.57	29.57	23.47
SO	BUILDHGT	SHA7595	29.57	29.57	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHA7595	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHA7595	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHA7595	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHA7595	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDWID	SHA7595	29.33	28.46	26.73	18.93	19.31	16.99
SO	BUILDWID	SHA7595	18.29	18.50	17.82	21.61	24.75	27.14
SO	BUILDWID	SHA7595	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDWID	SHA7595	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	SHA7595	12.55	13.48	17.82	21.61	24.75	27.14
SO	BUILDWID	SHA7595	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDLEN	SHA7595	21.61	24.75	27.14	16.11	14.02	29.20
SO	BUILDLEN	SHA7595	8.62	9.22	29.31	29.33	28.46	26.73
SO	BUILDLEN	SHA7595	24.18	20.90	16.99	12.56	13.48	17.82
SO	BUILDLEN	SHA7595	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	SHA7595	28.11	28.40	29.31	29.33	28.46	26.73
SO	BUILDLEN	SHA7595	24.18	20.90	16.99	12.56	13.48	17.82

SO XBADJ	SHA7595	-60.77	-61.11	-59.59	-102.66	-101.75	-33.48
SO XBADJ	SHA7595	-87.48	-87.57	-33.48	-32.31	-30.16	-27.09
SO XBADJ	SHA7595	-23.20	-18.60	-13.44	38.37	41.16	40.78
SO XBADJ	SHA7595	39.16	36.35	32.44	1.70	3.04	4.28
SO XBADJ	SHA7595	5.40	5.24	4.17	2.98	1.70	0.36
SO XBADJ	SHA7595	-0.98	-2.30	-3.55	-50.92	-54.63	-58.59
SO YBADJ	SHA7595	-2.75	-11.38	-19.67	9.03	-7.54	4.95
SO YBADJ	SHA7595	6.09	-8.45	-5.16	-8.35	-11.29	-13.88
SO YBADJ	SHA7595	-16.05	-17.74	-18.88	-22.60	-14.51	-5.97
SO YBADJ	SHA7595	2.75	11.38	19.67	-11.11	-8.15	-4.95
SO YBADJ	SHA7595	-1.59	1.81	5.16	8.35	11.29	13.88
SO YBADJ	SHA7595	16.05	17.74	18.88	22.60	14.51	5.97
SO BUILDHGT	SHB7595	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	SHB7595	29.57	29.57	23.47	29.57	23.47	23.47
SO BUILDHGT	SHB7595	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	SHB7595	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	SHB7595	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	SHB7595	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDWID	SHB7595	29.33	28.46	26.73	24.18	20.90	16.99
SO BUILDWID	SHB7595	18.31	18.52	17.82	19.26	24.75	27.14
SO BUILDWID	SHB7595	28.71	29.40	29.20	28.11	28.40	29.31
SO BUILDWID	SHB7595	29.33	28.46	26.73	24.18	20.90	16.99
SO BUILDWID	SHB7595	12.56	13.48	17.82	21.61	24.75	27.14
SO BUILDWID	SHB7595	28.71	29.40	29.20	28.11	28.40	29.31
SO BUILDLEN	SHB7595	21.61	24.75	27.14	28.71	29.40	29.20
SO BUILDLEN	SHB7595	8.62	9.22	29.31	14.46	28.46	26.73
SO BUILDLEN	SHB7595	24.18	20.90	16.99	12.56	13.48	17.82
SO BUILDLEN	SHB7595	21.61	24.75	27.14	28.71	29.40	29.20
SO BUILDLEN	SHB7595	28.11	28.40	29.31	29.33	28.46	26.73
SO BUILDLEN	SHB7595	24.18	20.90	16.99	12.56	13.48	17.82
SO XBADJ	SHB7595	-19.57	-24.01	-27.71	-30.57	-32.51	-33.45
SO XBADJ	SHB7595	-87.49	-87.60	-33.17	-102.31	-29.71	-26.59
SO XBADJ	SHB7595	-22.66	-18.04	-12.87	-7.32	-4.40	-3.27
SO XBADJ	SHB7595	-2.04	-0.75	0.57	1.87	3.11	4.26
SO XBADJ	SHB7595	5.28	5.02	3.86	2.59	1.24	-0.14
SO XBADJ	SHB7595	-1.53	-2.86	-4.11	-5.24	-110.87	-113.12
SO YBADJ	SHB7595	17.26	15.48	13.22	10.56	7.59	4.38
SO YBADJ	SHB7595	6.20	-8.34	-5.64	4.89	-11.63	-14.14
SO YBADJ	SHB7595	-16.22	-17.81	-18.86	-19.33	-19.22	-18.52
SO YBADJ	SHB7595	-17.26	-15.48	-13.22	-10.56	-7.59	-4.38
SO YBADJ	SHB7595	-1.04	2.33	5.64	8.77	11.63	14.14
SO YBADJ	SHB7595	16.22	17.81	18.86	19.33	9.60	-8.63
SO BUILDHGT	SHC7595	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	SHC7595	29.57	29.57	23.47	23.47	23.47	23.47
SO BUILDHGT	SHC7595	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	SHC7595	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	SHC7595	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	SHC7595	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDWID	SHC7595	29.33	28.46	26.73	24.18	20.90	16.99
SO BUILDWID	SHC7595	18.27	18.47	17.82	21.61	24.75	27.14
SO BUILDWID	SHC7595	28.71	29.40	29.20	28.11	28.40	29.31
SO BUILDWID	SHC7595	29.33	28.46	26.73	24.18	20.90	16.99
SO BUILDWID	SHC7595	12.56	13.48	17.82	21.61	24.75	27.14
SO BUILDWID	SHC7595	28.71	29.40	29.20	28.11	28.40	29.31
SO BUILDLEN	SHC7595	21.61	24.75	27.14	28.71	29.40	29.20
SO BUILDLEN	SHC7595	8.62	9.21	29.31	29.33	28.46	26.73
SO BUILDLEN	SHC7595	24.18	20.90	16.99	12.56	13.48	17.82
SO BUILDLEN	SHC7595	21.61	24.75	27.14	28.71	29.40	29.20
SO BUILDLEN	SHC7595	28.11	28.40	29.31	29.33	28.46	26.73
SO BUILDLEN	SHC7595	24.18	20.90	16.99	12.56	13.48	17.82
SO XBADJ	SHC7595	-19.81	-24.39	-28.22	-31.20	-33.23	-34.25
SO XBADJ	SHC7595	-87.59	-87.70	-34.04	-32.76	-30.49	-27.29
SO XBADJ	SHC7595	-23.26	-18.53	-13.23	-7.53	-4.47	-3.18
SO XBADJ	SHC7595	-1.80	-0.37	1.08	2.49	3.83	5.05
SO XBADJ	SHC7595	6.12	5.89	4.73	3.43	2.03	0.56
SO XBADJ	SHC7595	-0.92	-2.38	-3.76	-5.03	-9.01	-14.63
SO YBADJ	SHC7595	18.10	16.26	13.92	11.17	8.07	4.73
SO YBADJ	SHC7595	6.17	-8.39	-5.72	-9.00	-12.01	-14.65
SO YBADJ	SHC7595	-16.85	-18.53	-19.65	-20.17	-20.08	-19.38
SO YBADJ	SHC7595	-18.10	-16.26	-13.92	-11.17	-8.07	-4.73
SO YBADJ	SHC7595	-1.25	2.27	5.73	9.00	12.01	14.65
SO YBADJ	SHC7595	16.85	18.53	19.65	20.17	20.08	19.38
SO BUILDHGT	FGH1	23.47	23.47	23.47	29.57	29.57	29.57
SO BUILDHGT	FGH1	29.57	29.57	23.47	23.47	23.47	23.47
SO BUILDHGT	FGH1	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	FGH1	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	FGH1	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	FGH1	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDWID	FGH1	29.33	28.46	26.73	18.93	19.29	19.08

SO	BUILDWID	FGH1	18.29	18.50	17.82	21.61	24.75	27.14
SO	BUILDWID	FGH1	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDWID	FGH1	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	FGH1	12.55	13.48	17.82	21.61	24.75	27.14
SO	BUILDWID	FGH1	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDLEN	FGH1	21.61	24.75	27.14	16.11	14.01	11.49
SO	BUILDLEN	FGH1	8.62	9.22	29.31	29.33	28.46	26.73
SO	BUILDLEN	FGH1	24.18	20.90	16.99	12.55	13.48	17.82
SO	BUILDLEN	FGH1	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	FGH1	28.11	28.40	29.31	29.33	28.46	26.73
SO	BUILDLEN	FGH1	24.18	20.90	16.99	12.56	13.48	17.82
SO	XBADJ	FGH1	-14.17	-12.76	-10.96	-81.09	-57.07	-56.95
SO	XBADJ	FGH1	-55.10	-53.44	1.37	2.20	2.96	3.63
SO	XBADJ	FGH1	42.66	4.63	4.92	5.06	2.19	-2.67
SO	XBADJ	FGH1	-7.45	-12.00	-16.18	-19.88	-22.96	-25.36
SO	XBADJ	FGH1	-26.98	-28.89	-30.68	-31.53	-31.42	-30.36
SO	XBADJ	FGH1	-66.85	-67.90	-66.90	-63.86	-61.75	-15.14
SO	YBADJ	FGH1	-16.86	-17.19	-16.99	-18.36	10.94	2.08
SO	YBADJ	FGH1	-6.85	-15.56	-6.24	-3.36	-0.38	2.61
SO	YBADJ	FGH1	-20.32	8.26	10.76	12.92	14.70	16.02
SO	YBADJ	FGH1	16.86	17.19	16.99	16.28	15.08	13.41
SO	YBADJ	FGH1	11.34	8.92	6.24	3.36	0.38	-2.61
SO	YBADJ	FGH1	20.32	10.51	0.37	-9.78	-19.63	-16.02

SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	29.57	29.57
SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDWID	CSE1	24.60	24.06	22.80	20.83	18.24	15.09
SO	BUILDWID	CSE1	11.48	10.72	14.40	17.65	20.36	22.46
SO	BUILDWID	CSE1	23.87	24.56	24.50	23.69	23.44	24.39
SO	BUILDWID	CSE1	24.60	24.06	22.80	20.83	18.24	15.09
SO	BUILDWID	CSE1	11.48	10.72	14.40	17.65	18.77	17.70
SO	BUILDWID	CSE1	23.87	24.56	24.50	23.69	23.44	24.39
SO	BUILDLEN	CSE1	17.65	20.36	22.46	23.87	24.56	24.50
SO	BUILDLEN	CSE1	23.69	23.44	24.39	24.60	24.06	22.80
SO	BUILDLEN	CSE1	20.83	18.24	15.09	11.48	10.72	14.40
SO	BUILDLEN	CSE1	17.65	20.36	22.46	23.87	24.56	24.50
SO	BUILDLEN	CSE1	23.69	23.44	24.39	24.60	16.46	17.96
SO	BUILDLEN	CSE1	20.83	18.24	15.09	11.48	10.72	14.40
SO	XBADJ	CSE1	-5.61	-5.76	-5.73	-5.53	-5.16	-4.63
SO	XBADJ	CSE1	-3.96	-3.81	-4.50	-5.06	-5.46	-5.69
SO	XBADJ	CSE1	-5.75	-5.64	-5.35	-4.91	-5.90	-9.11
SO	XBADJ	CSE1	-12.04	-14.61	-16.73	-18.34	-19.40	-19.87
SO	XBADJ	CSE1	-19.73	-19.63	-19.89	-19.55	-101.67	-102.52
SO	XBADJ	CSE1	-15.08	-12.60	-9.74	-6.58	-4.81	-5.29
SO	YBADJ	CSE1	-7.24	-6.58	-5.71	-4.67	-3.48	-2.19
SO	YBADJ	CSE1	-0.84	0.55	1.91	3.22	4.43	5.50
SO	YBADJ	CSE1	6.41	7.12	7.62	7.88	7.91	7.69
SO	YBADJ	CSE1	7.24	6.58	5.71	4.67	3.48	2.19
SO	YBADJ	CSE1	0.84	-0.55	-1.91	-3.22	8.72	-7.64
SO	YBADJ	CSE1	-6.41	-7.12	-7.62	-7.88	-7.91	-7.69

SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	29.57	29.57
SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDWID	CSE2	24.60	24.06	22.80	20.83	18.24	15.09
SO	BUILDWID	CSE2	11.48	10.72	14.40	17.65	20.36	22.46
SO	BUILDWID	CSE2	23.87	24.56	24.50	23.69	23.44	24.39
SO	BUILDWID	CSE2	24.60	24.06	22.80	20.83	18.24	15.09
SO	BUILDWID	CSE2	11.48	10.72	14.40	17.65	18.62	17.70
SO	BUILDWID	CSE2	23.87	24.56	24.50	23.69	23.44	24.39
SO	BUILDLEN	CSE2	17.65	20.36	22.46	23.87	24.56	24.50
SO	BUILDLEN	CSE2	23.69	23.44	24.39	24.60	24.06	22.80
SO	BUILDLEN	CSE2	20.83	18.24	15.09	11.48	10.72	14.40
SO	BUILDLEN	CSE2	17.65	20.36	22.46	23.87	24.56	24.50
SO	BUILDLEN	CSE2	23.69	23.44	24.39	24.60	16.46	17.96
SO	BUILDLEN	CSE2	20.83	18.24	15.09	11.48	10.72	14.40
SO	XBADJ	CSE2	-7.97	-8.96	-9.68	-10.10	-10.21	-10.02
SO	XBADJ	CSE2	-9.52	-9.37	-9.89	-10.11	-10.02	-9.63
SO	XBADJ	CSE2	-8.94	-7.98	-6.79	-5.38	-5.41	-7.66
SO	XBADJ	CSE2	-9.68	-11.40	-12.78	-13.77	-14.34	-14.48
SO	XBADJ	CSE2	-14.17	-14.08	-14.51	-14.50	-97.11	-98.58
SO	XBADJ	CSE2	-11.89	-10.25	-8.30	-6.10	-5.31	-6.74
SO	YBADJ	CSE2	-2.20	-2.01	-1.77	-1.48	-1.14	-0.76
SO	YBADJ	CSE2	-0.36	0.05	0.46	0.85	1.22	1.55

```
SO YBADJ    CSE2      1.84    2.06    2.23    2.33    2.35    2.31
SO YBADJ    CSE2      2.20    2.01    1.77    1.48    1.14    0.76
SO YBADJ    CSE2      0.36   -0.05   -0.46   -0.85   11.93   -3.69
SO YBADJ    CSE2     -1.84   -2.06   -2.23   -2.33   -2.35   -2.31


SO BUILDHGT CSE3      6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE3      6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE3      6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE3      6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE3      6.10    6.10    6.10    6.10   29.57   29.57
SO BUILDHGT CSE3     29.57    6.10    6.10    6.10    6.10    6.10
SO BUILDWID CSE3     24.60   24.06   22.80   20.83   18.24   15.09
SO BUILDWID CSE3     11.48   10.72   14.40   17.65   20.36   22.46
SO BUILDWID CSE3     23.87   24.56   24.50   23.69   23.44   24.39
SO BUILDWID CSE3     24.60   24.06   22.80   20.83   18.24   15.09
SO BUILDWID CSE3     11.48   10.72   14.40   17.65   18.43   17.70
SO BUILDWID CSE3     16.10   24.56   24.50   23.69   23.44   24.39
SO BUILDLEN CSE3     17.65   20.36   22.46   23.87   24.56   24.50
SO BUILDLEN CSE3     23.69   23.44   24.39   24.60   24.06   22.80
SO BUILDLEN CSE3     20.83   18.24   15.09   11.48   10.72   14.40
SO BUILDLEN CSE3     17.65   20.36   22.46   23.87   24.56   24.50
SO BUILDLEN CSE3     23.69   23.44   24.39   24.60   16.46   17.96
SO BUILDLEN CSE3     18.91   18.24   15.09   11.48   10.72   14.40
SO XBADJ    CSE3     -9.89  -11.67  -13.09  -14.12  -14.72  -14.87
SO XBADJ    CSE3    -14.57  -14.46  -14.88  -14.83  -14.34  -13.41
SO XBADJ    CSE3    -12.08  -10.38   -8.36   -6.09   -5.23   -6.59
SO XBADJ    CSE3     -7.76   -8.70   -9.36   -9.75   -9.84   -9.62
SO XBADJ    CSE3     -9.12   -8.98   -9.52   -9.77  -92.79  -94.79
SO XBADJ    CSE3    -93.92   -7.86   -6.73   -5.40   -5.49   -7.81
SO YBADJ    CSE3      2.53    2.31    2.02    1.66    1.26    0.81
SO YBADJ    CSE3      0.34   -0.13   -0.61   -1.06   -1.49   -1.87
SO YBADJ    CSE3     -2.19   -2.44   -2.62   -2.72   -2.74   -2.68
SO YBADJ    CSE3     -2.53   -2.31   -2.02   -1.66   -1.26   -0.81
SO YBADJ    CSE3     -0.34    0.13    0.61    1.06   14.64   -0.27
SO YBADJ    CSE3    -15.17    2.44    2.62    2.72    2.74    2.68


SO BUILDHGT CSE4      6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE4      6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE4      6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE4      6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE4      6.10    6.10    6.10    6.10   29.57   29.57
SO BUILDHGT CSE4     29.57    6.10    6.10    6.10    6.10    6.10
SO BUILDWID CSE4     24.60   24.06   22.80   20.83   18.24   15.09
SO BUILDWID CSE4     11.48   10.72   14.40   17.65   20.36   22.46
SO BUILDWID CSE4     23.87   24.56   24.50   23.69   23.44   24.39
SO BUILDWID CSE4     24.60   24.06   22.80   20.83   18.24   15.09
SO BUILDWID CSE4     11.48   10.72   14.40   17.65   18.19   17.70
SO BUILDWID CSE4     16.10   24.56   24.50   23.69   23.44   24.39
SO BUILDLEN CSE4     17.65   20.36   22.46   23.87   24.56   24.50
SO BUILDLEN CSE4     23.69   23.44   24.39   24.60   24.06   22.80
SO BUILDLEN CSE4     20.83   18.24   15.09   11.48   10.72   14.40
SO BUILDLEN CSE4     17.65   20.36   22.46   23.87   24.56   24.50
SO BUILDLEN CSE4     23.69   23.44   24.39   24.60   16.46   17.96
SO BUILDLEN CSE4     18.91   18.24   15.09   11.48   10.72   14.40
SO XBADJ    CSE4    -11.85  -14.41  -16.54  -18.17  -19.24  -19.73
SO XBADJ    CSE4    -19.62  -19.55  -19.85  -19.54  -18.63  -17.16
SO XBADJ    CSE4    -15.17  -12.72   -9.88   -6.74   -5.00   -5.48
SO XBADJ    CSE4     -5.81   -5.95   -5.92   -5.70   -5.31   -4.76
SO XBADJ    CSE4     -4.07   -3.89   -4.55   -5.07  -88.49  -91.04
SO XBADJ    CSE4    -90.82   -5.52   -5.21   -4.74   -5.72   -8.92
SO YBADJ    CSE4      7.24    6.60    5.77    4.76    3.60    2.34
SO YBADJ    CSE4      1.00   -0.36   -1.72   -3.02   -4.23   -5.31
SO YBADJ    CSE4     -6.23   -6.96   -7.48   -7.78   -7.83   -7.65
SO YBADJ    CSE4     -7.24   -6.60   -5.77   -4.76   -3.60   -2.34
SO YBADJ    CSE4     -1.00    0.36    1.72    3.02   17.38    3.18
SO YBADJ    CSE4    -11.12    6.96    7.48    7.78    7.83    7.65

   SRCGROUP MG MGA7559 MGB7559 MGC7559 FGH1 CSE1-CSE4
   SRCGROUP SH SHA7595 SHB7595 SHC7595 FGH1 CSE1-CSE4

SO FINISHED
**
****************************************
** ISCST3 Receptor Pathway
****************************************
**
**
RE STARTING
   INCLUDED PCC0924.ROU
RE FINISHED
```

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**
******************************************
** AERMOD Meteorology Pathway
******************************************
**
**
ME STARTING
**    SURFFILE C:\amodmet\DABJAX01.SFC
**    PROFFILE C:\amodmet\DABJAX01.PFL
   SURFFILE DABJAX01.SFC
   PROFFILE DABJAX01.PFL
   SURFDATA 12834 2001 DAYTONA_BEACH/REGIONAL_ARPT
   UAIRDATA 13889 2001 JACKSONVILLE/INT'L_ARPT
   PROFBASE 31 FEET
ME FINISHED
**
******************************************
** AERMOD Output Pathway
******************************************
**
**
OU STARTING
   RECTABLE ALLAVE FIRST SECOND
OU FINISHED
**
```

PREDICTED NO_2 IMPACTS FOR CCEC

1. SUMMARY FILES FOR:
   - .CTS/HRSGS AND FUEL HEATER
   - CTS/HRSGS, FUEL HEATER, AND GAS COMPRESSOR STATION
2. EXAMPLE INPUT FILE

AERBOB RELEASE 020304

AERMOD OUTPUT FILE NUMBER 1 :NO2OIL.001
AERMOD OUTPUT FILE NUMBER 2 :NO2OIL.002
AERMOD OUTPUT FILE NUMBER 3 :NO2OIL.003
AERMOD OUTPUT FILE NUMBER 4 :NO2OIL.004
AERMOD OUTPUT FILE NUMBER 5 :NO2OIL.005
First title for last output file is: 2001 FPL CANAVERAL REPOWER- NO2 OIL SH(59F&75%LD) MPS(59F&100%) 12/05/08
Second title for last output file is: NO2 EMISSION RATES PER CTS

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	MG				
Annual					
	2001	1.99660	523094.	3149383.	01123124
	2002	1.87000	523094.	3149383.	02123124
	2003	2.08937	523094.	3149383.	03123124
	2004	1.97907	523094.	3149383.	04123124
	2005	1.67687	523094.	3149383.	05123124
SOURCE GROUP ID:	SH				
Annual					
	2001	1.99990	523094.	3149383.	01123124
	2002	1.87386	523094.	3149383.	02123124
	2003	2.09442	523094.	3149383.	03123124
	2004	1.98210	523094.	3149383.	04123124
	2005	1.67968	523094.	3149383.	05123124

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

AERBOB RELEASE 020304

AERMOD OUTPUT FILE NUMBER 1 :NO2OILC7.001
AERMOD OUTPUT FILE NUMBER 2 :NO2OILC7.002
AERMOD OUTPUT FILE NUMBER 3 :NO2OILC7.003
AERMOD OUTPUT FILE NUMBER 4 :NO2OILC7.004
AERMOD OUTPUT FILE NUMBER 5 :NO2OILC7.005
First title for last output file is: 2001 FPL CCEC-NO2 OIL SH(59F&75%LD);MPS(59F&100%) W/7 COMP ENG 40FT 12/05/08
Second title for last output file is: NO2 EMISSION RATES

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	MG				
Annual					
	2001	11.25857	522900.	3149200.	01123124
	2002	10.13771	522900.	3149200.	02123124
	2003	10.25094	522900.	3149200.	03123124
	2004	9.82285	522800.	3149300.	04123124
	2005	11.78705	522900.	3149200.	05123124
SOURCE GROUP ID:	SH				
Annual					
	2001	11.28249	522900.	3149200.	01123124
	2002	10.16385	522900.	3149200.	02123124
	2003	10.28850	522900.	3149200.	03123124
	2004	9.88105	522800.	3149300.	04123124
	2005	11.81312	522900.	3149200.	05123124

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
   TITLEONE 2001 FPL CCEC-NO2 OIL SH(59F&75%LD);MPS(59F&100%) W/7 COMP ENG 40FT 12/05/08
   TITLETWO NO2 EMISSION RATES
   MODELOPT DFAULT CONC NOWARN
   AVERTIME PERIOD
   POLLUTID GEN
   RUNORNOT RUN
CO FINISHED
**
****************************************
** ISCST3 Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **

   LOCATION MGA1059 POINT 523095.350 3149311.860 2.180
   LOCATION MGB1059 POINT 523107.900 3149267.810 2.600
   LOCATION MGC1059 POINT 523135.910 3149169.320 2.990

   LOCATION SHA7559 POINT 523095.350 3149311.860 2.180
   LOCATION SHB7559 POINT 523107.900 3149267.810 2.600
   LOCATION SHC7559 POINT 523135.910 3149169.320 2.990

   LOCATION FGH1 POINT 523060.500 3149312.940 2.930

   LOCATION CSE1 POINT 522930.291 3149329.291 5.370
   LOCATION CSE2 POINT 522935.674 3149330.744 5.460
   LOCATION CSE3 POINT 522940.663 3149331.809 5.500
   LOCATION CSE4 POINT 522945.635 3149332.919 5.500


** Source Parameters **
** 100% Load, 59 F
   SRCPARAM MGA1059 9.14     45.4   453.7   23.0    6.71
   SRCPARAM MGB1059 9.14     45.4   453.7   23.0    6.71
   SRCPARAM MGC1059 9.14     45.4   453.7   23.0    6.71

** 75% Load, 59 F
   SRCPARAM SHA7559 8.16     45.4   448.7   18.04   6.71
   SRCPARAM SHB7559 8.16     45.4   448.7   18.04   6.71
   SRCPARAM SHC7559 8.16     45.4   448.7   18.04   6.71

   SRCPARAM FGH1  0.12 9.144 533.150 32.02 0.305

** 7 COMP ENG 3516/ ASSUME 3 WITH 2X EMISSIONS
   SRCPARAM CSE1 1.116 12.2 729.800 49.50000 0.305
   SRCPARAM CSE2 1.116 12.2 729.800 49.50000 0.305
   SRCPARAM CSE3 1.116 12.2 729.800 49.50000 0.305
   SRCPARAM CSE4 0.558 12.2 729.800 49.50000 0.305

** Building Downwash **
SO BUILDHGT MGA1059        23.47    23.47    23.47    29.57    29.57    23.47
SO BUILDHGT MGA1059        29.57    29.57    23.47    23.47    23.47    23.47
SO BUILDHGT MGA1059        23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDHGT MGA1059        23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDHGT MGA1059        23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDHGT MGA1059        23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDWID MGA1059        29.33    28.46    26.73    18.93    19.31    16.99
SO BUILDWID MGA1059        18.29    18.50    17.82    21.61    24.75    27.14
SO BUILDWID MGA1059        28.71    29.40    29.20    28.11    28.40    29.31
SO BUILDWID MGA1059        29.33    28.46    26.73    24.18    20.90    16.99
SO BUILDWID MGA1059        12.55    13.48    17.82    21.61    24.75    27.14
SO BUILDWID MGA1059        28.71    29.40    29.20    28.11    28.40    29.31
SO BUILDLEN MGA1059        21.61    24.75    27.14    16.11    14.02    29.20
SO BUILDLEN MGA1059         8.62     9.22    29.31    29.33    28.46    26.73
SO BUILDLEN MGA1059        24.18    20.90    16.99    12.56    13.48    17.82
SO BUILDLEN MGA1059        21.61    24.75    27.14    28.71    29.40    29.20
SO BUILDLEN MGA1059        28.11    28.40    29.31    29.33    28.46    26.73
SO BUILDLEN MGA1059        24.18    20.90    16.99    12.56    13.48    17.82
SO XBADJ    MGA1059       -60.77   -61.11   -59.59  -102.66  -101.75   -33.48
SO XBADJ    MGA1059       -87.48   -87.57   -33.48   -32.31   -30.16   -27.09
SO XBADJ    MGA1059       -23.20   -18.60   -13.44    38.37    41.16    40.78
SO XBADJ    MGA1059        39.16    36.35    32.44     1.70     3.04     4.28
SO XBADJ    MGA1059         5.40     5.24     4.17     2.98     1.70     0.36
SO XBADJ    MGA1059        -0.98    -2.30    -3.55   -50.92   -54.63   -58.59
SO YBADJ    MGA1059        -2.75   -11.38   -19.67     9.03    -7.54     4.95
SO YBADJ    MGA1059         6.09    -8.45    -5.16    -8.35   -11.29   -13.88
SO YBADJ    MGA1059       -16.05   -17.74   -18.88   -22.60   -14.51    -5.97
SO YBADJ    MGA1059         2.75    11.38    19.67   -11.11    -8.15    -4.95
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SO	YBADJ	MGA1059	-1.59	1.81	5.16	8.35	11.29	13.88
SO	YBADJ	MGA1059	16.05	17.74	18.88	22.60	14.51	5.97

SO	BUILDHGT	MGB1059	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	MGB1059	29.57	29.57	23.47	29.57	23.47	23.47
SO	BUILDHGT	MGB1059	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	MGB1059	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	MGB1059	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	MGB1059	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDWID	MGB1059	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	MGB1059	18.31	18.52	17.82	19.26	24.75	27.14
SO	BUILDWID	MGB1059	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDWID	MGB1059	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	MGB1059	12.56	13.48	17.82	21.61	24.75	27.14
SO	BUILDWID	MGB1059	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDLEN	MGB1059	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	MGB1059	8.62	9.22	29.31	14.46	28.46	26.73
SO	BUILDLEN	MGB1059	24.18	20.90	16.99	12.56	13.48	17.82
SO	BUILDLEN	MGB1059	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	MGB1059	28.11	28.40	29.31	29.33	28.46	26.73
SO	BUILDLEN	MGB1059	24.18	20.90	16.99	12.56	13.48	17.82
SO	XBADJ	MGB1059	-19.57	-24.01	-27.71	-30.57	-32.51	-33.45
SO	XBADJ	MGB1059	-87.49	-87.60	-33.17	-102.31	-29.71	-26.59
SO	XBADJ	MGB1059	-22.66	-18.04	-12.87	-7.32	-4.40	-3.27
SO	XBADJ	MGB1059	-2.04	-0.75	0.57	1.87	3.11	4.26
SO	XBADJ	MGB1059	5.28	5.02	3.86	2.59	1.24	-0.14
SO	XBADJ	MGB1059	-1.53	-2.86	-4.11	-5.24	-110.87	-113.12
SO	YBADJ	MGB1059	17.26	15.48	13.22	10.56	7.59	4.38
SO	YBADJ	MGB1059	6.20	-8.34	-5.64	4.89	-11.63	-14.14
SO	YBADJ	MGB1059	-16.22	-17.81	-18.86	-19.33	-19.22	-18.52
SO	YBADJ	MGB1059	-17.26	-15.48	-13.22	-10.56	-7.59	-4.38
SO	YBADJ	MGB1059	-1.04	2.33	5.64	8.77	11.63	14.14
SO	YBADJ	MGB1059	16.22	17.81	18.86	19.33	9.60	-8.63

SO	BUILDHGT	MGC1059	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	MGC1059	29.57	29.57	23.47	23.47	23.47	23.47
SO	BUILDHGT	MGC1059	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	MGC1059	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	MGC1059	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	MGC1059	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDWID	MGC1059	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	MGC1059	18.27	18.47	17.82	21.61	24.75	27.14
SO	BUILDWID	MGC1059	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDWID	MGC1059	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	MGC1059	12.56	13.48	17.82	21.61	24.75	27.14
SO	BUILDWID	MGC1059	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDLEN	MGC1059	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	MGC1059	8.62	9.21	29.31	29.33	28.46	26.73
SO	BUILDLEN	MGC1059	24.18	20.90	16.99	12.56	13.48	17.82
SO	BUILDLEN	MGC1059	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	MGC1059	28.11	28.40	29.31	29.33	28.46	26.73
SO	BUILDLEN	MGC1059	24.18	20.90	16.99	12.56	13.48	17.82
SO	XBADJ	MGC1059	-19.81	-24.39	-28.22	-31.20	-33.23	-34.25
SO	XBADJ	MGC1059	-87.59	-87.70	-34.04	-32.76	-30.49	-27.29
SO	XBADJ	MGC1059	-23.26	-18.53	-13.23	-7.53	-4.47	-3.18
SO	XBADJ	MGC1059	-1.80	-0.37	1.08	2.49	3.83	5.05
SO	XBADJ	MGC1059	6.12	5.89	4.73	3.43	2.03	0.56
SO	XBADJ	MGC1059	-0.92	-2.38	-3.76	-5.03	-9.01	-14.63
SO	YBADJ	MGC1059	18.10	16.26	13.92	11.17	8.07	4.73
SO	YBADJ	MGC1059	6.17	-8.39	-5.72	-9.00	-12.01	-14.65
SO	YBADJ	MGC1059	-16.85	-18.53	-19.65	-20.17	-20.08	-19.38
SO	YBADJ	MGC1059	-18.10	-16.26	-13.92	-11.17	-8.07	-4.73
SO	YBADJ	MGC1059	-1.25	2.27	5.73	9.00	12.01	14.65
SO	YBADJ	MGC1059	16.85	18.53	19.65	20.17	20.08	19.38

SO	BUILDHGT	SHA7559	23.47	23.47	23.47	29.57	29.57	23.47
SO	BUILDHGT	SHA7559	29.57	29.57	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHA7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHA7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHA7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHA7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDWID	SHA7559	29.33	28.46	26.73	18.93	19.31	16.99
SO	BUILDWID	SHA7559	18.29	18.50	17.82	21.61	24.75	27.14
SO	BUILDWID	SHA7559	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDWID	SHA7559	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	SHA7559	12.55	13.48	17.82	21.61	24.75	27.14
SO	BUILDWID	SHA7559	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDLEN	SHA7559	21.61	24.75	27.14	16.11	14.02	29.20
SO	BUILDLEN	SHA7559	8.62	9.22	29.31	29.33	28.46	26.73
SO	BUILDLEN	SHA7559	24.18	20.90	16.99	12.56	13.48	17.82
SO	BUILDLEN	SHA7559	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	SHA7559	28.11	28.40	29.31	29.33	28.46	26.73

SO	BUILDLEN	SHA7559	24.18	20.90	16.99	12.56	13.48	17.82
SO	XBADJ	SHA7559	-60.77	-61.11	-59.59	-102.66	-101.75	-33.48
SO	XBADJ	SHA7559	-87.48	-87.57	-33.48	-32.31	-30.16	-27.09
SO	XBADJ	SHA7559	-23.20	-18.60	-13.44	38.37	41.16	40.78
SO	XBADJ	SHA7559	39.16	36.35	32.44	1.70	3.04	4.28
SO	XBADJ	SHA7559	5.40	5.24	4.17	2.98	1.70	0.36
SO	XBADJ	SHA7559	-0.98	-2.30	-3.55	-50.92	-54.63	-58.59
SO	YBADJ	SHA7559	-2.75	-11.38	-19.67	9.03	-7.54	4.95
SO	YBADJ	SHA7559	6.09	-8.45	-5.16	-8.35	-11.29	-13.88
SO	YBADJ	SHA7559	-16.05	-17.74	-18.88	-22.60	-14.51	-5.97
SO	YBADJ	SHA7559	2.75	11.38	19.67	-11.11	-8.15	-4.95
SO	YBADJ	SHA7559	-1.59	1.81	5.16	8.35	11.29	13.88
SO	YBADJ	SHA7559	16.05	17.74	18.88	22.60	14.51	5.97
SO	BUILDHGT	SHB7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHB7559	29.57	29.57	23.47	29.57	23.47	23.47
SO	BUILDHGT	SHB7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHB7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHB7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHB7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDWID	SHB7559	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	SHB7559	18.31	18.52	17.82	19.26	24.75	27.14
SO	BUILDWID	SHB7559	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDWID	SHB7559	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	SHB7559	12.56	13.48	17.82	21.61	24.75	27.14
SO	BUILDWID	SHB7559	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDLEN	SHB7559	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	SHB7559	8.62	9.22	29.31	14.46	28.46	26.73
SO	BUILDLEN	SHB7559	24.18	20.90	16.99	12.56	13.48	17.82
SO	BUILDLEN	SHB7559	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	SHB7559	28.11	28.40	29.31	29.33	28.46	26.73
SO	BUILDLEN	SHB7559	24.18	20.90	16.99	12.56	13.48	17.82
SO	XBADJ	SHB7559	-19.57	-24.01	-27.71	-30.57	-32.51	-33.45
SO	XBADJ	SHB7559	-87.49	-87.60	-33.17	-102.31	-29.71	-26.59
SO	XBADJ	SHB7559	-22.66	-18.04	-12.87	-7.32	-4.40	-3.27
SO	XBADJ	SHB7559	-2.04	-0.75	0.57	1.87	3.11	4.26
SO	XBADJ	SHB7559	5.28	5.02	3.86	2.59	1.24	-0.14
SO	XBADJ	SHB7559	-1.53	-2.86	-4.11	-5.24	-110.87	-113.12
SO	YBADJ	SHB7559	17.26	15.48	13.22	10.56	7.59	4.38
SO	YBADJ	SHB7559	6.20	-8.34	-5.64	4.89	-11.63	-14.14
SO	YBADJ	SHB7559	-16.22	-17.81	-18.86	-19.33	-19.22	-18.52
SO	YBADJ	SHB7559	-17.26	-15.48	-13.22	-10.56	-7.59	-4.38
SO	YBADJ	SHB7559	-1.04	2.33	5.64	8.77	11.63	14.14
SO	YBADJ	SHB7559	16.22	17.81	18.86	19.33	9.60	-8.63
SO	BUILDHGT	SHC7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHC7559	29.57	29.57	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHC7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHC7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHC7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHC7559	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDWID	SHC7559	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	SHC7559	18.27	18.47	17.82	21.61	24.75	27.14
SO	BUILDWID	SHC7559	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDWID	SHC7559	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	SHC7559	12.56	13.48	17.82	21.61	24.75	27.14
SO	BUILDWID	SHC7559	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDLEN	SHC7559	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	SHC7559	8.62	9.21	29.31	29.33	28.46	26.73
SO	BUILDLEN	SHC7559	24.18	20.90	16.99	12.56	13.48	17.82
SO	BUILDLEN	SHC7559	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	SHC7559	28.11	28.40	29.31	29.33	28.46	26.73
SO	BUILDLEN	SHC7559	24.18	20.90	16.99	12.56	13.48	17.82
SO	XBADJ	SHC7559	-19.81	-24.39	-28.22	-31.20	-33.23	-34.25
SO	XBADJ	SHC7559	-87.59	-87.70	-34.04	-32.76	-30.49	-27.29
SO	XBADJ	SHC7559	-23.26	-18.53	-13.23	-7.53	-4.47	-3.18
SO	XBADJ	SHC7559	-1.80	-0.37	1.08	2.49	3.83	5.05
SO	XBADJ	SHC7559	6.12	5.89	4.73	3.43	2.03	0.56
SO	XBADJ	SHC7559	-0.92	-2.38	-3.76	-5.03	-9.01	-14.63
SO	YBADJ	SHC7559	18.10	16.26	13.92	11.17	8.07	4.73
SO	YBADJ	SHC7559	6.17	-8.39	-5.72	-9.00	-12.01	-14.65
SO	YBADJ	SHC7559	-16.85	-18.53	-19.65	-20.17	-20.08	-19.38
SO	YBADJ	SHC7559	-18.10	-16.26	-13.92	-11.17	-8.07	-4.73
SO	YBADJ	SHC7559	-1.25	2.27	5.73	9.00	12.01	14.65
SO	YBADJ	SHC7559	16.85	18.53	19.65	20.17	20.08	19.38
SO	BUILDHGT	FGH1	23.47	23.47	23.47	29.57	29.57	29.57
SO	BUILDHGT	FGH1	29.57	29.57	23.47	23.47	23.47	23.47
SO	BUILDHGT	FGH1	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	FGH1	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	FGH1	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	FGH1	23.47	23.47	23.47	23.47	23.47	23.47

SO	BUILDWID	FGH1	29.33	28.46	26.73	18.93	19.29	19.08
SO	BUILDWID	FGH1	18.29	18.50	17.82	21.61	24.75	27.14
SO	BUILDWID	FGH1	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDWID	FGH1	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	FGH1	12.55	13.48	17.82	21.61	24.75	27.14
SO	BUILDWID	FGH1	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDLEN	FGH1	21.61	24.75	27.14	16.11	14.01	11.49
SO	BUILDLEN	FGH1	8.62	9.22	29.31	29.33	28.46	26.73
SO	BUILDLEN	FGH1	24.18	20.90	16.99	12.55	13.48	17.82
SO	BUILDLEN	FGH1	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	FGH1	28.11	28.40	29.31	29.33	28.46	26.73
SO	BUILDLEN	FGH1	24.18	20.90	16.99	12.56	13.48	17.82
SO	XBADJ	FGH1	-14.17	-12.76	-10.96	-81.09	-57.07	-56.95
SO	XBADJ	FGH1	-55.10	-53.44	1.37	2.20	2.96	3.63
SO	XBADJ	FGH1	42.66	4.63	4.92	5.06	2.19	-2.67
SO	XBADJ	FGH1	-7.45	-12.00	-16.18	-19.88	-22.96	-25.36
SO	XBADJ	FGH1	-26.98	-28.89	-30.68	-31.53	-31.42	-30.36
SO	XBADJ	FGH1	-66.85	-67.90	-66.90	-63.86	-61.75	-15.14
SO	YBADJ	FGH1	-16.86	-17.19	-16.99	-18.36	10.94	2.08
SO	YBADJ	FGH1	-6.85	-15.56	-6.24	-3.36	-0.38	2.61
SO	YBADJ	FGH1	-20.32	8.26	10.76	12.92	14.70	16.02
SO	YBADJ	FGH1	16.86	17.19	16.99	16.28	15.08	13.41
SO	YBADJ	FGH1	11.34	8.92	6.24	3.36	0.38	-2.61
SO	YBADJ	FGH1	20.32	10.51	0.37	-9.78	-19.63	-16.02
SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	29.57	29.57
SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDWID	CSE1	24.60	24.06	22.80	20.83	18.24	15.09
SO	BUILDWID	CSE1	11.48	10.72	14.40	17.65	20.36	22.46
SO	BUILDWID	CSE1	23.87	24.56	24.50	23.69	23.44	24.39
SO	BUILDWID	CSE1	24.60	24.06	22.80	20.83	18.24	15.09
SO	BUILDWID	CSE1	11.48	10.72	14.40	17.65	18.77	17.70
SO	BUILDWID	CSE1	23.87	24.56	24.50	23.69	23.44	24.39
SO	BUILDLEN	CSE1	17.65	20.36	22.46	23.87	24.56	24.50
SO	BUILDLEN	CSE1	23.69	23.44	24.39	24.60	24.06	22.80
SO	BUILDLEN	CSE1	20.83	18.24	15.09	11.48	10.72	14.40
SO	BUILDLEN	CSE1	17.65	20.36	22.46	23.87	24.56	24.50
SO	BUILDLEN	CSE1	23.69	23.44	24.39	24.60	16.46	17.96
SO	BUILDLEN	CSE1	20.83	18.24	15.09	11.48	10.72	14.40
SO	XBADJ	CSE1	-5.61	-5.76	-5.73	-5.53	-5.16	-4.63
SO	XBADJ	CSE1	-3.96	-3.81	-4.50	-5.06	-5.46	-5.69
SO	XBADJ	CSE1	-5.75	-5.64	-5.35	-4.91	-5.90	-9.11
SO	XBADJ	CSE1	-12.04	-14.61	-16.73	-18.34	-19.40	-19.87
SO	XBADJ	CSE1	-19.73	-19.63	-19.89	-19.55	-101.67	-102.52
SO	XBADJ	CSE1	-15.08	-12.60	-9.74	-6.58	-4.81	-5.29
SO	YBADJ	CSE1	-7.24	-6.58	-5.71	-4.67	-3.48	-2.19
SO	YBADJ	CSE1	-0.84	0.55	1.91	3.22	4.43	5.50
SO	YBADJ	CSE1	6.41	7.12	7.62	7.88	7.91	7.69
SO	YBADJ	CSE1	7.24	6.58	5.71	4.67	3.48	2.19
SO	YBADJ	CSE1	0.84	-0.55	-1.91	-3.22	8.72	-7.64
SO	YBADJ	CSE1	-6.41	-7.12	-7.62	-7.88	-7.91	-7.69
SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	29.57	29.57
SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDWID	CSE2	24.60	24.06	22.80	20.83	18.24	15.09
SO	BUILDWID	CSE2	11.48	10.72	14.40	17.65	20.36	22.46
SO	BUILDWID	CSE2	23.87	24.56	24.50	23.69	23.44	24.39
SO	BUILDWID	CSE2	24.60	24.06	22.80	20.83	18.24	15.09
SO	BUILDWID	CSE2	11.48	10.72	14.40	17.65	18.62	17.70
SO	BUILDWID	CSE2	23.87	24.56	24.50	23.69	23.44	24.39
SO	BUILDLEN	CSE2	17.65	20.36	22.46	23.87	24.56	24.50
SO	BUILDLEN	CSE2	23.69	23.44	24.39	24.60	24.06	22.80
SO	BUILDLEN	CSE2	20.83	18.24	15.09	11.48	10.72	14.40
SO	BUILDLEN	CSE2	17.65	20.36	22.46	23.87	24.56	24.50
SO	BUILDLEN	CSE2	23.69	23.44	24.39	24.60	16.46	17.96
SO	BUILDLEN	CSE2	20.83	18.24	15.09	11.48	10.72	14.40
SO	XBADJ	CSE2	-7.97	-8.96	-9.68	-10.10	-10.21	-10.02
SO	XBADJ	CSE2	-9.52	-9.37	-9.89	-10.11	-10.02	-9.63
SO	XBADJ	CSE2	-8.94	-7.98	-6.79	-5.38	-5.41	-7.66
SO	XBADJ	CSE2	-9.68	-11.40	-12.78	-13.77	-14.34	-14.48
SO	XBADJ	CSE2	-14.17	-14.08	-14.51	-14.50	-97.11	-98.58
SO	XBADJ	CSE2	-11.89	-10.25	-8.30	-6.10	-5.31	-6.74
SO	YBADJ	CSE2	-2.20	-2.01	-1.77	-1.48	-1.14	-0.76

```
SO YBADJ    CSE2        -0.36     0.05     0.46     0.85     1.22     1.55
SO YBADJ    CSE2         1.84     2.06     2.23     2.33     2.35     2.31
SO YBADJ    CSE2         2.20     2.01     1.77     1.48     1.14     0.76
SO YBADJ    CSE2         0.36    -0.05    -0.46    -0.85    11.93    -3.69
SO YBADJ    CSE2        -1.84    -2.06    -2.23    -2.33    -2.35    -2.31


SO BUILDHGT CSE3         6.10     6.10     6.10     6.10     6.10     6.10
SO BUILDHGT CSE3         6.10     6.10     6.10     6.10     6.10     6.10
SO BUILDHGT CSE3         6.10     6.10     6.10     6.10     6.10     6.10
SO BUILDHGT CSE3         6.10     6.10     6.10     6.10     6.10     6.10
SO BUILDHGT CSE3         6.10     6.10     6.10     6.10    29.57    29.57
SO BUILDHGT CSE3        29.57     6.10     6.10     6.10     6.10     6.10
SO BUILDWID CSE3        24.60    24.06    22.80    20.83    18.24    15.09
SO BUILDWID CSE3        11.48    10.72    14.40    17.65    20.36    22.46
SO BUILDWID CSE3        23.87    24.56    24.50    23.69    23.44    24.39
SO BUILDWID CSE3        24.60    24.06    22.80    20.83    18.24    15.09
SO BUILDWID CSE3        11.48    10.72    14.40    17.65    18.43    17.70
SO BUILDWID CSE3        16.10    24.56    24.50    23.69    23.44    24.39
SO BUILDLEN CSE3        17.65    20.36    22.46    23.87    24.56    24.50
SO BUILDLEN CSE3        23.69    23.44    24.39    24.60    24.06    22.80
SO BUILDLEN CSE3        20.83    18.24    15.09    11.48    10.72    14.40
SO BUILDLEN CSE3        17.65    20.36    22.46    23.87    24.56    24.50
SO BUILDLEN CSE3        23.69    23.44    24.39    24.60    16.46    17.96
SO BUILDLEN CSE3        18.91    18.24    15.09    11.48    10.72    14.40
SO XBADJ    CSE3        -9.89   -11.67   -13.09   -14.12   -14.72   -14.87
SO XBADJ    CSE3       -14.57   -14.46   -14.88   -14.83   -14.34   -13.41
SO XBADJ    CSE3       -12.08   -10.38    -8.36    -6.09    -5.23    -6.59
SO XBADJ    CSE3        -7.76    -8.70    -9.36    -9.75    -9.84    -9.62
SO XBADJ    CSE3        -9.12    -8.98    -9.52    -9.77   -92.79   -94.79
SO XBADJ    CSE3       -93.92    -7.86    -6.73    -5.40    -5.49    -7.81
SO YBADJ    CSE3         2.53     2.31     2.02     1.66     1.26     0.81
SO YBADJ    CSE3         0.34    -0.13    -0.61    -1.06    -1.49    -1.87
SO YBADJ    CSE3        -2.19    -2.44    -2.62    -2.72    -2.74    -2.68
SO YBADJ    CSE3        -2.53    -2.31    -2.02    -1.66    -1.26    -0.81
SO YBADJ    CSE3        -0.34     0.13     0.61     1.06    14.64    -0.27
SO YBADJ    CSE3       -15.17     2.44     2.62     2.72     2.74     2.68


SO BUILDHGT CSE4         6.10     6.10     6.10     6.10     6.10     6.10
SO BUILDHGT CSE4         6.10     6.10     6.10     6.10     6.10     6.10
SO BUILDHGT CSE4         6.10     6.10     6.10     6.10     6.10     6.10
SO BUILDHGT CSE4         6.10     6.10     6.10     6.10     6.10     6.10
SO BUILDHGT CSE4         6.10     6.10     6.10     6.10    29.57    29.57
SO BUILDHGT CSE4        29.57     6.10     6.10     6.10     6.10     6.10
SO BUILDWID CSE4        24.60    24.06    22.80    20.83    18.24    15.09
SO BUILDWID CSE4        11.48    10.72    14.40    17.65    20.36    22.46
SO BUILDWID CSE4        23.87    24.56    24.50    23.69    23.44    24.39
SO BUILDWID CSE4        24.60    24.06    22.80    20.83    18.24    15.09
SO BUILDWID CSE4        11.48    10.72    14.40    17.65    18.19    17.70
SO BUILDWID CSE4        16.10    24.56    24.50    23.69    23.44    24.39
SO BUILDLEN CSE4        17.65    20.36    22.46    23.87    24.56    24.50
SO BUILDLEN CSE4        23.69    23.44    24.39    24.60    24.06    22.80
SO BUILDLEN CSE4        20.83    18.24    15.09    11.48    10.72    14.40
SO BUILDLEN CSE4        17.65    20.36    22.46    23.87    24.56    24.50
SO BUILDLEN CSE4        23.69    23.44    24.39    24.60    16.46    17.96
SO BUILDLEN CSE4        18.91    18.24    15.09    11.48    10.72    14.40
SO XBADJ    CSE4       -11.85   -14.41   -16.54   -18.17   -19.24   -19.73
SO XBADJ    CSE4       -19.62   -19.55   -19.85   -19.54   -18.63   -17.16
SO XBADJ    CSE4       -15.17   -12.72    -9.88    -6.74    -5.00    -5.48
SO XBADJ    CSE4        -5.81    -5.95    -5.92    -5.70    -5.31    -4.76
SO XBADJ    CSE4        -4.07    -3.89    -4.55    -5.07   -88.49   -91.04
SO XBADJ    CSE4       -90.82    -5.52    -5.21    -4.74    -5.72    -8.92
SO YBADJ    CSE4         7.24     6.60     5.77     4.76     3.60     2.34
SO YBADJ    CSE4         1.00    -0.36    -1.72    -3.02    -4.23    -5.31
SO YBADJ    CSE4        -6.23    -6.96    -7.48    -7.78    -7.83    -7.65
SO YBADJ    CSE4        -7.24    -6.60    -5.77    -4.76    -3.60    -2.34
SO YBADJ    CSE4        -1.00     0.36     1.72     3.02    17.38     3.18
SO YBADJ    CSE4       -11.12     6.96     7.48     7.78     7.83     7.65

   SRCGROUP MG MGA1059 MGB1059 MGC1059 FGH1 CSE1-CSE4
   SRCGROUP SH SHA7559 SHB7559 SHC7559 FGH1 CSE1-CSE4

SO FINISHED
**
****************************************
** ISCST3 Receptor Pathway
****************************************
**
**
RE STARTING
   INCLUDED PCC0924.ROU
```

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RE FINISHED
**
******************************************
** AERMOD Meteorology Pathway
******************************************
**
**
ME STARTING
**    SURFFILE C:\amodmet\DABJAX01.SFC
**    PROFFILE C:\amodmet\DABJAX01.PFL
   SURFFILE C:\amodmet\DABJAX01.SFC
   PROFFILE C:\amodmet\DABJAX01.PFL
   SURFDATA 12834 2001 DAYTONA_BEACH/REGIONAL_ARPT
   UAIRDATA 13889 2001 JACKSONVILLE/INT'L_ARPT
   PROFBASE 31 FEET
ME FINISHED
**
******************************************
** AERMOD Output Pathway
******************************************
**
**
OU STARTING
   RECTABLE ALLAVE FIRST SECOND
OU FINISHED
**
```

PREDICTED CO IMPACTS FOR CCEC

1. SUMMARY FILES FOR
    - CTS/HRSGS AND FUEL HEATER
    - CTS/HRSGS, FUEL HEATER, AND GAS COMPRESSOR STATION
2. EXAMPLE INPUT FILE

AERBOB RELEASE 020304

AERMOD OUTPUT FILE NUMBER 1 :COMIX.001
AERMOD OUTPUT FILE NUMBER 2 :COMIX.002
AERMOD OUTPUT FILE NUMBER 3 :COMIX.003
AERMOD OUTPUT FILE NUMBER 4 :COMIX.004
AERMOD OUTPUT FILE NUMBER 5 :COMIX.005
First title for last output file is: 2001 FPL CCEC - SH(G 35F&75%LD) MPS(O 95F&75%) 12/05/08
Second title for last output file is: CO EMISSION RATES PER CTS

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	MG				
HIGH 8-Hour					
	2001	26.40026	522900.	3148300.	01042616
	2002	27.63495	522800.	3149900.	02030216
	2003	28.13880	523300.	3150000.	03032016
	2004	91.01818	522900.	3149600.	04090608
	2005	26.56910	523000.	3148400.	05041616
HSH 8-Hour					
	2001	22.94859	522300.	3148900.	01100916
	2002	22.68393	522800.	3149900.	02123116
	2003	23.48795	522600.	3148500.	03120216
	2004	65.12684	522800.	3149600.	04090608
	2005	22.69055	522900.	3148300.	05041716
HIGH 1-Hour					
	2001	57.20533	523100.	3150100.	01072320
	2002	52.22809	523300.	3150200.	02053022
	2003	52.34018	522900.	3149800.	03071414
	2004	120.60973	522861.	3149490.	04090521
	2005	53.69801	522900.	3150100.	05050104
HSH 1-Hour					
	2001	39.73983	522400.	3148200.	01111419
	2002	37.22379	523200.	3149900.	02051812
	2003	38.59026	522900.	3149800.	03062814
	2004	117.40823	522800.	3149500.	04090519
	2005	45.49716	522900.	3150300.	05050105
SOURCE GROUP ID:	SH				
HIGH 8-Hour					
	2001	17.41479	523160.	3149299.	01012408
	2002	20.85464	523160.	3149299.	02122724
	2003	19.69346	523201.	3149232.	03091208
	2004	38.01702	522955.	3149515.	04090608
	2005	19.11239	523181.	3149266.	05120108
HSH 8-Hour					
	2001	15.55132	523160.	3149299.	01012508
	2002	14.07149	523094.	3149383.	02091124
	2003	17.20473	523201.	3149232.	03112108
	2004	28.91406	522900.	3149500.	04090524
	2005	18.34066	523160.	3149299.	05042724
HIGH 1-Hour					
	2001	33.69726	523100.	3149800.	01072320
	2002	31.55752	523200.	3149800.	02053022
	2003	31.81937	523181.	3149266.	03011607
	2004	47.10957	522925.	3149506.	04090522
	2005	31.99486	523181.	3149266.	05121018
HSH 1-Hour					
	2001	31.58209	523181.	3149266.	01070305
	2002	31.16538	523181.	3149266.	02111821
	2003	31.59009	523181.	3149266.	03013004
	2004	46.39795	522925.	3149506.	04090524
	2005	31.94737	523181.	3149266.	05013121

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

AERBOB RELEASE 020304

AERMOD OUTPUT FILE NUMBER 1 :COMIXC7.001
AERMOD OUTPUT FILE NUMBER 2 :COMIXC7.002
AERMOD OUTPUT FILE NUMBER 3 :COMIXC7.003
AERMOD OUTPUT FILE NUMBER 4 :COMIXC7.004
AERMOD OUTPUT FILE NUMBER 5 :COMIXC7.005
First title for last output file is: 2001 FPL CCEC - CO SH(G 35F&75%LD) MPS(O 95F&75%) 12/05/08
Second title for last output file is: CO EMISSION RATES PER CTS

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	MG				
HIGH 8-Hour					
	2001	48.55612	522924.	3149254.	01042616
	2002	42.67547	522900.	3149200.	02030716
	2003	48.17278	522900.	3149200.	03110924
	2004	94.02006	522900.	3149600.	04090608
	2005	43.19961	522900.	3149200.	05041608
HSH 8-Hour					
	2001	46.46648	522924.	3149254.	01110516
	2002	41.58267	522900.	3149200.	02052208
	2003	40.21946	522900.	3149200.	03091716
	2004	70.44946	522800.	3149600.	04090608
	2005	40.11408	522900.	3149200.	05041524
HIGH 1-Hour					
	2001	64.54416	522911.	3149301.	01103001
	2002	62.02491	522900.	3149200.	02052206
	2003	63.32580	522911.	3149301.	03032720
	2004	127.20925	522861.	3149490.	04090521
	2005	64.55824	522924.	3149254.	05090808
HSH 1-Hour					
	2001	64.18966	522911.	3149301.	01093001
	2002	60.20189	522900.	3149200.	02052209
	2003	62.07979	522924.	3149254.	03110919
	2004	123.74226	522874.	3149443.	04090519
	2005	60.91705	522924.	3149254.	05022610
SOURCE GROUP ID:	SH				
HIGH 8-Hour					
	2001	48.55603	522924.	3149254.	01042616
	2002	42.67419	522900.	3149200.	02030716
	2003	48.17273	522900.	3149200.	03110924
	2004	48.27927	522886.	3149396.	04092624
	2005	43.19961	522900.	3149200.	05041608
HSH 8-Hour					
	2001	46.46649	522924.	3149254.	01110516
	2002	41.58268	522900.	3149200.	02052208
	2003	40.21775	522900.	3149200.	03091716
	2004	47.77919	522886.	3149396.	04090608
	2005	40.11411	522900.	3149200.	05041524
HIGH 1-Hour					
	2001	64.54416	522911.	3149301.	01103001
	2002	62.02491	522900.	3149200.	02052206
	2003	63.32581	522911.	3149301.	03032720
	2004	67.33157	522886.	3149396.	04090602
	2005	64.55827	522924.	3149254.	05090808
HSH 1-Hour					
	2001	64.18966	522911.	3149301.	01093001
	2002	60.20178	522900.	3149200.	02052209
	2003	62.07979	522924.	3149254.	03110919
	2004	65.85400	522886.	3149396.	04092621
	2005	60.91705	522924.	3149254.	05022610

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
   TITLEONE 2001 FPL CCEC - CO SH(G 35F&75%LD) MPS(O 95F&75%) 12/05/08
   TITLETWO CO EMISSION RATES PER CTS
   MODELOPT DFAULT CONC NOWARN
   AVERTIME 8 1
   POLLUTID GEN
   RUNORNOT RUN
CO FINISHED
**
****************************************
** ISCST3 Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **

   LOCATION MGA7595 POINT 523095.350 3149311.860 2.180
   LOCATION MGB7595 POINT 523107.900 3149267.810 2.600
   LOCATION MGC7595 POINT 523135.910 3149169.320 2.990

   LOCATION SHA7535 POINT 523095.350 3149311.860 2.180
   LOCATION SHB7535 POINT 523107.900 3149267.810 2.600
   LOCATION SHC7535 POINT 523135.910 3149169.320 2.990

   LOCATION FGH1 POINT 523060.500 3149312.940 2.930

   LOCATION CSE1 POINT 522930.291 3149329.291 5.370
   LOCATION CSE2 POINT 522935.674 3149330.744 5.460
   LOCATION CSE3 POINT 522940.663 3149331.809 5.500
   LOCATION CSE4 POINT 522945.635 3149332.919 5.500

** Source Parameters **
** 75% load, 95 F  OIL 501G
   SRCPARAM MGA7595 25.20    45.4   447.0   20.8   6.71
   SRCPARAM MGB7595 25.20    45.4   447.0   20.8   6.71
   SRCPARAM MGC7595 25.20    45.4   447.0   20.8   6.71

** 75% load, 35 F  GAS SH
   SRCPARAM SHA7535 6.17     45.4   357.6   15.02  6.71
   SRCPARAM SHB7535 6.17     45.4   357.6   15.02  6.71
   SRCPARAM SHC7535 6.17     45.4   357.6   15.02  6.71

   SRCPARAM FGH1  0.101 9.144 533.150 32.02 0.305

** 7 COMP ENG 3516/ ASSUME 3 WITH 2X EMISSIONS
   SRCPARAM CSE1 0.297 12.2 729.800 49.50000 0.305
   SRCPARAM CSE2 0.297 12.2 729.800 49.50000 0.305
   SRCPARAM CSE3 0.297 12.2 729.800 49.50000 0.305
   SRCPARAM CSE4 0.149 12.2 729.800 49.50000 0.305


** Building Downwash **
SO BUILDHGT MGA7595        23.47    23.47    23.47    29.57    29.57    23.47
SO BUILDHGT MGA7595        29.57    29.57    23.47    23.47    23.47    23.47
SO BUILDHGT MGA7595        23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDHGT MGA7595        23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDHGT MGA7595        23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDHGT MGA7595        23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDWID MGA7595        29.33    28.46    26.73    18.93    19.31    16.99
SO BUILDWID MGA7595        18.29    18.50    17.82    21.61    24.75    27.14
SO BUILDWID MGA7595        28.71    29.40    29.20    28.11    28.40    29.31
SO BUILDWID MGA7595        29.33    28.46    26.73    24.18    20.90    16.99
SO BUILDWID MGA7595        12.55    13.48    17.82    21.61    24.75    27.14
SO BUILDWID MGA7595        28.71    29.40    29.20    28.11    28.40    29.31
SO BUILDLEN MGA7595        21.61    24.75    27.14    16.11    14.02    29.20
SO BUILDLEN MGA7595         8.62     9.22    29.31    29.33    28.46    26.73
SO BUILDLEN MGA7595        24.18    20.90    16.99    12.56    13.48    17.82
SO BUILDLEN MGA7595        21.61    24.75    27.14    28.71    29.40    29.20
SO BUILDLEN MGA7595        28.11    28.40    29.31    29.33    28.46    26.73
SO BUILDLEN MGA7595        24.18    20.90    16.99    12.56    13.48    17.82
SO XBADJ    MGA7595       -60.77   -61.11   -59.59  -102.66  -101.75   -33.48
SO XBADJ    MGA7595       -87.48   -87.57   -33.48   -32.31   -30.16   -27.09
SO XBADJ    MGA7595       -23.20   -18.60   -13.44    38.37    41.16    40.78
SO XBADJ    MGA7595        39.16    36.35    32.44     1.70     3.04     4.28
SO XBADJ    MGA7595         5.40     5.24     4.17     2.98     1.70     0.36
SO XBADJ    MGA7595        -0.98    -2.30    -3.55   -50.92   -54.63   -58.59
SO YBADJ    MGA7595        -2.75   -11.38   -19.67     9.03    -7.54     4.95
SO YBADJ    MGA7595         6.09    -8.45    -5.16    -8.35   -11.29   -13.88
SO YBADJ    MGA7595       -16.05   -17.74   -18.88   -22.60   -14.51    -5.97
SO YBADJ    MGA7595         2.75    11.38    19.67   -11.11    -8.15    -4.95
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SO YBADJ	MGA7595	-1.59	1.81	5.16	8.35	11.29	13.88
SO YBADJ	MGA7595	16.05	17.74	18.88	22.60	14.51	5.97
SO BUILDHGT	MGB7595	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	MGB7595	29.57	29.57	23.47	29.57	23.47	23.47
SO BUILDHGT	MGB7595	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	MGB7595	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	MGB7595	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	MGB7595	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDWID	MGB7595	29.33	28.46	26.73	24.18	20.90	16.99
SO BUILDWID	MGB7595	18.31	18.52	17.82	19.26	24.75	27.14
SO BUILDWID	MGB7595	28.71	29.40	29.20	28.11	28.40	29.31
SO BUILDWID	MGB7595	29.33	28.46	26.73	24.18	20.90	16.99
SO BUILDWID	MGB7595	12.56	13.48	17.82	21.61	24.75	27.14
SO BUILDWID	MGB7595	28.71	29.40	29.20	28.11	28.40	29.31
SO BUILDLEN	MGB7595	21.61	24.75	27.14	28.71	29.40	29.20
SO BUILDLEN	MGB7595	8.62	9.22	29.31	14.46	28.46	26.73
SO BUILDLEN	MGB7595	24.18	20.90	16.99	12.56	13.48	17.82
SO BUILDLEN	MGB7595	21.61	24.75	27.14	28.71	29.40	29.20
SO BUILDLEN	MGB7595	28.11	28.40	29.31	29.33	28.46	26.73
SO BUILDLEN	MGB7595	24.18	20.90	16.99	12.56	13.48	17.82
SO XBADJ	MGB7595	-19.57	-24.01	-27.71	-30.57	-32.51	-33.45
SO XBADJ	MGB7595	-87.49	-87.60	-33.17	-102.31	-29.71	-26.59
SO XBADJ	MGB7595	-22.66	-18.04	-12.87	-7.32	-4.40	-3.27
SO XBADJ	MGB7595	-2.04	-0.75	0.57	1.87	3.11	4.26
SO XBADJ	MGB7595	5.28	5.02	3.86	2.59	1.24	-0.14
SO XBADJ	MGB7595	-1.53	-2.86	-4.11	-5.24	-110.87	-113.12
SO YBADJ	MGB7595	17.26	15.48	13.22	10.56	7.59	4.38
SO YBADJ	MGB7595	6.20	-8.34	-5.64	4.89	-11.63	-14.14
SO YBADJ	MGB7595	-16.22	-17.81	-18.86	-19.33	-19.22	-18.52
SO YBADJ	MGB7595	-17.26	-15.48	-13.22	-10.56	-7.59	-4.38
SO YBADJ	MGB7595	-1.04	2.33	5.64	8.77	11.63	14.14
SO YBADJ	MGB7595	16.22	17.81	18.86	19.33	9.60	-8.63
SO BUILDHGT	MGC7595	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	MGC7595	29.57	29.57	23.47	23.47	23.47	23.47
SO BUILDHGT	MGC7595	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	MGC7595	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	MGC7595	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	MGC7595	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDWID	MGC7595	29.33	28.46	26.73	24.18	20.90	16.99
SO BUILDWID	MGC7595	18.27	18.47	17.82	21.61	24.75	27.14
SO BUILDWID	MGC7595	28.71	29.40	29.20	28.11	28.40	29.31
SO BUILDWID	MGC7595	29.33	28.46	26.73	24.18	20.90	16.99
SO BUILDWID	MGC7595	12.56	13.48	17.82	21.61	24.75	27.14
SO BUILDWID	MGC7595	28.71	29.40	29.20	28.11	28.40	29.31
SO BUILDLEN	MGC7595	21.61	24.75	27.14	28.71	29.40	29.20
SO BUILDLEN	MGC7595	8.62	9.21	29.31	29.33	28.46	26.73
SO BUILDLEN	MGC7595	24.18	20.90	16.99	12.56	13.48	17.82
SO BUILDLEN	MGC7595	21.61	24.75	27.14	28.71	29.40	29.20
SO BUILDLEN	MGC7595	28.11	28.40	29.31	29.33	28.46	26.73
SO BUILDLEN	MGC7595	24.18	20.90	16.99	12.56	13.48	17.82
SO XBADJ	MGC7595	-19.81	-24.39	-28.22	-31.20	-33.23	-34.25
SO XBADJ	MGC7595	-87.59	-87.70	-34.04	-32.76	-30.49	-27.29
SO XBADJ	MGC7595	-23.26	-18.53	-13.23	-7.53	-4.47	-3.18
SO XBADJ	MGC7595	-1.80	-0.37	1.08	2.49	3.83	5.05
SO XBADJ	MGC7595	6.12	5.89	4.73	3.43	2.03	0.56
SO XBADJ	MGC7595	-0.92	-2.38	-3.76	-5.03	-9.01	-14.63
SO YBADJ	MGC7595	18.10	16.26	13.92	11.17	8.07	4.73
SO YBADJ	MGC7595	6.17	-8.39	-5.72	-9.00	-12.01	-14.65
SO YBADJ	MGC7595	-16.85	-18.53	-19.65	-20.17	-20.08	-19.38
SO YBADJ	MGC7595	-18.10	-16.26	-13.92	-11.17	-8.07	-4.73
SO YBADJ	MGC7595	-1.25	2.27	5.73	9.00	12.01	14.65
SO YBADJ	MGC7595	16.85	18.53	19.65	20.17	20.08	19.38
SO BUILDHGT	SHA7535	23.47	23.47	23.47	29.57	29.57	23.47
SO BUILDHGT	SHA7535	29.57	29.57	23.47	23.47	23.47	23.47
SO BUILDHGT	SHA7535	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	SHA7535	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	SHA7535	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDHGT	SHA7535	23.47	23.47	23.47	23.47	23.47	23.47
SO BUILDWID	SHA7535	29.33	28.46	26.73	18.93	19.31	16.99
SO BUILDWID	SHA7535	18.29	18.50	17.82	21.61	24.75	27.14
SO BUILDWID	SHA7535	28.71	29.40	29.20	28.11	28.40	29.31
SO BUILDWID	SHA7535	29.33	28.46	26.73	24.18	20.90	16.99
SO BUILDWID	SHA7535	12.55	13.48	17.82	21.61	24.75	27.14
SO BUILDWID	SHA7535	28.71	29.40	29.20	28.11	28.40	29.31
SO BUILDLEN	SHA7535	21.61	24.75	27.14	16.11	14.02	29.20
SO BUILDLEN	SHA7535	8.62	9.22	29.31	29.33	28.46	26.73
SO BUILDLEN	SHA7535	24.18	20.90	16.99	12.56	13.48	17.82
SO BUILDLEN	SHA7535	21.61	24.75	27.14	28.71	29.40	29.20
SO BUILDLEN	SHA7535	28.11	28.40	29.31	29.33	28.46	26.73

SO	BUILDLEN	SHA7535	24.18	20.90	16.99	12.56	13.48	17.82
SO	XBADJ	SHA7535	-60.77	-61.11	-59.59	-102.66	-101.75	-33.48
SO	XBADJ	SHA7535	-87.48	-87.57	-33.48	-32.31	-30.16	-27.09
SO	XBADJ	SHA7535	-23.20	-18.60	-13.44	38.37	41.16	40.78
SO	XBADJ	SHA7535	39.16	36.35	32.44	1.70	3.04	4.28
SO	XBADJ	SHA7535	5.40	5.24	4.17	2.98	1.70	0.36
SO	XBADJ	SHA7535	-0.98	-2.30	-3.55	-50.92	-54.63	-58.59
SO	YBADJ	SHA7535	-2.75	-11.38	-19.67	9.03	-7.54	4.95
SO	YBADJ	SHA7535	6.09	-8.45	-5.16	-8.35	-11.29	-13.88
SO	YBADJ	SHA7535	-16.05	-17.74	-18.88	-22.60	-14.51	-5.97
SO	YBADJ	SHA7535	2.75	11.38	19.67	-11.11	-8.15	-4.95
SO	YBADJ	SHA7535	-1.59	1.81	5.16	8.35	11.29	13.88
SO	YBADJ	SHA7535	16.05	17.74	18.88	22.60	14.51	5.97
SO	BUILDHGT	SHB7535	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHB7535	29.57	29.57	23.47	29.57	23.47	23.47
SO	BUILDHGT	SHB7535	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHB7535	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHB7535	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHB7535	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDWID	SHB7535	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	SHB7535	18.31	18.52	17.82	19.26	24.75	27.14
SO	BUILDWID	SHB7535	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDWID	SHB7535	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	SHB7535	12.56	13.48	17.82	21.61	24.75	27.14
SO	BUILDWID	SHB7535	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDLEN	SHB7535	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	SHB7535	8.62	9.22	29.31	14.46	28.46	26.73
SO	BUILDLEN	SHB7535	24.18	20.90	16.99	12.56	13.48	17.82
SO	BUILDLEN	SHB7535	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	SHB7535	28.11	28.40	29.31	29.33	28.46	26.73
SO	BUILDLEN	SHB7535	24.18	20.90	16.99	12.56	13.48	17.82
SO	XBADJ	SHB7535	-19.57	-24.01	-27.71	-30.57	-32.51	-33.45
SO	XBADJ	SHB7535	-87.49	-87.60	-33.17	-102.31	-29.71	-26.59
SO	XBADJ	SHB7535	-22.66	-18.04	-12.87	-7.32	-4.40	-3.27
SO	XBADJ	SHB7535	-2.04	-0.75	0.57	1.87	3.11	4.26
SO	XBADJ	SHB7535	5.28	5.02	3.86	2.59	1.24	-0.14
SO	XBADJ	SHB7535	-1.53	-2.86	-4.11	-5.24	-110.87	-113.12
SO	YBADJ	SHB7535	17.26	15.48	13.22	10.56	7.59	4.38
SO	YBADJ	SHB7535	6.20	-8.34	-5.64	4.89	-11.63	-14.14
SO	YBADJ	SHB7535	-16.22	-17.81	-18.86	-19.33	-19.22	-18.52
SO	YBADJ	SHB7535	-17.26	-15.48	-13.22	-10.56	-7.59	-4.38
SO	YBADJ	SHB7535	-1.04	2.33	5.64	8.77	11.63	14.14
SO	YBADJ	SHB7535	16.22	17.81	18.86	19.33	9.60	-8.63
SO	BUILDHGT	SHC7535	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHC7535	29.57	29.57	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHC7535	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHC7535	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHC7535	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	SHC7535	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDWID	SHC7535	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	SHC7535	18.27	18.47	17.82	21.61	24.75	27.14
SO	BUILDWID	SHC7535	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDWID	SHC7535	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	SHC7535	12.56	13.48	17.82	21.61	24.75	27.14
SO	BUILDWID	SHC7535	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDLEN	SHC7535	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	SHC7535	8.62	9.21	29.31	29.33	28.46	26.73
SO	BUILDLEN	SHC7535	24.18	20.90	16.99	12.56	13.48	17.82
SO	BUILDLEN	SHC7535	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	SHC7535	28.11	28.40	29.31	29.33	28.46	26.73
SO	BUILDLEN	SHC7535	24.18	20.90	16.99	12.56	13.48	17.82
SO	XBADJ	SHC7535	-19.81	-24.39	-28.22	-31.20	-33.23	-34.25
SO	XBADJ	SHC7535	-87.59	-87.70	-34.04	-32.76	-30.49	-27.29
SO	XBADJ	SHC7535	-23.26	-18.53	-13.23	-7.53	-4.47	-3.18
SO	XBADJ	SHC7535	-1.80	-0.37	1.08	2.49	3.83	5.05
SO	XBADJ	SHC7535	6.12	5.89	4.73	3.43	2.03	0.56
SO	XBADJ	SHC7535	-0.92	-2.38	-3.76	-5.03	-9.01	-14.63
SO	YBADJ	SHC7535	18.10	16.26	13.92	11.17	8.07	4.73
SO	YBADJ	SHC7535	6.17	-8.39	-5.72	-9.00	-12.01	-14.65
SO	YBADJ	SHC7535	-16.85	-18.53	-19.65	-20.17	-20.08	-19.38
SO	YBADJ	SHC7535	-18.10	-16.26	-13.92	-11.17	-8.07	-4.73
SO	YBADJ	SHC7535	-1.25	2.27	5.73	9.00	12.01	14.65
SO	YBADJ	SHC7535	16.85	18.53	19.65	20.17	20.08	19.38
SO	BUILDHGT	FGH1	23.47	23.47	23.47	29.57	29.57	29.57
SO	BUILDHGT	FGH1	29.57	29.57	23.47	23.47	23.47	23.47
SO	BUILDHGT	FGH1	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	FGH1	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	FGH1	23.47	23.47	23.47	23.47	23.47	23.47
SO	BUILDHGT	FGH1	23.47	23.47	23.47	23.47	23.47	23.47

SO	BUILDWID	FGH1	29.33	28.46	26.73	18.93	19.29	19.08
SO	BUILDWID	FGH1	18.29	18.50	17.82	21.61	24.75	27.14
SO	BUILDWID	FGH1	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDWID	FGH1	29.33	28.46	26.73	24.18	20.90	16.99
SO	BUILDWID	FGH1	12.55	13.48	17.82	21.61	24.75	27.14
SO	BUILDWID	FGH1	28.71	29.40	29.20	28.11	28.40	29.31
SO	BUILDLEN	FGH1	21.61	24.75	27.14	16.11	14.01	11.49
SO	BUILDLEN	FGH1	8.62	9.22	29.31	29.33	28.46	26.73
SO	BUILDLEN	FGH1	24.18	20.90	16.99	12.55	13.48	17.82
SO	BUILDLEN	FGH1	21.61	24.75	27.14	28.71	29.40	29.20
SO	BUILDLEN	FGH1	28.11	28.40	29.31	29.33	28.46	26.73
SO	BUILDLEN	FGH1	24.18	20.90	16.99	12.56	13.48	17.82
SO	XBADJ	FGH1	-14.17	-12.76	-10.96	-81.09	-57.07	-56.95
SO	XBADJ	FGH1	-55.10	-53.44	1.37	2.20	2.96	3.63
SO	XBADJ	FGH1	42.66	4.63	4.92	5.06	2.19	-2.67
SO	XBADJ	FGH1	-7.45	-12.00	-16.18	-19.88	-22.96	-25.36
SO	XBADJ	FGH1	-26.98	-28.89	-30.68	-31.53	-31.42	-30.36
SO	XBADJ	FGH1	-66.85	-67.90	-66.90	-63.86	-61.75	-15.14
SO	YBADJ	FGH1	-16.86	-17.19	-16.99	-18.36	10.94	2.08
SO	YBADJ	FGH1	-6.85	-15.56	-6.24	-3.36	-0.38	2.61
SO	YBADJ	FGH1	-20.32	8.26	10.76	12.92	14.70	16.02
SO	YBADJ	FGH1	16.86	17.19	16.99	16.28	15.08	13.41
SO	YBADJ	FGH1	11.34	8.92	6.24	3.36	0.38	-2.61
SO	YBADJ	FGH1	20.32	10.51	0.37	-9.78	-19.63	-16.02

SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	29.57	29.57
SO	BUILDHGT	CSE1	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDWID	CSE1	24.60	24.06	22.80	20.83	18.24	15.09
SO	BUILDWID	CSE1	11.48	10.72	14.40	17.65	20.36	22.46
SO	BUILDWID	CSE1	23.87	24.56	24.50	23.69	23.44	24.39
SO	BUILDWID	CSE1	24.60	24.06	22.80	20.83	18.24	15.09
SO	BUILDWID	CSE1	11.48	10.72	14.40	17.65	18.77	17.70
SO	BUILDWID	CSE1	23.87	24.56	24.50	23.69	23.44	24.39
SO	BUILDLEN	CSE1	17.65	20.36	22.46	23.87	24.56	24.50
SO	BUILDLEN	CSE1	23.69	23.44	24.39	24.60	24.06	22.80
SO	BUILDLEN	CSE1	20.83	18.24	15.09	11.48	10.72	14.40
SO	BUILDLEN	CSE1	17.65	20.36	22.46	23.87	24.56	24.50
SO	BUILDLEN	CSE1	23.69	23.44	24.39	24.60	16.46	17.96
SO	BUILDLEN	CSE1	20.83	18.24	15.09	11.48	10.72	14.40
SO	XBADJ	CSE1	-5.61	-5.76	-5.73	-5.53	-5.16	-4.63
SO	XBADJ	CSE1	-3.96	-3.81	-4.50	-5.06	-5.46	-5.69
SO	XBADJ	CSE1	-5.75	-5.64	-5.35	-4.91	-5.90	-9.11
SO	XBADJ	CSE1	-12.04	-14.61	-16.73	-18.34	-19.40	-19.87
SO	XBADJ	CSE1	-19.73	-19.63	-19.89	-19.55	-101.67	-102.52
SO	XBADJ	CSE1	-15.08	-12.60	-9.74	-6.58	-4.81	-5.29
SO	YBADJ	CSE1	-7.24	-6.58	-5.71	-4.67	-3.48	-2.19
SO	YBADJ	CSE1	-0.84	0.55	1.91	3.22	4.43	5.50
SO	YBADJ	CSE1	6.41	7.12	7.62	7.88	7.91	7.69
SO	YBADJ	CSE1	7.24	6.58	5.71	4.67	3.48	2.19
SO	YBADJ	CSE1	0.84	-0.55	-1.91	-3.22	8.72	-7.64
SO	YBADJ	CSE1	-6.41	-7.12	-7.62	-7.88	-7.91	-7.69

SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	29.57	29.57
SO	BUILDHGT	CSE2	6.10	6.10	6.10	6.10	6.10	6.10
SO	BUILDWID	CSE2	24.60	24.06	22.80	20.83	18.24	15.09
SO	BUILDWID	CSE2	11.48	10.72	14.40	17.65	20.36	22.46
SO	BUILDWID	CSE2	23.87	24.56	24.50	23.69	23.44	24.39
SO	BUILDWID	CSE2	24.60	24.06	22.80	20.83	18.24	15.09
SO	BUILDWID	CSE2	11.48	10.72	14.40	17.65	18.62	17.70
SO	BUILDWID	CSE2	23.87	24.56	24.50	23.69	23.44	24.39
SO	BUILDLEN	CSE2	17.65	20.36	22.46	23.87	24.56	24.50
SO	BUILDLEN	CSE2	23.69	23.44	24.39	24.60	24.06	22.80
SO	BUILDLEN	CSE2	20.83	18.24	15.09	11.48	10.72	14.40
SO	BUILDLEN	CSE2	17.65	20.36	22.46	23.87	24.56	24.50
SO	BUILDLEN	CSE2	23.69	23.44	24.39	24.60	16.46	17.96
SO	BUILDLEN	CSE2	20.83	18.24	15.09	11.48	10.72	14.40
SO	XBADJ	CSE2	-7.97	-8.96	-9.68	-10.10	-10.21	-10.02
SO	XBADJ	CSE2	-9.52	-9.37	-9.89	-10.11	-10.02	-9.63
SO	XBADJ	CSE2	-8.94	-7.98	-6.79	-5.38	-5.41	-7.66
SO	XBADJ	CSE2	-9.68	-11.40	-12.78	-13.77	-14.34	-14.48
SO	XBADJ	CSE2	-14.17	-14.08	-14.51	-14.50	-97.11	-98.58
SO	XBADJ	CSE2	-11.89	-10.25	-8.30	-6.10	-5.31	-6.74
SO	YBADJ	CSE2	-2.20	-2.01	-1.77	-1.48	-1.14	-0.76

```
SO YBADJ    CSE2       -0.36    0.05    0.46    0.85    1.22    1.55
SO YBADJ    CSE2        1.84    2.06    2.23    2.33    2.35    2.31
SO YBADJ    CSE2        2.20    2.01    1.77    1.48    1.14    0.76
SO YBADJ    CSE2        0.36   -0.05   -0.46   -0.85   11.93   -3.69
SO YBADJ    CSE2       -1.84   -2.06   -2.23   -2.33   -2.35   -2.31


SO BUILDHGT CSE3        6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE3        6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE3        6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE3        6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE3        6.10    6.10    6.10    6.10   29.57   29.57
SO BUILDHGT CSE3       29.57    6.10    6.10    6.10    6.10    6.10
SO BUILDWID CSE3       24.60   24.06   22.80   20.83   18.24   15.09
SO BUILDWID CSE3       11.48   10.72   14.40   17.65   20.36   22.46
SO BUILDWID CSE3       23.87   24.56   24.50   23.69   23.44   24.39
SO BUILDWID CSE3       24.60   24.06   22.80   20.83   18.24   15.09
SO BUILDWID CSE3       11.48   10.72   14.40   17.65   18.43   17.70
SO BUILDWID CSE3       16.10   24.56   24.50   23.69   23.44   24.39
SO BUILDLEN CSE3       17.65   20.36   22.46   23.87   24.56   24.50
SO BUILDLEN CSE3       23.69   23.44   24.39   24.60   24.06   22.80
SO BUILDLEN CSE3       20.83   18.24   15.09   11.48   10.72   14.40
SO BUILDLEN CSE3       17.65   20.36   22.46   23.87   24.56   24.50
SO BUILDLEN CSE3       23.69   23.44   24.39   24.60   16.46   17.96
SO BUILDLEN CSE3       18.91   18.24   15.09   11.48   10.72   14.40
SO XBADJ    CSE3       -9.89  -11.67  -13.09  -14.12  -14.72  -14.87
SO XBADJ    CSE3      -14.57  -14.46  -14.88  -14.83  -14.34  -13.41
SO XBADJ    CSE3      -12.08  -10.38   -8.36   -6.09   -5.23   -6.59
SO XBADJ    CSE3       -7.76   -8.70   -9.36   -9.75   -9.84   -9.62
SO XBADJ    CSE3       -9.12   -8.98   -9.52   -9.77  -92.79  -94.79
SO XBADJ    CSE3      -93.92   -7.86   -6.73   -5.40   -5.49   -7.81
SO YBADJ    CSE3        2.53    2.31    2.02    1.66    1.26    0.81
SO YBADJ    CSE3        0.34   -0.13   -0.61   -1.06   -1.49   -1.87
SO YBADJ    CSE3       -2.19   -2.44   -2.62   -2.72   -2.74   -2.68
SO YBADJ    CSE3       -2.53   -2.31   -2.02   -1.66   -1.26   -0.81
SO YBADJ    CSE3       -0.34    0.13    0.61    1.06   14.64   -0.27
SO YBADJ    CSE3      -15.17    2.44    2.62    2.72    2.74    2.68


SO BUILDHGT CSE4        6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE4        6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE4        6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE4        6.10    6.10    6.10    6.10    6.10    6.10
SO BUILDHGT CSE4        6.10    6.10    6.10    6.10   29.57   29.57
SO BUILDHGT CSE4       29.57    6.10    6.10    6.10    6.10    6.10
SO BUILDWID CSE4       24.60   24.06   22.80   20.83   18.24   15.09
SO BUILDWID CSE4       11.48   10.72   14.40   17.65   20.36   22.46
SO BUILDWID CSE4       23.87   24.56   24.50   23.69   23.44   24.39
SO BUILDWID CSE4       24.60   24.06   22.80   20.83   18.24   15.09
SO BUILDWID CSE4       11.48   10.72   14.40   17.65   18.19   17.70
SO BUILDWID CSE4       16.10   24.56   24.50   23.69   23.44   24.39
SO BUILDLEN CSE4       17.65   20.36   22.46   23.87   24.56   24.50
SO BUILDLEN CSE4       23.69   23.44   24.39   24.60   24.06   22.80
SO BUILDLEN CSE4       20.83   18.24   15.09   11.48   10.72   14.40
SO BUILDLEN CSE4       17.65   20.36   22.46   23.87   24.56   24.50
SO BUILDLEN CSE4       23.69   23.44   24.39   24.60   16.46   17.96
SO BUILDLEN CSE4       18.91   18.24   15.09   11.48   10.72   14.40
SO XBADJ    CSE4      -11.85  -14.41  -16.54  -18.17  -19.24  -19.73
SO XBADJ    CSE4      -19.62  -19.55  -19.85  -19.54  -18.63  -17.16
SO XBADJ    CSE4      -15.17  -12.72   -9.88   -6.74   -5.00   -5.48
SO XBADJ    CSE4       -5.81   -5.95   -5.92   -5.70   -5.31   -4.76
SO XBADJ    CSE4       -4.07   -3.89   -4.55   -5.07  -88.49  -91.04
SO XBADJ    CSE4      -90.82   -5.52   -5.21   -4.74   -5.72   -8.92
SO YBADJ    CSE4        7.24    6.60    5.77    4.76    3.60    2.34
SO YBADJ    CSE4        1.00   -0.36   -1.72   -3.02   -4.23   -5.31
SO YBADJ    CSE4       -6.23   -6.96   -7.48   -7.78   -7.83   -7.65
SO YBADJ    CSE4       -7.24   -6.60   -5.77   -4.76   -3.60   -2.34
SO YBADJ    CSE4       -1.00    0.36    1.72    3.02   17.38    3.18
SO YBADJ    CSE4      -11.12    6.96    7.48    7.78    7.83    7.65

   SRCGROUP MG MGA7595 MGB7595 MGC7595 FGH1 CSE1-CSE4
   SRCGROUP SH SHA7535 SHB7535 SHC7535 FGH1 CSE1-CSE4

SO FINISHED
**
*****************************************
** ISCST3 Receptor Pathway
*****************************************
**
**
RE STARTING
   INCLUDED PCC0924.ROU
```

```
RE FINISHED
**
******************************************
** AERMOD Meteorology Pathway
******************************************
**
**
ME STARTING
**   SURFFILE C:\amodmet\DABJAX01.SFC
**   PROFFILE C:\amodmet\DABJAX01.PFL
   SURFFILE DABJAX01.SFC
   PROFFILE DABJAX01.PFL
   SURFDATA 12834 2001 DAYTONA_BEACH/REGIONAL_ARPT
   UAIRDATA 13889 2001 JACKSONVILLE/INT'L_ARPT
   PROFBASE 31 FEET
ME FINISHED
**
******************************************
** AERMOD Output Pathway
******************************************
**
**
OU STARTING
   RECTABLE ALLAVE FIRST SECOND
OU FINISHED
**
```

PREDICTED IMPACTS FOR THE AUXILIARY BOILER MODELED WITH 10 G/S EMISSION RATE

1. SUMMARY FILE
2. EXAMPLE INPUT FILE

AERBOB RELEASE 020304

AERMOD OUTPUT FILE NUMBER 1 :GNAUXBLR.001
AERMOD OUTPUT FILE NUMBER 2 :GNAUXBLR.002
AERMOD OUTPUT FILE NUMBER 3 :GNAUXBLR.003
AERMOD OUTPUT FILE NUMBER 4 :GNAUXBLR.004
AERMOD OUTPUT FILE NUMBER 5 :GNAUXBLR.005
First title for last output file is: 2001 FPL CCEC AUX BOILER 10/03/08
Second title for last output file is: GENERIC (10 g/s) EMISSION RATE

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	ALL				
Annual					
	2001	16.94354	522949.	3149160.	01123124
	2002	14.17583	522949.	3149160.	02123124
	2003	12.78932	522900.	3149100.	03123124
	2004	15.52842	522949.	3149160.	04123124
	2005	15.25269	523126.	3148971.	05123124
HIGH 24-Hour					
	2001	219.66602	522949.	3149160.	01100924
	2002	150.79005	522961.	3149113.	02090824
	2003	183.88266	522961.	3149113.	03110124
	2004	197.83508	522961.	3149113.	04111424
	2005	178.14742	523126.	3148971.	05121924
HIGH 8-Hour					
	2001	260.86899	523400.	3148900.	01100108
	2002	215.64935	522936.	3149207.	02051616
	2003	238.36938	523249.	3148946.	03122724
	2004	300.62512	522961.	3149113.	04092308
	2005	287.03961	523126.	3148971.	05090924
HIGH 3-Hour					
	2001	446.62509	523300.	3148700.	01010321
	2002	438.71225	523300.	3148700.	02110221
	2003	432.51172	523249.	3148946.	03122724
	2004	371.80576	523300.	3148900.	04121803
	2005	327.94327	523249.	3148946.	05111706
HIGH 1-Hour					
	2001	564.98419	523200.	3148800.	01092603
	2002	562.50403	523200.	3148800.	02111818
	2003	566.66840	523200.	3148800.	03111120
	2004	557.97986	523200.	3148800.	04022822
	2005	535.73248	523300.	3148800.	05111706

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
   TITLEONE 2001 FPL CCEC  AUX BOILER 10/03/08
   TITLETWO GENERIC (10 g/s) EMISSION RATE
   MODELOPT DFAULT CONC NOWARN
   AVERTIME PERIOD 24 8 3 1
   POLLUTID GEN
   RUNORNOT RUN
CO FINISHED
**
****************************************
** ISCST3 Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION AUXBLR POINT 523096.990 3149211.730 3.380

** Source Parameters **
   SRCPARAM AUXBLR 10.0 18.3 419.87 25.1 0.838

** Building Downwash **
SO BUILDHGT AUXBLR      23.47    23.47    29.57    29.57    15.85    15.85
SO BUILDHGT AUXBLR      15.85    15.85    15.85    15.85    29.57    29.57
SO BUILDHGT AUXBLR      23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDHGT AUXBLR      23.47    23.47     0.00     0.00    15.85    15.85
SO BUILDHGT AUXBLR      15.85    15.85    15.85    15.85     0.00     0.00
SO BUILDHGT AUXBLR      23.47    23.47    23.47    23.47    23.47    23.47
SO BUILDWID AUXBLR      29.33    28.46    17.94    18.86    30.53    23.70
SO BUILDWID AUXBLR      16.15    17.70    25.13    31.80    18.78    17.72
SO BUILDWID AUXBLR      28.71    29.40    29.20    28.11    28.40    29.31
SO BUILDWID AUXBLR      29.33    28.46     0.00     0.00    30.53    23.70
SO BUILDWID AUXBLR      16.15    17.70    25.13    31.80     0.00     0.00
SO BUILDWID AUXBLR      28.71    29.40    29.20    28.11    28.40    29.31
SO BUILDLEN AUXBLR      21.61    24.75    17.68    16.08    47.24    47.70
SO BUILDLEN AUXBLR      46.72    47.03    47.73    46.97    16.47    17.97
SO BUILDLEN AUXBLR      24.18    20.90    16.99    12.56    13.48    17.82
SO BUILDLEN AUXBLR      21.61    24.75     0.00     0.00    47.24    47.70
SO BUILDLEN AUXBLR      46.72    47.03    47.73    46.97     0.00     0.00
SO BUILDLEN AUXBLR      24.18    20.90    16.99    12.56    13.48    17.82
SO XBADJ    AUXBLR      37.55    32.42   -85.94   -84.55   -66.44   -69.35
SO XBADJ    AUXBLR     -70.16   -70.19   -68.99   -65.69   -84.86   -85.79
SO XBADJ    AUXBLR      33.81    38.98    42.96    45.64    44.06    39.23
SO XBADJ    AUXBLR     -59.16   -57.18     0.00     0.00    19.21    21.65
SO XBADJ    AUXBLR      23.43    23.15    21.26    18.72     0.00     0.00
SO XBADJ    AUXBLR     -58.00   -59.88   -59.95   -58.19   -57.53   -57.04
SO YBADJ    AUXBLR      16.25    24.40     3.35   -10.09    19.16    11.44
SO YBADJ    AUXBLR       3.36    -4.82   -12.85   -20.49     7.71    -5.71
SO YBADJ    AUXBLR     -24.32   -15.98    -7.15     1.89    10.88    19.54
SO YBADJ    AUXBLR     -16.25   -24.40     0.00     0.00   -19.16   -11.44
SO YBADJ    AUXBLR      -3.36     4.82    12.85    20.49     0.00     0.00
SO YBADJ    AUXBLR      24.32    15.98     7.15    -1.89   -10.88   -19.54

   SRCGROUP ALL

SO FINISHED
**
****************************************
** ISCST3 Receptor Pathway
****************************************
**
**
RE STARTING
   INCLUDED PCC0924.ROU
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
**   SURFFILE C:\amodmet\DABJAX01.SFC
**   PROFFILE C:\amodmet\DABJAX01.PFL
   SURFFILE C:\amodmet\DABJAX01.SFC
   PROFFILE C:\amodmet\DABJAX01.PFL
   SURFDATA 12834 2001 DAYTONA_BEACH/REGIONAL_ARPT
   UAIRDATA 13889 2001 JACKSONVILLE/INT'L_ARPT
   PROFBASE 31 FEET
ME FINISHED
**
```

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*****************************************
** AERMOD Output Pathway
*****************************************
**
**
OU STARTING
   RECTABLE ALLAVE FIRST
OU FINISHED
**
```

PREDICTED IMPACTS FOR THE
EXISTING UNITS 1 AND 2
MODELED WITH 10 G/S EMISSION RATE

AERBOB RELEASE 020304

AERMOD OUTPUT FILE NUMBER 1 :GENOIL2.001
AERMOD OUTPUT FILE NUMBER 2 :GENOIL2.002
AERMOD OUTPUT FILE NUMBER 3 :GENOIL2.003
AERMOD OUTPUT FILE NUMBER 4 :GENOIL2.004
AERMOD OUTPUT FILE NUMBER 5 :GENOIL2.005
First title for last output file is: 2001 FPL CAPE CANAVERAL REPOWERING EXISTING, STACK TESTS GENERIC 9/02/2008
Second title for last output file is: DAYTONA BEACH/JACKSONVILLE METEOROLOGICAL DATA, 2001 - 2005

AVERAGING TIME	YEAR	CONC (ug/m3)	X (m)	Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	ALL				
Annual					
	2001	0.10696	521600.	3148800.	01123124
	2002	0.10647	521700.	3148900.	02123124
	2003	0.13436	521900.	3149000.	03123124
	2004	0.10951	521700.	3149000.	04123124
	2005	0.09965	521700.	3148800.	05123124
HIGH 24-Hour					
	2001	0.67023	521600.	3148900.	01042924
	2002	0.74160	522400.	3150600.	02123124
	2003	0.84041	521900.	3148800.	03062324
	2004	0.93636	522500.	3150600.	04090624
	2005	0.65166	521500.	3148600.	05082424
HSH 24-Hour					
	2001	0.58311	521600.	3148900.	01042124
	2002	0.65789	522500.	3150400.	02030224
	2003	0.81150	521900.	3148900.	03041924
	2004	0.69890	522100.	3147500.	04092524
	2005	0.57809	521800.	3148800.	05071224
HIGH 8-Hour					
	2001	1.45297	522800.	3147700.	01042616
	2002	1.60799	522500.	3150500.	02030216
	2003	1.70811	523400.	3150500.	03032016
	2004	1.74968	522400.	3150400.	04090608
	2005	1.37319	522900.	3147700.	05041616
HSH 8-Hour					
	2001	1.28734	521800.	3148900.	01082816
	2002	1.41411	522500.	3150300.	02092616
	2003	1.52959	521800.	3148900.	03041916
	2004	1.31665	523200.	3150400.	04081216
	2005	1.27007	521800.	3148300.	05090516
HIGH 3-Hour					
	2001	1.90043	523400.	3150500.	01022515
	2002	1.99400	523400.	3150500.	02051812
	2003	2.15874	523300.	3150300.	03032015
	2004	2.07792	521900.	3149300.	04051315
	2005	2.00863	522100.	3149900.	05071012
HSH 3-Hour					
	2001	1.79913	523300.	3150400.	01022515
	2002	1.86173	523400.	3150500.	02012415
	2003	1.99487	522000.	3149300.	03051415
	2004	1.90048	521900.	3149300.	04042215
	2005	1.82789	523100.	3150400.	05082915
HIGH 1-Hour					
	2001	3.17723	523350.	3146800.	01011013
	2002	4.29410	524850.	3146050.	02012611
	2003	4.15577	524600.	3147700.	03122511
	2004	3.86810	522600.	3147050.	04033011
	2005	3.49669	520850.	3146550.	05082408
HSH 1-Hour					
	2001	2.55039	522850.	3146550.	01011013
	2002	2.97243	524850.	3145800.	02050508
	2003	3.25252	525100.	3147700.	03020610
	2004	3.25418	522350.	3147050.	04011612
	2005	3.12883	521350.	3147050.	05110613

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

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
   TITLEONE 2001 FPL CAPE CANAVERAL REPOWERING EXISTING, STACK TESTS GENERIC 9/02/2008
   TITLETWO DAYTONA BEACH/JACKSONVILLE METEOROLOGICAL DATA, 2001 - 2005
   MODELOPT DFAULT CONC NOWARN
   AVERTIME PERIOD 24 8 3 1
   POLLUTID GENERIC
   RUNORNOT RUN
CO FINISHED
**
*****************************************
** AERMOD Source Pathway
*****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PCC2 POINT 523069.606 3149243.311 3.658
   LOCATION PPC1 POINT 523124.363 3149245.103 3.658
** Source Parameters **
**   SRCPARAM PCC2 5.0  121.0 414.82 18.32 5.70
**   SRCPARAM PPC1 5.0  121.0 414.82 18.32 5.70
**
   SRCPARAM PCC2 5.0  121.0 417.3 26.8 5.70
   SRCPARAM PPC1 5.0  121.0 417.3 26.8 5.70

** No Building Downwash **
**
   SRCGROUP ALL
SO FINISHED
**
*****************************************
** AERMOD Receptor Pathway
*****************************************
**
**
RE STARTING
   INCLUDED CANexist.rou
RE FINISHED
**
*****************************************
** AERMOD Meteorology Pathway
*****************************************
**
**
ME STARTING
   SURFFILE C:\amodmet\DABJAX01.SFC
   PROFFILE C:\amodmet\DABJAX01.PFL
   SURFDATA 12834 2001 DAYTONA_BEACH/REGIONAL_ARPT
   UAIRDATA 13889 2001 JACKSONVILLE/INT'L_ARPT
   PROFBASE 31 FEET
ME FINISHED
**
*****************************************
** AERMOD Output Pathway
*****************************************
**
**
OU STARTING
   RECTABLE ALLAVE FIRST SECOND
OU FINISHED
```

```
CO STARTING
   TITLEONE 2001 FPL CAPE CANAVERAL REPOWERING EXISTING, STACK TESTS GENERIC 9/02/2008
   TITLETWO DAYTONA BEACH/JACKSONVILLE METEOROLOGICAL DATA, 2001 - 2005
   MODELOPT DFAULT CONC NOWARN
   AVERTIME PERIOD 24 8 3 1
   POLLUTID GENERIC
   RUNORNOT RUN
CO FINISHED
**
*****************************************
** AERMOD Source Pathway
*****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PCC2 POINT 523069.606 3149243.311 3.658
   LOCATION PPC1 POINT 523124.363 3149245.103 3.658
** Source Parameters **
**   SRCPARAM PCC2 5.0  121.0 414.82 18.32 5.70
**   SRCPARAM PPC1 5.0  121.0 414.82 18.32 5.70
**
   SRCPARAM PCC2 5.0  121.0 417.3 26.8 5.70
   SRCPARAM PPC1 5.0  121.0 417.3 26.8 5.70

SO BUILDHGT PCC2       43.59   43.59   43.59    0.00    0.00    0.00
SO BUILDHGT PCC2        0.00    0.00    0.00    0.00    0.00   43.59
SO BUILDHGT PCC2       43.59   43.59   43.59   43.59   43.59   43.59
SO BUILDHGT PCC2       43.59   43.59   43.59    0.00    0.00    0.00
SO BUILDHGT PCC2        0.00    0.00    0.00    0.00    0.00   43.59
SO BUILDHGT PCC2       43.59   43.59   43.59   43.59   43.59   43.59
SO BUILDWID PCC2       83.90   83.82   81.19    0.00    0.00    0.00
SO BUILDWID PCC2        0.00    0.00    0.00    0.00    0.00   59.19
SO BUILDWID PCC2       68.69   76.10   81.19   83.82   83.90   81.43
SO BUILDWID PCC2       83.90   83.82   81.19    0.00    0.00    0.00
SO BUILDWID PCC2        0.00    0.00    0.00    0.00    0.00   59.19
SO BUILDWID PCC2       68.69   76.10   81.19   83.82   83.90   81.43
SO BUILDLEN PCC2       35.15   47.90   59.19    0.00    0.00    0.00
SO BUILDLEN PCC2        0.00    0.00    0.00    0.00    0.00   81.19
SO BUILDLEN PCC2       76.10   68.69   59.19   47.90   35.15   21.34
SO BUILDLEN PCC2       35.15   47.90   59.19    0.00    0.00    0.00
SO BUILDLEN PCC2        0.00    0.00    0.00    0.00    0.00   81.19
SO BUILDLEN PCC2       76.10   68.69   59.19   47.90   35.15   21.34
SO XBADJ    PCC2      -73.34  -72.38  -69.22    0.00    0.00    0.00
SO XBADJ    PCC2        0.00    0.00    0.00    0.00    0.00   13.59
SO XBADJ    PCC2       22.19   30.12   37.14   43.02   47.60   50.74
SO XBADJ    PCC2       38.19   24.48   10.03    0.00    0.00    0.00
SO XBADJ    PCC2        0.00    0.00    0.00    0.00    0.00  -94.78
SO XBADJ    PCC2      -98.29  -98.81  -96.33  -90.92  -82.76  -72.07
SO YBADJ    PCC2      -37.36  -46.48  -54.18    0.00    0.00    0.00
SO YBADJ    PCC2        0.00    0.00    0.00    0.00    0.00  -39.62
SO YBADJ    PCC2      -29.61  -18.70   -7.22    4.47   16.04   27.11
SO YBADJ    PCC2       37.36   46.48   54.18    0.00    0.00    0.00
SO YBADJ    PCC2        0.00    0.00    0.00    0.00    0.00   39.62
SO YBADJ    PCC2       29.61   18.70    7.22   -4.47  -16.04  -27.11


SO BUILDHGT PPC1       43.59   43.59   43.59   43.59   43.59   43.59
SO BUILDHGT PPC1        0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDHGT PPC1        0.00    0.00   43.59   43.59   43.59   43.59
SO BUILDHGT PPC1       43.59   43.59   43.59   43.59   43.59   43.59
SO BUILDHGT PPC1        0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDHGT PPC1        0.00    0.00   43.59   43.59   43.59   43.59
SO BUILDWID PPC1       83.90   83.82   81.19   76.10   68.69   59.19
SO BUILDWID PPC1        0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDWID PPC1        0.00    0.00   81.19   83.82   83.90   81.43
SO BUILDWID PPC1       83.90   83.82   81.19   76.10   68.69   59.19
SO BUILDWID PPC1        0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDWID PPC1        0.00    0.00   81.19   83.82   83.90   81.43
SO BUILDLEN PPC1       35.15   47.90   59.19   68.69   76.10   81.19
SO BUILDLEN PPC1        0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDLEN PPC1        0.00    0.00   59.19   47.90   35.15   21.34
SO BUILDLEN PPC1       35.15   47.90   59.19   68.69   76.10   81.19
SO BUILDLEN PPC1        0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDLEN PPC1        0.00    0.00   59.19   47.90   35.15   21.34
SO XBADJ    PPC1      -84.61  -92.79  -98.15 -100.53  -99.85  -96.14
SO XBADJ    PPC1        0.00    0.00    0.00    0.00    0.00    0.00
SO XBADJ    PPC1        0.00    0.00   11.31   25.98   39.86   52.53
```

```
SO XBADJ     PPC1         49.46    44.89    38.96    31.84    23.75    14.95
SO XBADJ     PPC1          0.00     0.00     0.00     0.00     0.00     0.00
SO XBADJ     PPC1          0.00     0.00   -70.50   -73.88   -75.01   -73.87
SO YBADJ     PPC1         16.25     4.37    -7.66   -19.44   -30.64   -40.91
SO YBADJ     PPC1          0.00     0.00     0.00     0.00     0.00     0.00
SO YBADJ     PPC1          0.00     0.00   -55.54   -47.59   -38.20   -27.65
SO YBADJ     PPC1        -16.25    -4.37     7.66    19.44    30.64    40.91
SO YBADJ     PPC1          0.00     0.00     0.00     0.00     0.00     0.00
SO YBADJ     PPC1          0.00     0.00    55.54    47.59    38.20    27.65

**
   SRCGROUP ALL
SO FINISHED
**
*****************************************
** AERMOD Receptor Pathway
*****************************************
**
**
RE STARTING
   INCLUDED CANexist.rou
RE FINISHED
**
*****************************************
** AERMOD Meteorology Pathway
*****************************************
**
**
ME STARTING
   SURFFILE C:\amodmet\DABJAX01.SFC
   PROFFILE C:\amodmet\DABJAX01.PFL
   SURFDATA 12834 2001 DAYTONA_BEACH/REGIONAL_ARPT
   UAIRDATA 13889 2001 JACKSONVILLE/INT'L_ARPT
   PROFBASE 31 FEET
ME FINISHED
**
*****************************************
** AERMOD Output Pathway
*****************************************
**
**
OU STARTING
   RECTABLE ALLAVE FIRST SECOND
OU FINISHED
```