ORIGINAL

Gulf Power Company
Plant Smith

Application for Title V Permit
Addition of Emission Units 4, 5, & 6

September 2002

GULF POWER

A SOUTHERN COMPANY

One Energy Place
Pensacola, Florida 32520

Tel 850.444.6111

GULF POWER
A SOUTHERN COMPANY

Certified Mail

September 18, 2002

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OCT 09 2002
BUREAU OF AIR REGULATION

Mr. Kevin White
Florida Department of Environmental Protection
Northwest District
160 Governmental Center
Pensacola, Florida 32520

Dear Mr.White:

RE: Lansing Smith Electric Generating Plant – Title V Unit Addition
Permit Number: 0050014-001-AV
DEP File No. PA 99-40, PSD-FL-269

Earlier this year, Gulf Power completed construction of the new combined cycle Units 4 & 5 at the Lansing Smith Electric Generating Plant as outlined in the PSD Permit FL-269. All conditions, CEMS certifications and compliance testing were completed with satisfactory results and all reports have been submitted to the Department. The next stage of permitting is the addition of these units to the Lansing Smith Title V Permit.

Please find attached one original and three copies of the completed Title V Permit application for Smith Combined Cycle Units 4, 5, & 6 as previously designated in the PSD permit.

Please let me know if you have any questions regarding our application.

Sincerely,

G. Dwain Waters, Q.E.P.
Air Quality Programs Supervisor

cc:w/o attachment:
J. O. Vick, Gulf Power Company
Trey Hall, Gulf Power Company
Marie Largilliere, Gulf Power Company
Danny Herrin, Southern Company Services
Gary Perko, Hopping, Green & Smith
Sandra Veazey, FDEP- NWF District

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APPLICATION FOR AIR PERMIT – TITLE V SOURCE

LANSING SMITH ELECTRIC GENERATING PLANT
ADDITION OF EMISSION UNITS 4, 5, & 6

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Department of
Environmental Protection

Division of Air Resources Management

APPLICATION FOR AIR PERMIT - TITLE V SOURCE

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

I. APPLICATION INFORMATION

Identification of Facility

1. Facility Owner/Company Name: **Gulf Power Company**	
2. Site Name: **Lansing Smith Electric Generating Plant – Smith Combined Cycle Unit 4-5**	
3. Facility Identification Number: **0050014**	[ ] Unknown
4. Facility Location: Street Address or Other Locator: **4300 Highway 2300** City: **Southport** County: **Bay** Zip Code: **32409**	
5. Relocatable Facility? [ ] Yes [√] No	6. Existing Permitted Facility? [√] Yes [ ] No

Application Contact

1. Name and Title of Application Contact: **G. Dwain Waters** **Air Quality Programs Coordinator**	
2. Application Contact Mailing Address: Organization/Firm: **Gulf Power Company** Street Address: **One Energy Place** City: **Pensacola** State: **FL** Zip Code: **32520-0328**	
3. Application Contact Telephone Numbers: Telephone: **(850) 444 - 6527** Fax: **(850) 444 - 6217**	

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	
2. Permit Number:	
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

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SEP 2 3 2002

NORTHWEST FLORIDA DEP

Purpose of Application

Air Operation Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

[ ] Initial Title V air operation permit for an existing facility which is classified as a Title V source.

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

Current construction permit number:_____

[X] Title V air operation permit revision to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: PSD-FL-269, PA 99-40

Operation permit number to be revised: 0050014-001-AV

[ ] Title V air operation permit revision or administrative correction to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. (Also check Air Construction Permit Application below.)

Operation permit number to be revised/corrected:_____

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

Operation permit number to be revised:_____

Reason for revision:_____

Air Construction Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

[ ] Air construction permit to construct or modify one or more emissions units.

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

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

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official:
   Name : **Gene L. Ussery, Jr.**
   Title : **V. P. Power Generation**

2. Owner/Authorized Representative or Responsible Official Mailing Address:
   Organization/Firm: **Gulf Power Company**
   Street Address: **One Energy Place**
   City: **Pensacola** State: **FL** Zip Code: **32520-0100**

3. Owner/Authorized Representative or Responsible Official Telephone Numbers:
   Telephone: **(850) 444 - 6383** Fax: **(850) 444 - 6744**

4. Owner/Authorized Representative or Responsible Official Statement:

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

   Signature 9/10/02 Date

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: **Gregory N. Terry**
   Registration Number: **52786**

2. Professional Engineer Mailing Address:
   Organization/Firm: **Gulf Power Company**
   Street Address: **One Energy Place**
   City: **Pensacola** State: **FL** Zip Code: **32520-0340**

3. Professional Engineer Telephone Numbers:
   Telephone: **(850) 429 - 2381** Fax: **(850) 429 - 2246**

4. 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.

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

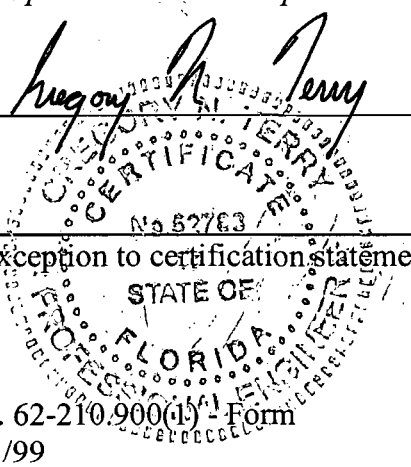
If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [ ], if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or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

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

Gregory M. Terry — 9-16-02

Signature — Date

(seal)



* Attach any exception to certification statement.

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type	Processing Fee
004	Combined Cycle Combustion Turbine Generator Unit No. 1 (CC-1)	Title V	N/A
005	Combined Cycle Combustion Turbine Generator Unit No. 2 (CC-2)	Title V	N/A
006	Salt Water Cooling Tower	Title V	N/A

Application Processing Fee

Check one: [ ] Attached - Amount: $_____ [√] Not Applicable

Construction/Modification Information

1. Description of Proposed Project or Alterations:

Project consists of the addition of two nominal 170-MW General Electric 7241 FA combustion turbine generators (CTGs), two heat recovery steam generators (HRSGs) equipped with supplemental duct burners (DBs), one nominal 200-MW steam turbine generator (STG), and one, 10 cell, mechanical draft salt water cooling tower. At average annual site conditions with duct burner firing, Unit 3 will generate 566 MW. At summer peaking site conditions with duct burner firing and steam power augmentation, The Combined Cycle Unit (4 & 5) will generate 574 MW. The CTGs and DBs will be fired exclusively with natural gas. The CTGs will include provisions for the optional use of evaporative coolers and steam power augmentation. The new combined-cycle CTG/HRSGs will be capable of operating at base load for up to 8,760 hours per year. The CTGs will normally operate between 50- and 100-percent load, with commensurate STG load.

2. Projected or Actual Date of Commencement of Construction: **November 1, 2000**

3. Projected Date of Completion of Construction: **February 1, 2002**

Application Comment

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: **16** East (km): **625.03** North (km): **3,349.08**			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): Longitude (DD/MM/SS):			
3. Governmental Facility Code: **0**	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **49**	6. Facility SIC(s): **4911**
7. Facility Comment (limit to 500 characters):			

Facility Contact

1. Name and Title of Facility Contact: **Marie Largilliere, Compliance Group Leader**
2. Facility Contact Mailing Address: Organization/Firm: **Gulf Power Company – Lansing Smith** Street Address: **4300 Highway 2300** City: **Southport** State: **FL** Zip Code: **32409**
3. Facility Contact Telephone Numbers: Telephone: **(850) 522 - 3490** Fax: **(850) 522 - 3488**

Facility Regulatory Classifications

Check all that apply:

1. [ ] Small Business Stationary Source? [ ] Unknown
2. [√] Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?
3. [ ] Synthetic Minor Source of Pollutants Other than HAPs?
4. [√] Major Source of Hazardous Air Pollutants (HAPs)?
5. [ ] Synthetic Minor Source of HAPs?
6. [√] One or More Emissions Units Subject to NSPS?
7. [ ] One or More Emission Units Subject to NESHAP?
8. [ ] Title V Source by EPA Designation?
9. Facility Regulatory Classifications Comment (limit to 200 characters):

List of Applicable Regulations

See Attachment A-1	

B. FACILITY POLLUTANTS

List of Pollutants Emitted

1. Pollutant Emitted	2. Pollutant Classif.	3. Requested Emissions Cap lb/hour	tons/year	4. Basis for Emissions Cap	5. Pollutant Comment
NOX	**A**	**N/A**	**3,587**	**ESCPSD**	**Facility Wide Cap**
SO2	**A**	**N/A**	**N/A**	**N/A**	
CO	**A**	**N/A**	**N/A**	**N/A**	
PM10	**A**	**N/A**	**N/A**	**N/A**	
PM	**A**	**N/A**	**N/A**	**N/A**	
SAM	**A**	**N/A**	**N/A**	**N/A**	
VOC	**A**	**N/A**	**N/A**	**N/A**	
HCL	**A**	**N/A**	**N/A**	**N/A**	
H107	**A**	**N/A**	**N/A**	**N/A**	
HAPs	**A**	**N/A**	**N/A**	**N/A**	

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Area Map Showing Facility Location: [√] Attached, Document ID: **Fig. 2-3** [ ] Not Applicable [ ] Waiver Requested
2. Facility Plot Plan: [√] Attached, Document ID: **Fig. 2-4** [ ] Not Applicable [ ] Waiver Requested
3. Process Flow Diagram(s): [√] Attached, Document ID: **Fig. 2-5** [ ] Not Applicable [ ] Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: [√] Attached, Document ID: **Att. A-2** [ ] Not Applicable [ ] Waiver Requested
5. Fugitive Emissions Identification: [ ] Attached, Document ID:_____ [√] Not Applicable [ ] Waiver Requested
6. Supplemental Information for Construction Permit Application: [ ] Attached, Document ID: [√] Not Applicable
7. Supplemental Requirements Comment: **Items 1, 2, 3, and 4 above are specific for the Smith combined cycle project.** **See previously submitted Smith Electric Generating Plant Title V permit application for existing facility information.**

Additional Supplemental Requirements for Title V Air Operation Permit Applications

8. List of Proposed Insignificant Activities: [ ] Attached, Document ID:_____ [ ] Not Applicable
9. List of Equipment/Activities Regulated under Title VI: [ ] Attached, Document ID:_____ [ ] Equipment/Activities On site but Not Required to be Individually Listed [ ] Not Applicable
10. Alternative Methods of Operation: [ ] Attached, Document ID:_____ [ ] Not Applicable
11. Alternative Modes of Operation (Emissions Trading): [ ] Attached, Document ID:_____ [ ] Not Applicable
12. Identification of Additional Applicable Requirements: [ ] Attached, Document ID:_____ [ ] Not Applicable
13. Risk Management Plan Verification: [ ] Plan previously submitted to Chemical Emergency Preparedness and Prevention Office (CEPPO). Verification of submittal attached (Document ID:_____) or previously submitted to DEP (Date and DEP Office:_____) [ ] Plan to be submitted to CEPPO (Date required:_____) [ ] Not Applicable
14. Compliance Report and Plan: [ ] Attached, Document ID:_____ [ ] Not Applicable
15. Compliance Certification (Hard-copy Required): [ ] Attached, Document ID:_____ [ ] Not Applicable

Items 8. Through 15. Above previously submitted – see Smith Electric Generating Plant Title V permit application.

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)

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. Regulated or Unregulated Emissions Unit? (Check one)

[√] 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.

3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
Emission unit consists of one General Electric (GE) 7241 FA combustion turbine generator (CTG) having a nominal rating of 170 megawatts (MW) and one fired heat recovery steam generator (HRSG). The CTG/HRSG unit will be fired exclusively with natural gas.

4. Emissions Unit Identification Number:
ID: **004 (CC-1)**
[ ] No ID
[ ] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C		**49**	[√]

9. Emissions Unit Comment: (Limit to 500 Characters)

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

   NO_x Controls

   Dry low-NO_x combustors

2. Control Device or Method Code(s): **25 (dry low-NO_x)**

Emissions Unit Details

1. Package Unit: Manufacturer: **General Electric**	Model Number: **PG7241(FA)**
2. Generator Nameplate Rating: **170** MW	
3. Incinerator Information:	
Dwell Temperature:	°F
Dwell Time:	seconds
Incinerator Afterburner Temperature:	°F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:	**1,927(HHV)** mmBtu/hr **(CTG only)**
2. Maximum Incineration Rate:	lb/hr tons/day
3. Maximum Process or Throughput Rate:	
4. Maximum Production Rate:	
5. Requested Maximum Operating Schedule:	
	24 hours/day **7** days/week
	52 weeks/year **8,760** hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters): **Item 1 is the PSD Permitted value for CTG only. CTG maximum heat input is the higher heating value (HHV) at 100 percent load, 65°F operating conditions demonstrated in the initial startup testing. Heat input will vary with load and ambient temperature. See Attachment for heat input vs temperature curve for total heat input for CTG + Duct Burners.** **HRSG duct burner maximum heat input is a nominal 303 MMBtu/hr (HHV).** **At average annual site conditions with duct burner firing, Unit 4 & 5 will generate 566 MW. At summer peaking site conditions with duct burner firing and steam power augmentation, Unit 4 & 5 will generate 574 MW.**	

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

See Attachment A-1	

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

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? **CC-1**		2. Emission Point Type Code: **1**
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **N/A**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **N/A**		
5. Discharge Type Code: **V**	6. Stack Height: **121** feet	7. Exit Diameter: **16.8** feet
8. Exit Temperature: **186** °F	9. Actual Volumetric Flow Rate: **981,334** 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 Comment (limit to 200 characters): **Stack temperature and flow rate area at 100 percent load, 65°F, evaporative cooling, and duct burner firing operating conditions (Case 6). Stack temperature and flow rate will vary with load, ambient temperature, and use of optional evaporative cooling, duct burner firing, and steam augmentation.**		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Combustion turbine generator fired with natural gas only.**		
2. Source Classification Code (SCC): **20100201**	3. SCC Units: **Million Cubic Feet Burned**	
4. Maximum Hourly Rate: **1.845**	5. Maximum Annual Rate: **16162.2**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **1060**
10. Segment Comment (limit to 200 characters): **Maximum hourly rate (Field 4) represents fuel use of the combustion turbine only. Fuel heat content (Field 9) represents a higher heating value (HHV). The PSD permit limits the combustion turbine to 1927 (HHV) mbtu/hr.**		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **HRSG duct burner fired with natural gas.**		
2. Source Classification Code (SCC): **10100601**	3. SCC Units: **Million Cubic Feet Burned**	
4. Maximum Hourly Rate: **.29**	5. Maximum Annual Rate: **2,540.4**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **1060**
10. Segment Comment (limit to 200 characters): **Maximum hourly rate (Field 4) based on nominal heat input of 303 MMBtu/hr (HHV). The PSD permit limits the duct burners to 303 (HHV) mmbtu/hr.** **Maximum Annual Rate (Field 5) based on 8,760 hours per year.** **Fuel heat content (Field 9) represents a higher heating value (HHV).**		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - NOX	**025**		**EL**
2 – CO			**EL**
3 – PM			**WP**
4 – PM10			**WP**
5 – SO2			**WP**
6 – SAM			**WP**
7 – VOC			**EL**

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **NOX**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **113.3** lb/hour **378.5** tons/year	4. Synthetically Limited? [√]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **113.3 lb/hr** Reference: **GE data**	7. Emissions Method Code: **5**
8. Calculation of Emissions (limit to 600 characters): **Hourly emission rate based on GE data for 100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation (Case 11). Annual emissions based on 82.9 lb/hr (100 percent load, 65°F, evaporative cooling, duct burner firing [Case 6]) for 7,760 hrs/yr and 113.3 lb/hr (100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation [Case 11]) for 1,000 hrs/yr.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters): **NO_x CEMS**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **An annual, multi-unit NO_x emissions cap of 6,666 Tons Per Year is requested for Smith facility wide emissions. CTG is subject to NO_x limits of 40 CFR Part 60, Subpart GG (NSPS). DB is subject to NO_x limits of 40 CFR Part 60, Subpart Da (NSPS).**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **116.6** lb/hour **350.7** tons/year	4. Synthetically Limited? [√]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **116.6 lb/hr** Reference: **GE data**	7. Emissions Method Code: **5**
8. Calculation of Emissions (limit to 600 characters): **Hourly emission rate based on GE data for 100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation (Case 11). Annual emissions based on 75.4 lb/hr (100 percent load, 65°F, evaporative cooling, duct burner firing [Case 6]) for 7,760 hrs/yr and 116.6 lb/hr (100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation [Case 11]) for 1,000 hrs/yr. The PSD Permit limits CO to 16 ppm and 23 ppm @15% O2, respectively.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 3

1. Basis for Allowable Emissions Code: **Other**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **13 ppmvd @ 15% O_2**	4. Equivalent Allowable Emissions: **58.3** lb/hour **N/A** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 10 (initial only)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **FDEP Rule 62-212.400(5)(c), F.A.C. (BACT)** **Limit applicable to CTG/HRSG operations without duct burner firing or steam power augmentation.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **116.6** lb/hour **350.7** tons/year	4. Synthetically Limited? [√]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **116.6 lb/hr** Reference: **GE data**	7. Emissions Method Code: **5**
8. Calculation of Emissions (limit to 600 characters): **Hourly emission rate based on GE data for 100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation (Case 11). Annual emissions based on 75.4 lb/hr (100 percent load, 65°F, evaporative cooling, duct burner firing [Case 6]) for 7,760 hrs/yr and 116.6 lb/hr (100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation [Case 11]) for 1,000 hrs/yr. The PSD Permit limits CO to 16 ppm and 23 ppm @15% O2, respectively.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 3

1. Basis for Allowable Emissions Code: **Other**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **13 ppmvd @ 15% O_2**	4. Equivalent Allowable Emissions: **58.3** lb/hour **N/A** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 10 (initial only)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **FDEP Rule 62-212.400(5)(c), F.A.C. (BACT)** **Limit applicable to CTG/HRSG operations without duct burner firing or steam power augmentation.**	

Emissions Unit Information Section 1 **of** 3

Pollutant Detail Information Page 3 **of** 11

Allowable Emissions Allowable Emissions 2 of 3

1. Basis for Allowable Emissions Code: **Other**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **23 ppmvd @ 15% O_2**	4. Equivalent Allowable Emissions: **116.6** lb/hour **N/A** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 10 (initial only)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **FDEP Rule 62-212.400(5)(c), F.A.C. (BACT)** **Limit applicable to CTG/HRSG operations at 100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation (Case 11).**	

Allowable Emissions Allowable Emissions 3 of 3

1. Basis for Allowable Emissions Code: **Other**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **16 ppmvd @ 15% O_2**	4. Equivalent Allowable Emissions: **78.7** lb/hour **N/A** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 10 (initial only)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **FDEP Rule 62-212.400(5)(c), F.A.C. (BACT)** **Limit applicable to CTG/HRSG operations with duct burner firing and without steam augmentation.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **21.5** lb/hour **91.8** tons/year	4. Synthetically Limited? [√]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **21.5 lb/hr** Reference: **GE data**	7. Emissions Method Code: **5**

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

Hourly emission rate based on GE data for 100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation (Case 11). Annual emissions based on 20.9 lb/hr (100 percent load, 65°F, evaporative cooling, duct burner firing [Case 6]) for 7,760 hrs/yr and 21.5 lb/hr (100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation [Case 11]) for 1,000 hrs/yr. The PSD permit is limited to 43 lbs/hr.

9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):
The PSD Permit is limited to 43 lbs/MMBTU per Rules 62-4.070, 62.212.400 and 62-204.800(7), F.A.C. Source requests PSD limit for Title V.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **Other**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **10% opacity**	4. Equivalent Allowable Emissions: **21.5** lb/hour **91.8** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 9 (initial only)**	

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):

FDEP Rule 62-212.400(5)(c), F.A.C. (BACT)
Limit applicable for all CTG/HRSG operating modes

Emissions Unit Information Section 1 **of** 3

Pollutant Detail Information Page 5 **of** 11

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **Rule**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.03 lb/MMBtu**	4. Equivalent Allowable Emissions: **8.3** lb/hour **N/A** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Methods 5, 5B, or 17 (Initial only)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **40 CFR Part 60, §60.42a(a)(1), Subpart Da (NSPS); applicable to DB only.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM10**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **21.5** lb/hour **91.8** tons/year	4. Synthetically Limited? [√]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **21.5 lb/hr** Reference: **GE data**	7. Emissions Method Code: **5**

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

Hourly emission rate based on GE data for 100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation (Case 11). Annual emissions based on 20.9 lb/hr (100 percent load, 65°F, evaporative cooling, duct burner firing [Case 6]) for 7,760 hrs/yr and 21.5 lb/hr (100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation [Case 11]) for 1,000 hrs/yr. The PSD Permit is limited to 43 lbs/hr.

9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): **Source requests PSD permit limit for Title V.**

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **Other**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **10% opacity**	4. Equivalent Allowable Emissions: **21.5** lb/hour **91.8** tons/year

5. Method of Compliance (limit to 60 characters):
EPA Reference Method 9 (initial only)

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):

FDEP Rule 62-212.400(5)(c), F.A.C. (BACT)
Limit applicable for all CTG/HRSG operating modes.

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **SO2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **12.7** lb/hour **52.3** tons/year	4. Synthetically Limited? [√]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **12.7 lb/hr** Reference: **GE data**	7. Emissions Method Code: **2**

8. Calculation of Emissions (limit to 600 characters):
(2.0 gr S/100ft^3 gas) x (2,223,100ft^3 gas/hr) x (1 lb S/7,000 gr S) x (2 lb SO_2/lb S) = 12.7 lb/hr SO_2

Annual emissions based on 11.9 lb/hr (100 percent load, 65°F, evaporative cooling, duct burner firing [Case 6]) for 7,760 hrs/yr and 12.4 lb/hr (100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation [Case 11]) for 1,000 hrs/yr. The PSD Permit is limited to 2 grs/100scf.

9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): **The Source requests the PSD permit limit for Title V.**

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **Other**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.20 lb/MMBtu**	4. Equivalent Allowable Emissions: **55.0** lb/hour **N/A** tons/year

5. Method of Compliance (limit to 60 characters):
Fuel analysis for sulfur content

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):

Limit applicable to DB only per 40 CFR Part 60, §60.43a(b)(2), NSPS.

Emissions Unit Information Section 1 **of** 3

Pollutant Detail Information Page 8 **of** 11

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **Rule**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.8 weight % S fuel**	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters): **Fuel analysis for sulfur content**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **Limit applicable to CTG only per 40 CFR Part 60, §60.333(b), NSPS.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **SAM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **1.46** lb/hour **6.0** tons/year	4. Synthetically Limited? [√]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **1.46 lb/hr** Reference: **GE data**	7. Emissions Method Code: **2**
8. Calculation of Emissions (limit to 600 characters): **(12.7 lb/hr SO_2) x (7.5/100) x (98 lb H_2SO_4/64 lb SO_2) = 1.46 lb/hr H_2SO_4** **Annual emissions based on 1.36 lb/hr (100 percent load, 65°F, evaporative cooling, duct burner firing [Case 6]) for 7,760 hrs/yr and 1.43 lb/hr (100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation [Case 11]) for 1,000 hrs/yr.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions ____ of ____

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

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **16.8** lb/hour **46.4** tons/year	4. Synthetically Limited? [√]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **16.8 lb/hr** Reference: **GE data**	7. Emissions Method Code: **5**
8. Calculation of Emissions (limit to 600 characters): **Hourly emission rate based on GE data for 100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation (Case 11). Annual emissions based on 9.8 lb/hr (100 percent load, 65°F, evaporative cooling, duct burner firing [Case 6]) for 7,760 hrs/yr and 16.8 lb/hr (100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation [Case 11]) for 1,000 hrs/yr. The PSD permit is limited to 4 ppm and 6 ppm per operational mode, respectively.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): **The source requests the PSD Permit limit for Title V.**	

Allowable Emissions Allowable Emissions 1 of 3

1. Basis for Allowable Emissions Code: **Other**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **3 ppmvd @ 15% O_2**	4. Equivalent Allowable Emissions: **6.6** lb/hour **N/A** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 18 or 25 (initial only)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **Limit applicable to CTG/HRSG operations without duct burner firing or steam power augmentation.**	

Allowable Emissions Allowable Emissions 2 of 3

1. Basis for Allowable Emissions Code: **Other**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **6 ppmvd @ 15% O_2**	4. Equivalent Allowable Emissions: **16.8** lb/hour **N/A** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 18 or 25 (initial only)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **Limit applicable to CTG/HRSG operations at 100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation (Case 11).**	

Allowable Emissions Allowable Emissions 3 of 3

1. Basis for Allowable Emissions Code: **Other**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **4 ppmvd @ 15% O_2**	4. Equivalent Allowable Emissions: **10.2** lb/hour **N/A** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 18 or 25 (initial only)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **Limit applicable to CTG/HRSG operations with duct burner firing and without steam augmentation.**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation **1** of **2**

1. Visible Emissions Subtype: **VE10**	2. Basis for Allowable Opacity: [ ] Rule [√] Other
3. Requested Allowable Opacity: Normal Conditions: **10** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **EPA Reference Method 9**	
5. Visible Emissions Comment (limit to 200 characters): **Rule 62-212.400(5)(c), F.A.C. (BACT)**	

Visible Emissions Limitation: Visible Emissions Limitation **2** of **2**

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: [√] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **10** % Exceptional Conditions: **100** % Maximum Period of Excess Opacity Allowed: **60** min/hour	
4. Method of Compliance: **EPA Reference Method 9 (every 5 years)**	
5. Visible Emissions Comment (limit to 200 characters): **Excess emissions resulting from startup, shutdown, or malfunction not-to-exceed 2 hours in any 24 hour period unless authorized by FDEP for a longer duration. Rule 62-210.700(1), F.A.C. Applicant has requested up to 4 hours for cold startups and all shutdowns**	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 1 of 2

1. Parameter Code: **EM**	2. Pollutant(s): **NOX**
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 (limit to 200 characters): **Required by 40 CFR Part 75 (Acid Rain Program) and 40 CFR Subpart Da. Specific CEMS information will be provided to FDEP when available.**	

Continuous Monitoring System: Continuous Monitor 2 of 2

1. Parameter Code: **O_2**	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 (limit to 200 characters): **Required by 40 CFR Part 75 (Acid Rain Program) and 40 CFR Subpart Da. Specific CEMS information will be provided to FDEP when available.**	

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

Supplemental Requirements

1. Process Flow Diagram [√] Attached, Document ID: **Fig. 2-5** [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [√] Attached, Document ID: **Att. A-3** [ ] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [√] Attached, Document ID:_____ [ ] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [√] Attached, Document ID: **Att. A-5** [ ] Not Applicable
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [ ] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [√] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [√] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application **See PSD application** [ ] Attached, Document ID:_____ [ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [√] Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[√] Attached, Document ID: **Att. A-4** [ ] Not Applicable

12. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements
[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [√] Not Applicable

15. Acid Rain Part Application (Hard-copy Required)

[√] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID: **Att. A-6**

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

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

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

[ ] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID:_____

[ ] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
Attached, Document ID:_____

[ ] Not Applicable

Above items previously submitted, see Smith Electric Generating Plant Title V permit application.

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)

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. Regulated or Unregulated Emissions Unit? (Check one)

[√] 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.

3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
Emission unit consists of one General Electric (GE) 7241 FA combustion turbine generator (CTG) having a nominal rating of 170 megawatts (MW) and one fired heat recovery steam generator (HRSG). The CTG/HRSG unit will be fired exclusively with natural gas.

4. Emissions Unit Identification Number:
ID: **005 (CC-2)**
[ ] No ID
[ ] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C		**49**	[√]

9. Emissions Unit Comment: (Limit to 500 Characters)

Emissions Unit Control Equipment

3. Control Equipment/Method Description (Limit to 200 characters per device or method):

NO_x Controls

Dry low-NO_x combustors

2. Control Device or Method Code(s): **25 (dry low-NO_x)**

Emissions Unit Details

1. Package Unit:
   Manufacturer: **General Electric** Model Number: **PG7241(FA)**
2. Generator Nameplate Rating: **170** MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:	**1,927(HHV)** mmBtu/hr **(CTG only)**
2. Maximum Incineration Rate:	lb/hr tons/day
3. Maximum Process or Throughput Rate:	
4. Maximum Production Rate:	
5. Requested Maximum Operating Schedule:	
	24 hours/day **7** days/week
	52 weeks/year **8,760** hours/year

7. Operating Capacity/Schedule Comment (limit to 200 characters):
Item 1 is the PSD Permitted value for CTG only.
CTG maximum heat input is the higher heating value (HHV) at 100 percent load, 65°F operating conditions demonstrated in the initial startup testing. Heat input will vary with load and ambient temperature. See Attachment for heat input vs temperature curve for total heat input for CTG + Duct Burners.

HRSG duct burner maximum heat input is a nominal 303 MMBtu/hr (HHV).

At average annual site conditions with duct burner firing, Unit 4 & 5 will generate 566 MW. At summer peaking site conditions with duct burner firing and steam power augmentation, Unit 4 & 5 will generate 574 MW.

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

See Attachment A-1	

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

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? **CC-1**		4. Emission Point Type Code: **1**
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **N/A**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **N/A**		
6. Discharge Type Code: **V**	6. Stack Height: **121** feet	7. Exit Diameter: **16.8** feet
8. Exit Temperature: **186** °F	9. Actual Volumetric Flow Rate: **981,334** 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 Comment (limit to 200 characters): **Stack temperature and flow rate area at 100 percent load, 65°F, evaporative cooling, and duct burner firing operating conditions (Case 6). Stack temperature and flow rate will vary with load, ambient temperature, and use of optional evaporative cooling, duct burner firing, and steam augmentation.**		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
Combustion turbine generator fired with natural gas only.		
3. Source Classification Code (SCC): **20100201**	3. SCC Units: **Million Cubic Feet Burned**	
4. Maximum Hourly Rate: **1.845**	5. Maximum Annual Rate: **16162.2**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **1060**
10. Segment Comment (limit to 200 characters): **Maximum hourly rate (Field 4) represents fuel use of the combustion turbine only. Fuel heat content (Field 9) represents a higher heating value (HHV). The PSD permit limits the combustion turbine to 1927 (HHV) mbtu/hr.**		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
HRSG duct burner fired with natural gas.		
2. Source Classification Code (SCC): **10100601**	3. SCC Units: **Million Cubic Feet Burned**	
4. Maximum Hourly Rate: **.29**	5. Maximum Annual Rate: **2,540.4**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	11. Million Btu per SCC Unit: **1060**
12. Segment Comment (limit to 200 characters): **Maximum hourly rate (Field 4) based on nominal heat input of 303 MMBtu/hr (HHV). The PSD permit limits the duct burners to 303 (HHV) mmbtu/hr. Maximum Annual Rate (Field 5) based on 8,760 hours per year. Fuel heat content (Field 9) represents a higher heating value (HHV).**		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - NOX	**025**		**EL**
2 – CO			**EL**
3 – PM			**WP**
4 – PM10			**WP**
5 – SO2			**WP**
6 – SAM			**WP**
7 – VOC			**EL**

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **NOX**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **113.3** lb/hour **378.5** tons/year	4. Synthetically Limited? [√]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **113.3 lb/hr** Reference: **GE data**	7. Emissions Method Code: **5**
8. Calculation of Emissions (limit to 600 characters): **Hourly emission rate based on GE data for 100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation (Case 11). Annual emissions based on 82.9 lb/hr (100 percent load, 65°F, evaporative cooling, duct burner firing [Case 6]) for 7,760 hrs/yr and 113.3 lb/hr (100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation [Case 11]) for 1,000 hrs/yr.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters): **NO_x CEMS**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **An annual, multi-unit NO_x emissions cap of 6,666 Tons Per Year is requested for Smith facility wide emissions. CTG is subject to NO_x limits of 40 CFR Part 60, Subpart GG (NSPS). DB is subject to NO_x limits of 40 CFR Part 60, Subpart Da (NSPS).**	

Emissions Unit Information Section 2 **of** 3

Pollutant Detail Information Page 3 **of** 11

Allowable Emissions Allowable Emissions 2 of 3

1. Basis for Allowable Emissions Code: **Other**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **23 ppmvd @ 15% O_2**	4. Equivalent Allowable Emissions: **116.6** lb/hour **N/A** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 10 (initial only)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **FDEP Rule 62-212.400(5)(c), F.A.C. (BACT)** **Limit applicable to CTG/HRSG operations at 100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation (Case 11).**	

Allowable Emissions Allowable Emissions 3 of 3

1. Basis for Allowable Emissions Code: **Other**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **16 ppmvd @ 15% O_2**	4. Equivalent Allowable Emissions: **78.7** lb/hour **N/A** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 10 (initial only)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **FDEP Rule 62-212.400(5)(c), F.A.C. (BACT)** **Limit applicable to CTG/HRSG operations with duct burner firing and without steam augmentation.**	

Emissions Unit Information Section 2 of 3

Pollutant Detail Information Page 4 of 11

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **21.5** lb/hour **91.8** tons/year	4. Synthetically Limited? [√]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **21.5 lb/hr** Reference: **GE data**	7. Emissions Method Code: **5**

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

Hourly emission rate based on GE data for 100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation (Case 11). Annual emissions based on 20.9 lb/hr (100 percent load, 65°F, evaporative cooling, duct burner firing [Case 6]) for 7,760 hrs/yr and 21.5 lb/hr (100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation [Case 11]) for 1,000 hrs/yr. The PSD permit is limited to 43 lbs/hr.

10. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):
The PSD Permit is limited to 43 lbs/MMBTU per Rules 62-4.070, 62.212.400 and 62-204.800(7), F.A.C. Source requests PSD limit for Title V.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **Other**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **10% opacity**	4. Equivalent Allowable Emissions: **21.5** lb/hour **91.8** tons/year

5. Method of Compliance (limit to 60 characters):
EPA Reference Method 9 (initial only)

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):

FDEP Rule 62-212.400(5)(c), F.A.C. (BACT)
Limit applicable for all CTG/HRSG operating modes

Emissions Unit Information Section 2 **of** 3

Pollutant Detail Information Page 5 **of** 11

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **Rule**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.03 lb/MMBtu**	4. Equivalent Allowable Emissions: **8.3** lb/hour **N/A** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Methods 5, 5B, or 17 (Initial only)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **40 CFR Part 60, §60.42a(a)(1), Subpart Da (NSPS); applicable to DB only.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM10**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **21.5** lb/hour **91.8** tons/year	4. Synthetically Limited? [√]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **21.5 lb/hr** Reference: **GE data**	7. Emissions Method Code: **5**
8. Calculation of Emissions (limit to 600 characters): **Hourly emission rate based on GE data for 100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation (Case 11). Annual emissions based on 20.9 lb/hr (100 percent load, 65°F, evaporative cooling, duct burner firing [Case 6]) for 7,760 hrs/yr and 21.5 lb/hr (100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation [Case 11]) for 1,000 hrs/yr. The PSD Permit is limited to 43 lbs/hr.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): **Source requests PSD permit limit for Title V.**	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **Other**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **10% opacity**	4. Equivalent Allowable Emissions: **21.5** lb/hour **91.8** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 9 (initial only)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **FDEP Rule 62-212.400(5)(c), F.A.C. (BACT)** **Limit applicable for all CTG/HRSG operating modes.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **SO2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **12.7** lb/hour **52.3** tons/year	4. Synthetically Limited? [√]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **12.7 lb/hr** Reference: **GE data**	7. Emissions Method Code: **2**
8. Calculation of Emissions (limit to 600 characters): **(2.0 gr S/100ft^3 gas) x (2,223,100ft^3 gas/hr) x (1 lb S/7,000 gr S) x (2 lb SO_2/lb S) = 12.7 lb/hr SO_2** **Annual emissions based on 11.9 lb/hr (100 percent load, 65°F, evaporative cooling, duct burner firing [Case 6]) for 7,760 hrs/yr and 12.4 lb/hr (100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation [Case 11]) for 1,000 hrs/yr. The PSD Permit is limited to 2 grs/100scf.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): **The Source requests the PSD permit limit for Title V.**	

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **Other**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.20 lb/MMBtu**	4. Equivalent Allowable Emissions: **55.0** lb/hour **N/A** tons/year
5. Method of Compliance (limit to 60 characters): **Fuel analysis for sulfur content**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **Limit applicable to DB only per 40 CFR Part 60, §60.43a(b)(2), NSPS.**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **Rule**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.8 weight % S fuel**	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters): **Fuel analysis for sulfur content**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **Limit applicable to CTG only per 40 CFR Part 60, §60.333(b), NSPS.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **SAM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **1.46** lb/hour **6.0** tons/year	4. Synthetically Limited? [√]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **1.46 lb/hr** Reference: **GE data**	7. Emissions Method Code: **2**
8. Calculation of Emissions (limit to 600 characters): **(12.7 lb/hr SO_2) x (7.5/100) x (98 lb H_2SO_4/64 lb SO_2) = 1.46 lb/hr H_2SO_4** **Annual emissions based on 1.36 lb/hr (100 percent load, 65°F, evaporative cooling, duct burner firing [Case 6]) for 7,760 hrs/yr and 1.43 lb/hr (100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation [Case 11]) for 1,000 hrs/yr.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions ____ of ____

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

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **16.8** lb/hour **46.4** tons/year	4. Synthetically Limited? [√]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **16.8 lb/hr** Reference: **GE data**	7. Emissions Method Code: **5**
8. Calculation of Emissions (limit to 600 characters): **Hourly emission rate based on GE data for 100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation (Case 11). Annual emissions based on 9.8 lb/hr (100 percent load, 65°F, evaporative cooling, duct burner firing [Case 6]) for 7,760 hrs/yr and 16.8 lb/hr (100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation [Case 11]) for 1,000 hrs/yr. The PSD permit is limited to 4 ppm and 6 ppm per operational mode, respectively.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): **The source requests the PSD Permit limit for Title V.**	

Allowable Emissions Allowable Emissions 1 of 3

1. Basis for Allowable Emissions Code: **Other**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **3 ppmvd @ 15% O_2**	4. Equivalent Allowable Emissions: **6.6** lb/hour **N/A** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 18 or 25 (initial only)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **Limit applicable to CTG/HRSG operations without duct burner firing or steam power augmentation.**	

Allowable Emissions Allowable Emissions 2 of 3

1. Basis for Allowable Emissions Code: **Other**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **6 ppmvd @ 15% O_2**	4. Equivalent Allowable Emissions: **16.8** lb/hour **N/A** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 18 or 25 (initial only)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **Limit applicable to CTG/HRSG operations at 100 percent load, 95°F, evaporative cooling, duct burner firing, and steam power augmentation (Case 11).**	

Allowable Emissions Allowable Emissions 3 of 3

1. Basis for Allowable Emissions Code: **Other**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **4 ppmvd @ 15% O_2**	4. Equivalent Allowable Emissions: **10.2** lb/hour **N/A** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 18 or 25 (initial only)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **Limit applicable to CTG/HRSG operations with duct burner firing and without steam augmentation.**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

2. Visible Emissions Subtype: **VE10**	2. Basis for Allowable Opacity: [ ] Rule [√] Other
3. Requested Allowable Opacity: Normal Conditions: **10** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **EPA Reference Method 9**	
5. Visible Emissions Comment (limit to 200 characters): **Rule 62-212.400(5)(c), F.A.C. (BACT)**	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

2. Visible Emissions Subtype:	2. Basis for Allowable Opacity: [√] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **10** % Exceptional Conditions: **100** % Maximum Period of Excess Opacity Allowed: **60** min/hour	
4. Method of Compliance: **EPA Reference Method 9 (every 5 years)**	
5. Visible Emissions Comment (limit to 200 characters): **Excess emissions resulting from startup, shutdown, or malfunction not-to-exceed 2 hours in any 24 hour period unless authorized by FDEP for a longer duration. Rule 62-210.700(1), F.A.C. Applicant has requested up to 4 hours for cold startups and all shutdowns**	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 1 of 2

1. Parameter Code: **EM**	2. Pollutant(s): **NOX**
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 (limit to 200 characters): **Required by 40 CFR Part 75 (Acid Rain Program) and 40 CFR Subpart Da. Specific CEMS information will be provided to FDEP when available.**	

Continuous Monitoring System: Continuous Monitor 2 of 2

1. Parameter Code: **O_2**	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 (limit to 200 characters): **Required by 40 CFR Part 75 (Acid Rain Program) and 40 CFR Subpart Da. Specific CEMS information will be provided to FDEP when available.**	

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

Supplemental Requirements

1. Process Flow Diagram [√] Attached, Document ID: **Fig. 2-5** [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [√] Attached, Document ID: **Att. A-3** [ ] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____ [√] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [√] Attached, Document ID: **Att. A-5** [ ] Not Applicable
5. Compliance Test Report [√] Attached, Document ID: **Att. A-7** [ ] Previously submitted, Date:_____ [ ] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [√] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [√] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application **See PSD application** [ ] Attached, Document ID:_____ [ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [√] Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[√] Attached, Document ID: **Att. A-4** [ ] Not Applicable

12. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements
[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [√] Not Applicable

15. Acid Rain Part Application (Hard-copy Required)

[√] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID: **Att. A-6**

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

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

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

[ ] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID:_____

[ ] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
Attached, Document ID:_____

[ ] Not Applicable

Above items previously submitted, see Smith Electric Generating Plant Title V permit application.

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)

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. Regulated or Unregulated Emissions Unit? (Check one)

[ ] 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.

3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
Salt water cooling tower. Tower is equipped with drift eliminators for control of PM/PM_{10} emissions

4. Emissions Unit Identification Number:
ID: **006** **(Cooling Tower)**
[ ] No ID
[ ] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C		**49**	[ ]

9. Emissions Unit Comment: (Limit to 500 Characters)

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

   Drift eliminators

2. Control Device or Method Code(s): **15**

Emissions Unit Details

1. Package Unit:
   Manufacturer: Model Number:
2. Generator Nameplate Rating: MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:	mmBtu/hr	
2. Maximum Incineration Rate:	lb/hr	tons/day
3. Maximum Process or Throughput Rate: **125,000 gal/min**		
4. Maximum Production Rate:		
5. Requested Maximum Operating Schedule:		
	24 hours/day	**7** days/week
	52 weeks/year	**8,760** hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):		
Maximum process rate (field 3) is cooling tower water recirculation rate.		

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

See Attachment A-1	

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

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? **TC-1 thru TC-10**	2. Emission Point Type Code: **3**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **Cooling tower consists of ten cells.**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **N/A**		
5. Discharge Type Code: **V**	6. Stack Height: **57** feet	7. Exit Diameter: **33.0** 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 Comment (limit to 200 characters): **Cooling tower consists of ten cells with 10 individual exhaust fans. Stack height and diameter provided in Fields 6 and 7 are for each cell. Exhaust volume and temperature will vary with ambient temperature.**		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
Salt water cooling tower recirculation water flow rate.		
2. Source Classification Code (SCC):	3. SCC Units: **Thousand gallons transferred**	
4. Maximum Hourly Rate: **7,500.0**	5. Maximum Annual Rate: **65,700,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

Segment Description and Rate: Segment ____ of ____

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

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 – PM	**015**		**NS**
2 – PM10	**015**		**NS**

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **18.2** lb/hour **79.5** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **18.2 lb/hr** Reference: **AP-42, Section 13.4**	7. Emissions Method Code: **3**
8. Calculation of Emissions (limit to 600 characters): **(125,000 gal/min) x (0.001gal drift/100 gal flow) x (29,000 lb PM/10^6 lb water) x (8.345 lb/gal water) x (60 min/hr) = 18.15 lb/hr PM** **(18.15 lb/hr) x (8,760 hr/yr) x (1 ton/2,000 lb) = 79.5 ton/yr PM**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions ____ of ____

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

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM10**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **18.2** lb/hour **79.5** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **18.2 lb/hr** Reference: **AP-42, Section 13.4**	7. Emissions Method Code: **3**
8. Calculation of Emissions (limit to 600 characters): **(125,000 gal/min) x (0.001gal/100 gal) x (29,000 lb PM/10^6 lb water) x (8.345 lb/gal water) x (60 min/hr) = 18.15 lb/hr PM** **(18.15 lb/hr) x (8,760 hr/yr) x (1 ton/2,000 lb) = 79.5 ton/yr PM**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions ____ of ____

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

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation ____ of ____

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

Visible Emissions Limitation: Visible Emissions Limitation ____ of ____

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

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units 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 (limit to 200 characters):	

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 (limit to 200 characters):	

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

Supplemental Requirements

1. Process Flow Diagram [√] Attached, Document ID: **Fig. 2-5** [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [ ] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [√] Attached, Document ID: **Att. A-8** [ ] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [√] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [√] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [√] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [√] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application **See PSD application** [ ] Attached, Document ID:_____ [ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [√] Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation [ ] Attached, Document ID:_____ [ ] Not Applicable
12. Alternative Modes of Operation (Emissions Trading) [ ] Attached, Document ID:_____ [ ] Not Applicable
13. Identification of Additional Applicable Requirements [ ] Attached, Document ID:_____ [ ] Not Applicable
14. Compliance Assurance Monitoring Plan [ ] Attached, Document ID:_____ [ ] Not Applicable
15. Acid Rain Part Application (Hard-copy Required) [ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID:_____ [ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID:_____ [ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID:_____ [ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID:_____ [ ] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) Attached, Document ID:_____ [ ] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) Attached, Document ID:_____ [ ] Not Applicable

Above items previously submitted, see Smith Electric Generating Plant Title V permit application.

FIGURES 2-3, 2-4, 2-5

990151/ps

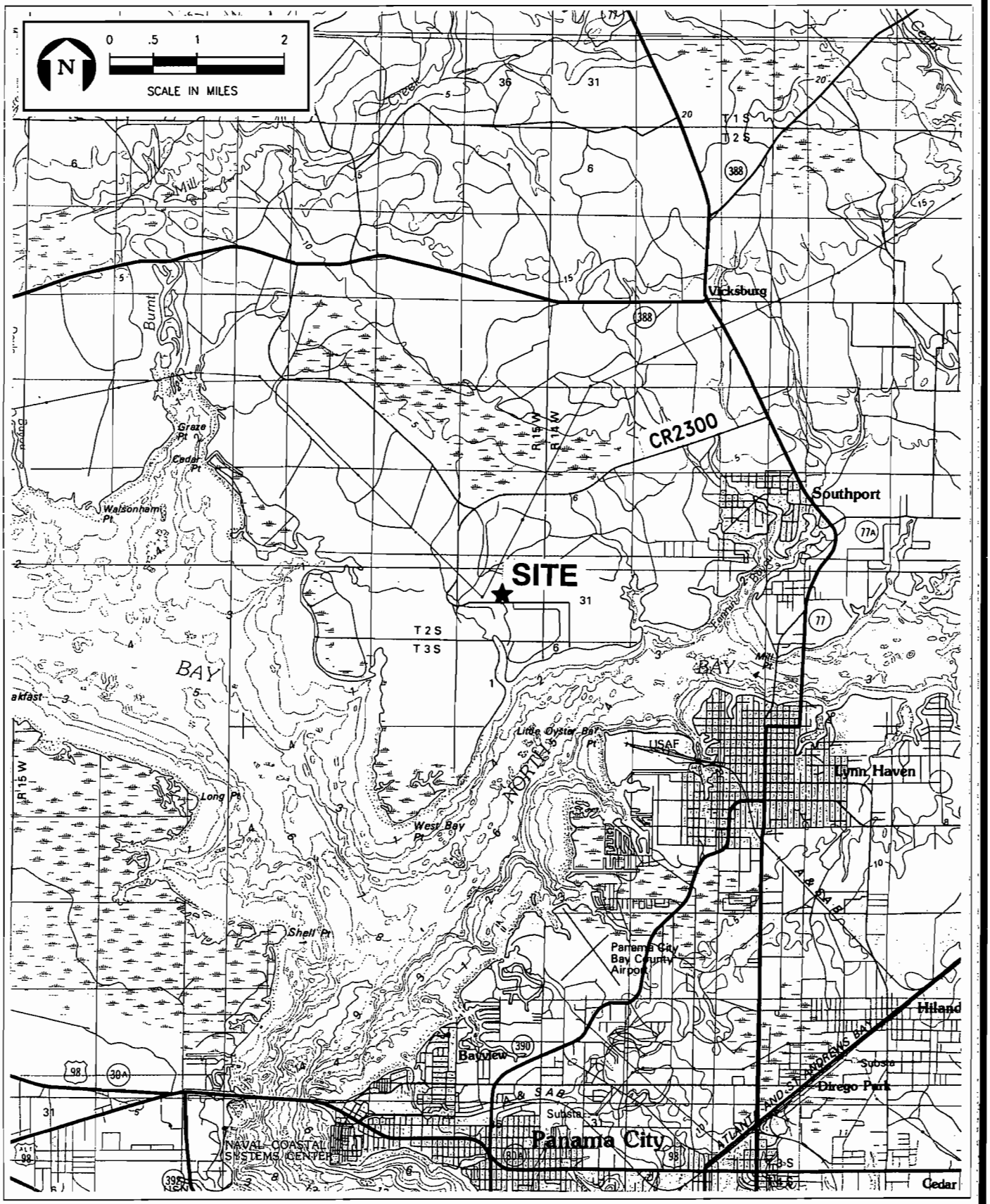


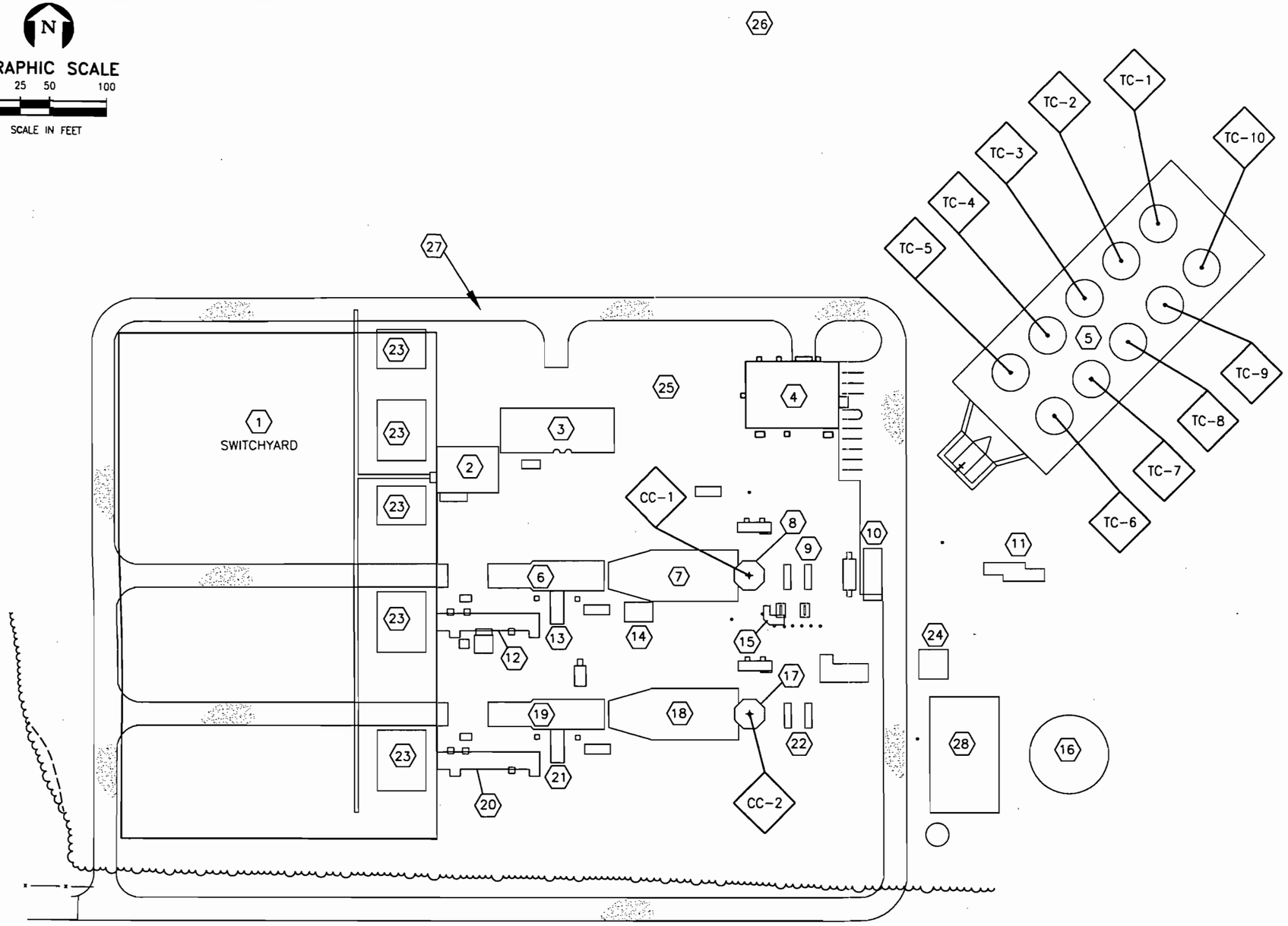
FIGURE 2-3.

SITE LOCATION RELATIVE TO LOCAL LANDMARKS

Sources: USGS 30x60-minute topo map: Panama City, FL, 1981.

ECT

Environmental Consulting & Technology, Inc.



AREA /STRUCTURE LEGEND

	NAME	SIZE (SQ. FEET)
CC-1	EMISSION POINT	
1	SWITCHYARD	120,346.68
2	ELECTRICAL BUILDING	2,351.44
3	STEAM TURBINE	3,768.28
4	ADMINISTRATION BUILDING	4,586.67
5	COOLING TOWER	33,178.27
6	NORTH GAS TURBINE	2,412.20
7	NORTH HEAT RECOVERY STEAM GENERATOR (HRSG)	4,617.73
8	NORTH STACK	534.43
9	NORTH BOILER FEED PUMP	258.02
10	FEEDWATER TRANSFORMER	720.00
11	480 VOLT MCC AND TRANSFORMER	664.06
12	BAC/PEECC	1,427.18
13	ACCESSORY MODULE	335.50
14	PHOSPHATE FEED SKID	425.00
15	AMMONIA SUPPLY SYSTEM	181.91
16	CONDENSATE STORAGE TANK	3,631.68
17	SOUTH STACK	534.43
18	SOUTH HEAT RECOVERY STEAM GENERATOR (HRSG)	4,617.73
19	SOUTH GAS TURBINE	2,412.20
20	GEC/PEECC	1,427.18
21	ACCESSORY MODULE	335.50
22	SOUTH BOILER FEED PUMP	258.02
23	TRANSFORMERS	9,541.24
24	WASTE WATER SUMP	325.13
25	INTERIOR PLANT YARD (GRAVEL)	76,418.62
26	BALANCE OF SITE (GRAVEL)	814,224.3
27	ROADWAY (CONCRETE)	87,682.38
28	WATER TREATMENT BUILDING	6,000.00
29	GRASSED SLOPES	50,000.00
30	MISC. CONC. PADS (INTERIOR YARD)	2,000.00

FIGURE 2-4.

SMITH UNIT 3 PLOT PLAN

Source: ECT, 1999.

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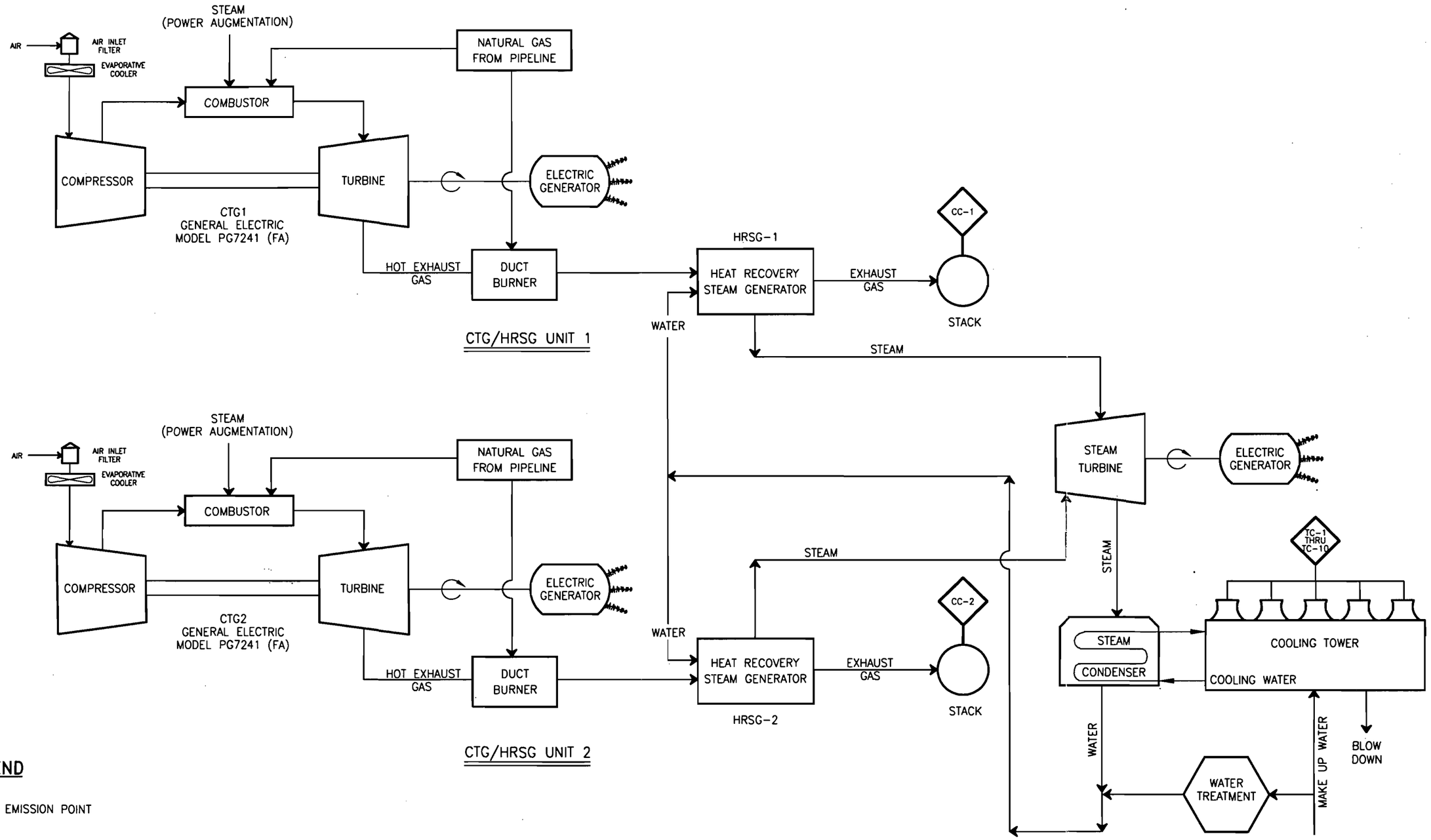

FIGURE 2-5.

PROCESS FLOW DIAGRAM

Source: ECT, 1999.

ECT
Environmental Consulting & Technology, Inc.

ATTACHMENT A-1

REGULATORY APPLICABILITY ANALYSES

Table A-1. Summary of Federally EPA Regulatory Applicability and Corresponding Requirements (Page 1 of 12)

Regulation	Citation	Not Applicable	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
40 CFR Part 60 - Standards of Performance for New Stationary Sources.				
Subpart A - General Provisions				
Notification and Recordkeeping	§60.7		CC-1, CC-2 Gas Turbines Duct Burners	General recordkeeping and reporting requirements.
Performance Tests	§60.8		CC-1, CC-2 Gas Turbines Duct Burners	Conduct performance tests as required by EPA or FDEP.
Compliance with Standards	§60.11		CC-1, CC-2 Gas Turbines Duct Burners	General compliance requirements. Addresses requirements for visible emissions tests.
Circumvention	§60.12		CC-1, CC-2 Gas Turbines Duct Burners	Cannot conceal an emission which would otherwise constitute a violation of an applicable standard.
Monitoring Requirements	§60.13		CC-1, CC-2 Gas Turbines Duct Burners	Requirements pertaining to continuous monitoring systems.
General notification and reporting requirements	§60.19		CC-1, CC-2 Gas Turbines Duct Burners	General procedures regarding reporting deadlines.
Subpart Da - Standard of Performance for Electric Utility Steam Generating Units for Which Construction Commenced After September 18, 1978				
Standards for Particulate Matter	§60.42a(a) and (b)		CC-1, CC-2 Duct Burners	Establishes PM limit of 13 ng/J (0.03 lb/MMBtu). Opacity shall not be greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.

Table A-1. Summary of Federally EPA Regulatory Applicability and Corresponding Requirements (Page 2 of 12)

Regulation	Citation	Not Applicable	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Subpart Da - Standard of Performance for Electric Utility Steam Generating Units for Which Construction Commenced After September 18, 1978 (continued)				
Standards for Sulfur Dioxide	§60.43a(b)(2)		CC-1, CC-2 Duct Burners	Establishes SO_2 limit of 86 ng/J (0.20 lb/MMBtu), 30-day rolling average.
Standards for Nitrogen Oxides	§60.44a(d)(1)		CC-1, CC-2 Duct Burners	For sources which commence construction after July 9, 1997, establishes NO_x limit of 1.6 lb/MWh, 30-day rolling average.
Compliance Provisions	§60.46a, all except (d)		CC-1, CC-2 Duct Burners	Describes compliance provisions for PM, SO_2, and NO_x standards. Paragraph (d) applies to FGD systems.
Emission Monitoring	§60.47a, all except (a) and (b)		CC-1, CC-2 Duct Burners	Continuous emissions monitoring requirements. NO_x CEM required. Continuous emissions monitoring of opacity [Paragraph (a)] and SO_2 [Paragraph (b)]is not required where gaseous fuel is the only fuel combusted.
Compliance Determination Procedures and Methods	§60.48a (a) and (f)		CC-1, CC-2 Duct Burners	Initial performance testing requirements for electric utility combined cycle gas turbines.
Reporting Requirements	§60.49a		CC-1, CC-2 Duct Burners	Periodic reporting requirements.

Table A-1. Summary of Federally EPA Regulatory Applicability and Corresponding Requirements (Page 3 of 12)

Regulation	Citation	Not Applicable	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Subpart GG - Standard of Performance for Stationary Gas Turbines				
Standards for Nitrogen Oxides	§60.332(a)(1) and (3), (b), and (f)		CC-1, CC-2 Gas Turbines	Establishes NO_x limit of 75 ppmv at 15% (with corrections for heat rate and fuel bound nitrogen) for electric utility stationary gas turbines with peak heat input greater than 100 MMBtu/hr.
Standards for Sulfur Dioxide	§60.333		CC-1, CC-2 Gas Turbines	Establishes exhaust gas SO_2 limit of 0.015 percent by volume (at 15% O_2, dry) and maximum fuel sulfur content of 0.8 percent by weight.
Monitoring Requirements	§60.334(a)	X		Requires continuous monitoring of fuel consumption and ratio of water to fuel being fired in the turbine. Monitoring system must be accurate to ±5.0 percent. Applicable only to CTGs using water injection for NO_x control.
Monitoring Requirements	§60.334(b)(2) and (c)		CC-1, CC-2 Gas Turbines	Requires daily monitoring of fuel sulfur and nitrogen content unless custom schedule requested and approved. Defines excess emissions
Test Methods and Procedures	§60.335		CC-1, CC-2 Gas Turbines	Specifies monitoring procedures and test methods.
40 CFR Part 60 - Standards of Performance for New Stationary Sources: Subparts B, C, Cb, Cc, Cd, Ce, D, Db, Dc, E, Ea, Eb, Ec, F, G, H, I, J, K, Ka, Kb, L, M, N, Na, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AAa, BB, CC, DD, EE, HH, KK, LL, MM, NN, PP, QQ, RR, SS, TT, UU, VV, WW, XX, AAA, BBB, DDD, FFF, GGG, HHH, III, JJJ, KKK, LLL, NNN, OOO, PPP, QQQ, RRR, SSS, TTT, UUU, VVV, and WWW		X		None of the listed NSPS' contain requirements which are applicable to Smith Unit 3.

Table A-1. Summary of Federally EPA Regulatory Applicability and Corresponding Requirements (Page 4 of 12)

Regulation	Citation	Not Applicable	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
40 CFR Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories: Subparts A, B, C, D, E, F, G, H, I, L, M, N, O, Q, R, S, T, U, W, X, Y, CC, DD, EE, GG, II, JJ, KK, LL, OO, PP, QQ, RR, VV, EEE, GGG, III, and JJJ		X		None of the listed NESHAPS' contain requirements which are applicable to the Smith Unit 3 CTGs.
40 CFR Part 72 - Acid Rain Program Permits				
Subpart A - Acid Rain Program General Provisions				
Standard Requirements	§72.9 excluding §72.9(c)(3)(i), (ii), and (iii), and §72.9(d)		CC-1, CC-2	General Acid Rain Program requirements.
Subpart B - Designated Representative				
Designated Representative	§72.20 - §72.24		CC-1, CC-2	General requirements pertaining to the Designated Representative.
Subpart C - Acid Rain Application				
Requirements to Apply	§72.30(a), (b)(2)(ii), (c), and (d)		CC-1, CC-2	Requirement to submit a complete Phase II Acid Rain permit application to the permitting authority at least 24 months before the later of January 1, 2000 or the date on which the unit commences operation. Requirement to submit a complete Acid Rain permit application for each source with an affected unit at least 6 months prior to the expiration of an existing Acid Rain permit governing the unit during Phase II or *such longer time as may be approved under* part 70 of this chapter that ensures that the term of the existing permit will not expire before the effective date of the permit for which the application is submitted. **(future requirement)**.

Table A-1. Summary of Federally EPA Regulatory Applicability and Corresponding Requirements (Page 5 of 12)

Regulation	Citation	Not Applicable	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Acid Rain permit information requirements	§72.31		CC-1, CC-2	Lists information required for Acid Rain permit applications.
Permit Application Shield	§72.32		CC-1, CC-2	Acid Rain Program permit shield for units filing a timely and complete application. Application is binding pending issuance of Acid Rain Permit.
Subpart D - Acid Rain Compliance Plan and Compliance Options				
General	§72.40(a)(1)		CC-1, CC-2	General SO_2 compliance plan requirements.
General	§72.40(a)(2)	X		General NO_x compliance plan requirements are not applicable to Smith Unit 3.
Subpart E - Acid Rain Permit Contents				
Permit Shield	§72.51		CC-1, CC-2	Units operating in compliance with an Acid Rain Permit are deemed to be operating in compliance with the Acid Rain Program.
Subpart H - Permit Revisions				
General Permit Revision Procedures Including Fast-Track Modifications	§72.80, §72.81, §72.82(a) and (c), §72.83, and §72.84		CC-1, CC-2	Procedures for permit revisions including fast-track modifications to Acid Rain Permits. **(potential future requirement)**
Subpart I - Compliance Certification				
Annual Compliance Certification Report	§72.90		CC-1, CC-2	Requirement to submit an annual compliance report. **(future requirement)**
40 CFR Part 75 - Continuous Emission Monitoring				
Subpart A - General				
Prohibitions	§75.5		CC-1, CC-2	General monitoring prohibitions.
Subpart B - Monitoring Provisions				

Table A-1. Summary of Federally EPA Regulatory Applicability and Corresponding Requirements (Page 6 of 12)

Regulation	Citation	Not Applicable	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
General Operating Requirements	§75.10		CC-1, CC-2	General monitoring requirements.
Specific Provisions for Monitoring SO_2 Emissions	§75.11(d)(2)		CC-1, CC-2	SO_2 continuous monitoring requirements for gas- and oil-fired units. Appendix D election will be made.
Specific Provisions for Monitoring NO_x Emissions	§75.12(a) and (b)		CC-1, CC-2	NO_x continuous monitoring requirements for coal-fired units, gas-fired nonpeaking units or oil-fired nonpeaking units
Specific Provisions for Monitoring CO_2 Emissions	§75.13(b)		CC-1, CC-2	CO_2 continuous monitoring requirements. Appendix G election will be made.
Subpart B - Monitoring Provisions				
Specific Provisions for Monitoring Opacity	§75.14(c)		CC-1, CC-2	Opacity continuous monitoring exemption for gas-fired units.
Subpart C - Operation and Maintenance Requirements				
Certification and Recertification Procedures	§75.20(b)		CC-1, CC-2	Recertification procedures **(potential future requirement)**
Certification and Recertification Procedures	§75.20(c)		CC-1, CC-2	Recertification procedure requirements. **(potential future requirement)**
Quality Assurance and Quality Control Requirements	§75.21 except §75.21(b)		CC-1, CC-2	General QA/QC requirements (excluding opacity).
Reference Test Methods	§75.22		CC-1, CC-2	Specifies required test methods to be used for recertification testing **(potential future requirement)**.
Out-Of-Control Periods	§75.24 except §75.24(e)		CC-1, CC-2	Specifies out-of-control periods and required actions to be taken when out-of-control periods occur (excluding opacity).
Subpart D - Missing Data Substitution Procedures				
General Provisions	§75.30(a)(3), (b), (c)		CC-1, CC-2	General missing data requirements.

Table A-1. Summary of Federally EPA Regulatory Applicability and Corresponding Requirements (Page 7 of 12)

Regulation	Citation	Not Applicable	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Determination of Monitor Data Availability for Standard Missing Data Procedures	§75.32		CC-1, CC-2	Monitor data availability procedure requirements.
Standard Missing Data Procedures	§75.33(a) and (c)		CC-1, CC-2	Missing data substitution procedure requirements.
Subpart F - Recordkeeping Requirements				
General Recordkeeping Provisions	§75.50(a), (b), (d), and (e)(2)		CC-1, CC-2	General recordkeeping requirements for NO_x and Appendix G CO_2 monitoring.
Monitoring Plan	§75.53(a), (b), (c), and (d)(1)		CC-1, CC-2	Requirement to prepare and maintain a Monitoring Plan.
General Recordkeeping Provisions	§75.54(a), (b), (d), and (e)(2)		CC-1, CC-2	Requirements pertaining to general recordkeeping.
General Recordkeeping Provisions for Specific Situations	§75.55(c)		CC-1, CC-2	Specific recordkeeping requirements for Appendix D SO_2 monitoring.
General Recordkeeping Provisions	§75.56(a)(1), (3), (5), (6), and (7)		CC-1, CC-2	Requirements pertaining to general recordkeeping.
General Recordkeeping Provisions	§75.56(b)(1)		CC-1, CC-2	Requirements pertaining to general recordkeeping for Appendix D SO_2 monitoring.
Subpart G - Reporting Requirements				
General Provisions	§75.60		CC-1, CC-2	General reporting requirements.

Table A-1. Summary of Federally EPA Regulatory Applicability and Corresponding Requirements (Page 8 of 12)

Regulation	Citation	Not Applicable	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Notification of Certification and Recertification Test Dates	§75.61(a)(1) and (5), (b), and (c)		CC-1, CC-2	Requires written submittal of recertification tests and revised test dates for CEMS. Notice of certification testing shall be submitted at least 45 days prior to the first day of recertification testing. Notification of any proposed adjustment to certification testing dates must be provided at least 7 business days prior to the proposed date change.
Subpart G - Reporting Requirements				
Monitoring Plan	§75.62		CC-1, CC-2	Requires submittal of a monitoring plan no later than 45 days prior to the first scheduled certification test.
Recertification Application	§75.63		CC-1, CC-2	Requires submittal of a recertification application within 30 days after completing the recertification test. **(potential future requirement)**
Quarterly Reports	§75.64(a)(1) - (5), (b), (c), and (d)		CC-1, CC-2	Quarterly data report requirements.
40 CFR Part 76 - Acid Rain Nitrogen Oxides Emission Reduction Program		X		The Acid Rain Nitrogen Oxides Emission Reduction Program only applies to coal-fired utility units that are subject to an Acid Rain emissions limitation or reduction requirement for SO_2 under Phase I or Phase II.
40 CFR Part 77 - Excess Emissions				

Table A-1. Summary of Federally EPA Regulatory Applicability and Corresponding Requirements (Page 9 of 12)

Regulation	Citation	Not Applicable	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Offset Plans for Excess Emissions of Sulfur Dioxide	§77.3		CC-1, CC-2	Requirement to submit offset plans for excess SO_2 emissions not later than 60 days after the end of any calendar year during which an affected unit has excess SO_2 emissions. Required contents of offset plans are specified **(potential future requirement)**.
Deduction of Allowances to Offset Excess Emissions of Sulfur Dioxide	§77.5(b)		CC-1, CC-2	Requirement for the Designated Representative to hold enough allowances in the appropriate compliance subaccount to cover deductions to be made by EPA if a timely and complete offset plan is not submitted or if EPA disapproves a proposed offset plan **(potential future requirement)**.
Penalties for Excess Emissions of Sulfur Dioxide	§77.6		CC-1, CC-2	Requirement to pay a penalty if excess emissions of SO_2 occur at any affected unit during any year **(potential future requirement)**.
40 CFR Part 78 - Appeals Procedures				
Appeals Procedures for Acid Rain Program	§78		CC-1, CC-2	General Acid Rain Program appeals procedures. **(potential future requirement)**
40 CFR Part 82 - Protection of Stratospheric Ozone				
Production and Consumption Controls	Subpart A	X		Smith Unit 3 will not produce or consume ozone depleting substances.
Servicing of Motor Vehicle Air Conditioners	Subpart B	X		Gulf personnel will not perform servicing of motor vehicles which involves refrigerant in the motor vehicle air conditioner. All such servicing will be conducted by persons who comply with Subpart B requirements.

Table A-1. Summary of Federally EPA Regulatory Applicability and Corresponding Requirements (Page 10 of 12)

Regulation	Citation	Not Applicable	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Ban on Nonessential Products Containing Class I Substances and Ban on Nonessential Products Containing or Manufactured with Class II Substances	Subpart C	X		Gulf will not sell or distribute any banned nonessential substances.
The Labeling of Products Using Ozone-Depleting Substances	Subpart E	X		Smith Unit 3 will not produce any products containing ozone depleting substances.
Subpart F - Recycling and Emissions Reduction				
Prohibitions	§82.154	X		Gulf personnel will not maintain, service, repair, or dispose of any appliances. All such activities will be performed by independent parties in compliance with §82.154 prohibitions.
Required Practices	§82.156 except §82.156(i)(5), (6), (9), (10), and (11)	X		Contractors will maintain, service, repair, and dispose of any appliances in compliance with §82.156 required practices.

Table A-1. Summary of Federally EPA Regulatory Applicability and Corresponding Requirements (Page 11 of 12)

Regulation	Citation	Not Applicable	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Subpart F - Recycling and Emissions Reduction				
Required Practices	§82.156(i)(5), (6), (9), (10), and (11)		Appliances as defined by §82.152- any device which contains and uses a Class I or II substance as a refrigerant and which is used for household or commercial purposes, including any air conditioner, refrigerator, chiller, or freezer	Owner/operator requirements pertaining to repair of leaks.
Technician Certification	§82.161	X		Gulf personnel will not maintain, service, repair, or dispose of any appliances and therefore are not subject to technician certification requirements.
Certification By Owners of Recovery and Recycling Equipment	§82.162	X		Gulf personnel will not maintain, service, repair, or dispose of any appliances and therefore do not use recovery and recycling equipment.
Reporting and Recordkeeping Requirements	§82.166(k), (m), and (n)		Appliances as defined by §82.152	Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep servicing records documenting the date and type of service, as well as the quantity of refrigerant added.
40 CFR Part 50 - National Primary and Secondary Ambient Air Quality Standards		X		State agency requirements - not applicable to individual emission sources.

Table A-1. Summary of Federally EPA Regulatory Applicability and Corresponding Requirements (Page 12 of 12)

Regulation	Citation	Not Applicable	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
40 CFR Part 51 - Requirements for Preparation, Adoption, and Submittal of Implementation Plans		X		State agency requirements - not applicable to individual emission sources.
40 CFR Part 52 - Approval and Promulgation of Implementation Plans		X		State agency requirements - not applicable to individual emission sources.
40 CFR Part 62 - Approval and Promulgation of State Plans for Designated Facilities and Pollutants		X		State agency requirements - not applicable to individual emission sources.
40 CFR Part 64 - Compliance Assurance Monitoring		X		Program only applies to emission units which are equipped with control devices, excluding inherent process equipment.
40 CFR Part 70 - State Operating Permit Programs		X		State agency requirements - not applicable to individual emission sources.
40 CFR Parts 53, 54, 55, 56, 57, 58, 59, 66, 67, 68, 69, 71, 73, 76, 77, 79, 80, 81, 85, 86, 87, 88, 89, 90, 91, 92, 93, 95, and 96		X		The listed regulations do not contain any requirements which are applicable to Smith Unit 3.

Source: ECT, 1999.

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 1 of 12)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
Chapter 62-4, F.A.C. - Permits: Part I General					
Scope of Part I	62-4.001, F.A.C.	X			Contains no applicable requirements.
Definitions	62-4.020, .021, F.A.C.	X			Contains no applicable requirements.
Transferability of Definitions	62-4.021, .021, F.A.C.	X			Contains no applicable requirements.
General Prohibition	**62-4.030, F.A.C[1]**		X		All stationary air pollution sources must be permitted, unless otherwise exempted.
Exemptions	**62-4.040, F.A.C[1]**		X		Certain structural changes exempt from permitting. Other stationary sources exempt from permitting upon FDEP insignificance determination.
Procedures to Obtain Permits	**62-4.050, F.A.C.[1]**		X		General permitting requirements.
Surveillance Fees	62-4.052, F.A.C.	X			Not applicable to air emission sources.
Permit Processing	62-4.055, F.A.C.	X			Contains no applicable requirements.
Consultation	62-4.060, F.A.C.	X			Consultation is encouraged, not required.
Standards for Issuing or Denying Permits; Issuance; Denial	62-4.070, F.A.C	X			Establishes standard procedures for FDEP. Requirement is not applicable to Smith Unit 3.
Modification of Permit Conditions	62-4.080, F.A.C	X			Application is for initial construction permit. Modification of permit conditions is not being requested.
Renewals	**62-4.090, F.A.C.[1]**		X		Establishes permit renewal criteria. Additional criteria are cited at 62-213.-430(3), F.A.C. **(future requirement)**
Suspension and Revocation	**62-4.100, F.A.C.[1]**		X		Establishes permit suspension and revocation criteria.

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 2 of 12)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
Financial Responsibility	62-4.110, F.A.C.	X			Contains no applicable requirements.
Transfer of Permits	62-4.120, F.A.C.	X			A sale or legal transfer of a permitted facility is not included in this application.
Plant Operation - Problems	**62-4.130, F.A.C.**[1]		X		Immediate notification is required whenever the permittee is temporarily unable to comply with any permit condition. Notification content is specified. **(potential future requirement)**
Review	62-4.150, F.A.C.	X			Contains no applicable requirements.
Permit Conditions	62-4.160, F.A.C.	X			Contains no applicable requirements.
Scope of Part II	62-4.200, F.A.C.	X			Contains no applicable requirements.
Construction Permits	62-4.210, F.A.C.	X			General requirements for construction permits.
Operation Permits for New Sources	62-4.220, F.A.C.	X			General requirements for initial new source operation permits. **(future requirement)**
Water Permit Provisions	62-4.240 - 250, F.A.C.	X			Contains no applicable requirements.
Chapter 62-17, F.A.C. - Electrical Power Plant Siting				Unit 3	Power Plant Siting Act provisions.
Chapter 62-102, F.A.C. - Rules of Administrative Procedure - Rule Making			X		General administrative procedures.
Chapter 62-103, F.A.C. - Rules of Administrative Procedure - Final Agency Action			X		General administrative procedures.

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 3 of 12)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
Chapter 62-204, F.A.C. - State Implementation Plan					
State Implementation Plan	62-204.100, .200, .220(1)-(3), .240, .260, .320, .340, .360, .400, and .500, F.A.C.	X			Contains no applicable requirements.
Ambient Air Quality Protection	62-204.220(4), F.A.C.		X		Assessments of ambient air pollutant impacts must be made using applicable air quality models, data bases, and other requirements approved by FDEP and specified in 40 CFR Part 51, Appendix W.
State Implementation Plan	62-204.800(1) - (6), F.A.C.	X			Referenced federal regulations contain no applicable requirements.
State Implementation Plan	**62-204.800(7)(a), (b)2. and 39., (c), (d), and (e), F.A.C.**[1]			CC1, CC-2	NSPS Subpart Da and GG; see Table A-1 for detailed federal regulatory citations.
State Implementation Plan	62-204.800(8) - (13), (15), (17), (20), and (22) F.A.C.	X			Referenced federal regulations contain no applicable requirements.
State Implementation Plan	62-204.800 (14), (16), (18), (19), F.A.C.			CC1, CC-2	Acid Rain Program; see Table A-1 for detailed federal regulatory citations.
State Implementation Plan	**62-204.800(21), F.A.C.**[1]		X		Protection of Stratospheric Ozone; see Table A-1 for detailed federal regulatory citations.
Chapter 62-210, F.A.C. - Stationary Sources - General Requirements					
Purpose and Scope	62-210.100, F.A.C.	X			Contains no applicable requirements.
Definitions	62-210.200, F.A.C.	X			Contains no applicable requirements.
Small Business Assistance Program	62-210.220, F.A.C.	X			Contains no applicable requirements.

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 4 of 12)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
Permits Required	62-210.300(1) and (3), F.A.C.		X		Air construction permit required. Exemptions from permitting specified for certain facilities and sources.
Permits Required	62-210.300(2), F.A.C.		X		Air operation permit required. **(future requirement)**
Air General Permits	62-210.300(4), F.A.C.	X			Not applicable to Smith Unit 3.
Notification of Startup	62-210.300(5), F.A.C.	X			Sources which have been shut down for more than one year shall notify the FDEP prior to startup.
Emission Unit Reclassification	62-210.300(6), F.A.C.		X		Emission unit reclassification **(potential future requirement)**
Public Notice and Comment					
Public Notice of Proposed Agency Action	62-210.350(1), F.A.C.		X		All permit applicants required to publish notice of proposed agency action.
Additional Notice Requirements for Sources Subject to Prevention of Significant Deterioration or Nonattainment Area New Source Review	62-210.350(2), F.A.C.		X		Additional public notice requirements for PSD and nonattainment area NSR applications.
Additional Public Notice Requirements for Sources Subject to Operation Permits for Title V Sources	62-210.350(3), F.A.C.		X		Notice requirements for Title V operating permit applicants **(future requirement)**.
Public Notice Requirements for FESOPS and 112(g) Emission Sources	62-210.350(4) and (5), F.A.C.	X			Not applicable to Smith Unit 3.
Administrative Permit Corrections	62-210.360, F.A.C.	X			An administrative permit correction is not requested in this application.

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 5 of 12)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
Reports Notification of Intent to Relocate Air Pollutant Emitting Facility	62-210.370(1), F.A.C.	X			Project does not have any relocatable emission units.
Annual Operating Report for Air Pollutant Emitting Facility	62-210.370(3), F.A.C.		X		Specifies annual reporting requirements. **(future requirement).**
Stack Height Policy	62-210.550, F.A.C.		X		Limits credit in air dispersion studies to good engineering practice (GEP) stack heights for stacks constructed or modified since 12/31/70.
Circumvention	62-210.650, F.A.C.			Units with control equipment	An applicable air pollution control device cannot be circumvented and must be operated whenever the emission unit is operating.
Excess Emissions	62-210.700(1), F.A.C.		X		Excess emissions due to startup, shut down, and malfunction are permitted for no more than two hours in any 24 hour period unless specifically authorized by the FDEP for a longer duration. **Excess emissions for more than two hours in a 24 hour period are specifically requested for Smith Unit 3. See Section 2.2 of the PSD permit application for details.**
Excess Emissions	62-210.700(2) and (3), F.A.C.	X			Not applicable to Smith Unit 3.

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 6 of 12)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
Excess Emissions	62-210.700(4), F.A.C.		X		Excess emissions caused entirely or in part by poor maintenance, poor operations, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction are prohibited. **(potential future requirement).**
Excess Emissions	62-210.700(5), F.A.C.	X			Contains no applicable requirements.
Excess Emissions	62-210.700(6), F.A.C.		X		Excess emissions resulting from malfunctions must be reported to the FDEP in accordance with 62-4.130, F.A.C. **(potential future requirement).**
Forms and Instructions	62-210.900(5), F.A.C.		X		Contains AOR requirements.
Notification Forms for Air General Permits	62-210.920, F.A.C.	X			Contains no applicable requirements.
Chapter 62-212, F.A.C. - Stationary Sources - Preconstruction Review					
Purpose and Scope	62-212.100, F.A.C.	X			Contains no applicable requirements.
General Preconstruction Review Requirements	62-212.300, F.A.C.		X		General air construction permit requirements.
Prevention of Significant Deterioration	62-212.400, F.A.C.		X		PSD permit required prior to construction of Smith Unit 3.
New Source Review for Nonattainment Areas	62-212.500, F.A.C.	X			Smith Unit 3 is not located in a nonattainment area or a nonattainment area of influence.
Sulfur Storage and Handling Facilities	62-212.600, F.A.C.	X			Applicable only to sulfur storage and handling facilities.
Air Emissions Bubble	62-212.710, F.A.C.	X			Not applicable to Smith Unit 3.

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 7 of 12)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
Chapter 62-213, F.A.C. - Operation Permits for Major Sources of Air Pollution					
Purpose and Scope	62-213.100, F.A.C.	X			Contains no applicable requirements.
Annual Emissions Fee	62-213.205(1), and (4), F.A.C.		X		Annual emissions fee and documentation requirements. **(future requirement)**
Annual Emissions Fee	62-213.205(2) and (3), F.A.C.	X			Contains no applicable requirements.
Title V Air General Permits	62-213.300, F.A.C.	X			No eligible facilities
Permits and Permit Revisions Required	62-213.400, F.A.C.		X		Title V operation permit required. **(future requirement)**
Changes Without Permit Revision	62-213.410, F.A.C.		X		Certain changes may be made if specific notice and recordkeeping requirements are met **(potential future requirement).**
Immediate Implementation Pending Revision Process	62-213.412, F.A.C.		X		Certain modifications can be implement-ed pending permit revision if specific criteria are met **(potential future requirement).**
Fast-Track Revisions of Acid Rain Parts	62-213.413, F.A.C.			CC1, CC-2	Optional provisions for Acid Rain permit revisions **(potential future requirement).**
Trading of Emissions within a Source	62-213.415, F.A.C.	X			Applies only to facilities with a federally enforceable emissions cap.
Permit Applications	62-213.420(1)(a)2. and (1)(b), (2), (3), and (4), F.A.C.		X		Title V operating permit application required no later than 180 days after commencing operation. **(future requirement)**
Permit Issuance, Renewal, and Revision					
Action on Application	62-213.430(1), F.A.C.	X			Contains no applicable requirements.
Permit Denial	62-213.430(2), F.A.C.	X			Contains no applicable requirements.

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 8 of 12)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
Permit Renewal	62-213.430(3), F.A.C.		X		Permit renewal application requirements **(future requirement).**
Permit Revision	62-213.430(4), F.A.C.		X		Permit revision application requirements **(potential future requirement).**
EPA Recommended Actions	62-213.430(5), F.A.C.	X			Contains no applicable requirements.
Insignificant Emission Units	62-213.430(6), F.A.C.		X		Contains no applicable requirements.
Permit Content	62-213.440, F.A.C.	X			Agency procedures, contains no applicable requirements.
Permit Review by EPA and Affected States	62-213.450, F.A.C.	X			Agency procedures, contains no applicable requirements.
Permit Shield	62-213.460, F.A.C.		X		Provides permit shield for facilities in compliance with permit terms and conditions. **(future requirement)**
Forms and Instructions	62-213.900(1), F.A.C.		X		Contains annual emissions fee form requirements.
Chapter 62-214—Requirements for Sources Subject to the Federal Acid Rain Program					
Purpose and Scope	§62-214.100, F.A.C.	X			Contains no applicable requirements.
Applicability	§62-214.300, F.A.C.		X		Smith Unit 3 includes Acid Rain affected units, therefore compliance with §62-213 and §62-214, F.A.C., is required.
Applications	§62-214.320, F.A.C.			CC1, CC-2	Acid Rain application requirements. Application for new units are due at least 24 months before the later of 1/1/2000 or the date on which the unit commences operation.

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 9 of 12)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
Acid Rain Compliance Plan and Compliance Options	§62-214.330(1)(a), F.A.C.			CC1, CC-2	Acid Rain compliance plan requirements. Sulfur dioxide requirements become effective the later of 1/1/2000 or the deadline for CEMS certification pursuant to 40 CFR Part 75. **(future requirement)**
Exemptions	§62-214.340, F.A.C.		X		An application may be submitted for certain exemptions **(potential future requirement)**.
Certification	§62-214.350, F.A.C.			CC1, CC-2	The designated representative must certify all Acid Rain submissions. **(future requirement)**
Department Action on Applications	§62-214.360, F.A.C.	X			Contains no applicable requirements.
Revisions and Administrative Corrections	§62-214.370, F.A.C.			CC1, CC-2	Defines revision procedures and automatic amendments **(potential future requirement)**..
Acid Rain Part Content	§62-214.420, F.A.C.	X			Agency procedures, contains no applicable requirements.
Implementation and Termination of Compliance Options	§62-214.430, F.A.C.			CC1, CC-2	Defines permit activation and termination procedures **(potential future requirement)**.
Chapter 62-242 - Motor Vehicle Standards and Test Procedures	62-242, F.A.C.	X			Not applicable to Smith Unit 3.
Chapter 62-243 - Tampering with Motor Vehicle Air Pollution Control Equipment	62-243, F.A.C.	X			Not applicable to Smith Unit 3.
Chapter 62-252 - Gasoline Vapor Control	62-252, F.A.C.	X			Not applicable to Smith Unit 3.
Chapter 62-256 - Open Burning and Frost Protection Fires					
Declaration and Intent	62-256.100, F.A.C.	X			Contains no applicable requirements.

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 10 of 12)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
Definitions	62-256.200, F.A.C.	X			Contains no applicable requirements.
Prohibitions	**62-256.300, F.A.C.**[1]		X		Prohibits open burning.
Burning for Cold and Frost Protection	62-256.450, F.A.C.	X			Limited to agricultural protection.
Land Clearing	**62-256.500, F.A.C.**[1]		X		Defines allowed open burning for non-rural land clearing and structure demolition.
Industrial, Commercial, Municipal, and Research Open Burning	**62-256.600, F.A.C.**[1]		X		Prohibits industrial open burning
Open Burning allowed	**62-256.700, F.A.C.**[1]		X		Specifies allowable open burning activities. **(potential future requirement)**
Effective Date	**62-256.800, F.A.C.**[1]	X			Contains no applicable requirements.
Chapter 62-257 - Asbestos Fee	62-257, F.A.C.	X			Not applicable to Smith Unit 3.
Chapter 62-281 - Motor Vehicle Air Conditioning Refrigerant Recovery and Recycling	62-281, F.A.C.	X			Not applicable to Smith Unit 3.
Chapter 62-296 - Stationary Source - Emission Standards					
Purpose and Scope	62-296.100, F.A.C.	X			Contains no applicable requirements
General Pollutant Emission Limiting Standard, Volatile Organic Compounds Emissions	62-296.320(1), F.A.C.		X		Known and existing vapor control devices must be applied as required by the Department.
General Pollutant Emission Limiting Standard, Objectionable Odor Prohibited	**62-296.320(2), F.A.C.**[1]		X		Objectionable odor release is prohibited.
General Pollutant Emission Limiting Standard, Industrial, Commercial, and Municipal Open Burning Prohibited	**62-296.320(3), F.A.C.**[1]		X		Open burning in connection with industrial, commercial, or municipal operations is prohibited.

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 11 of 12)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
General Particulate Emission Limiting Standard, Process Weight Table	62-296.320(4)(a), F.A.C.	X			Smith Unit 3 does not have any applicable emission units. Combustion emission units are exempt per 62-296.320(4)(a)1a.
General Particulate Emission Limiting Standard, General Visible Emission Standard	62-296.320(4)(b), F.A.C.		X		Opacity limited to 20 percent, unless otherwise permitted. Test methods specified.
General Particulate Emission Limiting Standard, Unconfined Emission of Particulate Matter	62-296.320(4)(c), F.A.C.		X		Reasonable precautions must be taken to prevent unconfined particulate matter emission.
Specific Emission Limiting and Performance Standards	62-296.401 through 62-296.417, F.A.C.	X			None of the referenced standards are applicable to Smith Unit 3.
Reasonably Available Control Technology (RACT) Volatile Organic Compounds (VOC) and Nitrogen Oxides (NO_x) Emitting Facilities	62-296.500 through 62-296.516, F.A.C.	X			Smith Unit 3 is not located in an ozone nonattainment area or an ozone air quality maintenance area.
Reasonably Available Control Technology (RACT) - Requirements for Major VOC- and NO_x-Emitting Facilities	62-296.570, F.A.C.	X			Smith Unit 3 is not located in a specified ozone nonattainment area or a specified ozone air quality maintenance area (i.e., is not located in Broward, Dade or Palm Beach Counties)
Reasonably Available Control Technology (RACT) - Lead	62-296.600 through 62-296.605, F.A.C.	X			Smith Unit 3 is not located in a lead non-attainment area or a lead air quality maintenance area.
Reasonably Available Control Technology (RACT)—Particulate Matter	§62-296.700 through 62-296.712, F.A.C.	X			Smith Unit 3 is not located in a PM non-attainment area or a PM air quality maintenance area.
Chapter 62-297 - Stationary Sources - Emissions Monitoring					
Purpose and Scope	62-297.100, F.A.C.	X			Contains no applicable requirements.

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 12 of 12)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
General Compliance Test Requirements	62-297.310, F.A.C.			CC-1, CC-2	Specifies general compliance test requirements.
Compliance Test Methods	62-297.401, F.A.C.	X			Contains no applicable requirements.
Supplementary Test Procedures	62-297.440, F.A.C.	X			Contains no applicable requirements.
EPA VOC Capture Efficiency Test Procedures	62-297.450, F.A.C.	X			Not applicable to Smith Unit 3.
CEMS Performance Specifications	62-297.520, F.A.C.	X			Contains no applicable requirements.
Exceptions and Approval of Alternate Procedures and Requirements	62-297.620, F.A.C.	X			Exceptions or alternate procedures have not been requested.

[1] - State requirement only; not federally enforceable.

Source: ECT, 1999.

ATTACHMENT A-2

II.E.4—PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER

PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER

Unconfined particulate matter emissions that may result from Smith Unit 3 operations include:

- Vehicular traffic on paved and unpaved roads.
- Wind-blown dust from yard areas.
- Periodic abrasive blasting.

The following techniques may be used to control unconfined particulate matter emissions on an as-needed basis:

- Chemical or water application to:
  - Unpaved roads
  - Unpaved yard areas
- Paving and maintenance of roads, parking areas, and yards.
- Landscaping or planting of vegetation.
- Confining abrasive blasting where possible.
- Other techniques, as necessary.

ATTACHMENT A-3

III.L.2—FUEL ANALYSES OR SPECIFICATIONS

Typical Natural Gas Composition

Component	Mole Percent (by volume)
Gas Composition	
Hexane+	0.061
Propane	0.890
I-butane	0.189
N-butane	0.168
I-pentane	0.038
N-pentane	0.026
Nitrogen	0.527
Methane	93.813
CO_2	1.024
Ethane	3.2820
Other Characteristics	
Heat content (HHV)	1,050 Btu/ft^3 at 14.73 psia, dry
Real specific gravity	0.5999
Sulfur content (maximum)	2.0 gr/100 scf

Note: Btu/ft^3 = British thermal units per cubic foot.
psia = pounds per square inch absolute.
gr/100 scf = grains per 100 standard cubic foot.

Source: Koch, 1999.
Gulf, 1999.

ATTACHMENT A-4

ALTERNATE METHODS OF OPERATION

Gulf Power – Smith Unit 3
Alternate Methods of Operation

Emission Source	Method No.	Evaporative Cooling	Duct Burner Firing	Steam Power Augmentation	Annual Operating Hours (Hrs/Yr)
CC/HRSG-1, 2	1				8,760
	2	X			8,760
	3		X		8,760
	4	X	X		8,760
	5	X	X	X	1,000

Source: Gulf, 1999.

ATTACHMENT B—

CTG VENDOR INFORMATION

Southern Company
ESTIMATED PERFORMANCE PG7241(FA)

Load Condition		BASE	75%	50%
Ambient Temp.	Deg F.	0.	0.	0.
Fuel Type		Cust Gas	Cust Gas	Cust Gas
Fuel LHV	Btu/lb	20,869	20,869	20,869
Fuel Temperature	Deg F	80	80	80
Output	kW	189,300.	142,000.	94,700.
Heat Rate (LHV)	Btu/kWh	9,250.	9,920.	11,850.
Heat Cons. (LHV) X 10^6	Btu/h	1,751.	1,408.6	1,122.2
Exhaust Flow X 10^3	lb/h	3867.	3079.	2515.
Exhaust Temp.	Deg F.	1071.	1106.	1155.
Exhaust Heat (LHV) X 10^6	Btu/h	1054.7	882.9	765.0

EMISSIONS

NOx	ppmvd @ 15% O2	9.	9.	9.
NOx AS NO2	lb/h	64.	51.	40.
CO	ppmvd	15.	15.	15.
CO	lb/h	53.	42.	34.
UHC	ppmvw	7.	7.	7.
UHC	lb/h	15.	12.	10.
Particulates	lb/h	9.	9.	9.

EXHAUST ANALYSIS % VOL.

Argon	0.90	0.89	0.91
Nitrogen	75.09	75.09	75.19
Oxygen	12.58	12.58	12.87
Carbon Dioxide	3.88	3.89	3.75
Water	7.55	7.55	7.29

SITE CONDITIONS

Elevation	ft.	96.0
Site Pressure	psia	14.65
Inlet Loss	in Water	4.04
Exhaust Loss	in Water	16.5
Relative Humidity	%	60
Application		7FH2 Hydrogen-Cooled Generator
Combustion System		9/42 DLN Combustor

Emission information based on GE recommended measurement methods. NOx emissions are corrected to 15% O2 without heat rate correction and are not corrected to ISO reference condition per 40CFR 60.335(a)(1)(i). NOx levels shown will be controlled by algorithms within the SPEEDTRONIC control system.

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Southern Company
ESTIMATED PERFORMANCE PG7241(FA)

Load Condition		BASE	75%	50%
Inlet Loss	in. H2O	4.	4.	4.
Exhaust Loss	in. H2O	16.5	16.5	16.5
Ambient Temp.	Deg F.	65.	65.	65.
Evap. Cooler Status		On	Off	Off
Evap. Cooler Effectiveness	%	85		
Fuel Type		Cust Gas	Cust Gas	Cust Gas
Fuel LHV	Btu/lb	20,869	20,869	20,869
Fuel Temperature	Deg F	80	80	80
Output	kW	172,400.	129,300.	86,200.
Heat Rate (LHV)	Btu/kWh	9,320.	10,090.	12,130.
Heat Cons. (LHV) X 10^6	Btu/h	1,606.8	1,304.6	1,045.6
Exhaust Flow X 10^3	lb/h	3524.	2894.	2390.
Exhaust Temp.	Deg F.	1122.	1148.	1192.
Exhaust Heat (LHV) X 10^6	Btu/h	972.2	825.1	719.6
EMISSIONS				
NOx	ppmvd @ 15% O2	9.	9.	9.
NOx AS NO2	lb/h	59.	47.	38.
CO	ppmvd	15.	15.	15.
CO	lb/h	48.	39.	32.
UHC	ppmvw	7.	7.	7.
UHC	lb/h	14.	11.	9.
Particulates	lb/h	9.	9.	9.
EXHAUST ANALYSIS	% VOL.			
Argon		0.88	0.89	0.89
Nitrogen		74.03	74.26	74.37
Oxygen		12.29	12.50	12.81
Carbon Dioxide		3.89	3.81	3.67
Water		8.91	8.54	8.26

SITE CONDITIONS

Elevation	ft.	96.0
Site Pressure	psia	14.65
Relative Humidity	%	60
Application		7FH2 Hydrogen-Cooled Generator
Combustion System		9/42 DLN Combustor

Emission information based on GE recommended measurement methods. NOx emissions are corrected to 15% O2 without heat rate correction and are not corrected to ISO reference condition per 40CFR 60.335(a)(1)(i). NOx levels shown will be controlled by algorithms within the SPEEDTRONIC control system.

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Southern Company
ESTIMATED PERFORMANCE PG7241(FA)

100% w/oPH 75% 50%

			BASE	75%	50%
Load Condition					
Ambient Temp.	Deg F.		95.	95.	95.
Evap. Cooler Status			On	Off	Off
Evap. Cooler Effectiveness	%		85		
Fuel Type			Cust Gas	Cust Gas	Cust Gas
Fuel LHV	Btu/lb		20,869	20,869	20,869
Fuel Temperature	Deg F		80	80	80
Output	kW		159,000.	119,300.	79,500.
Heat Rate (LHV)	Btu/kWh		9,550.	10,400.	12,510.
Heat Cons. (LHV) X 10^6	Btu/h		1,518.5	1,240.7	994.5
Exhaust Flow X 10^3	lb/h		3353.	2787.	2326.
Exhaust Temp.	Deg F.		1140.	1169.	1200.
Exhaust Heat (LHV) X 10^6	Btu/h		931.9	796.9	692.7
EMISSIONS					
NOx	ppmvd @ 15% O2		9.	9.	9.
NOx AS NO2	lb/h		56.	45.	36.
CO	ppmvd		15.	15.	15.
CO	lb/h		45.	37.	31.
UHC	ppmvw		7.	7.	7.
UHC	lb/h		13.	11.	9.
Particulates	lb/h		9.	9.	9.
EXHAUST ANALYSIS	% VOL.				
Argon			0.87	0.87	0.89
Nitrogen			72.91	73.37	73.50
Oxygen			12.08	12.39	12.77
Carbon Dioxide			3.84	3.75	3.57
Water			10.31	9.62	9.28
SITE CONDITIONS					
Elevation	ft.		96.0		
Site Pressure	psia		14.65		
Inlet Loss	in Water		4.04		
Exhaust Loss	in Water		16.5		
Relative Humidity	%		45		
Application			7FH2 Hydrogen-Cooled Generator		
Combustion System			9/42 DLN Combustor		

Emission information based on GE recommended measurement methods. NOx emissions are corrected to 15% O2 without heat rate correction and are not corrected to ISO reference condition per 40CFR 60.335(a)(1)(i). NOx levels shown will be controlled by algorithms within the SPEEDTRONIC control system.

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100% w/PA

Southern Company
ESTIMATED PERFORMANCE PG7241(FA)

Load Condition		BASE
Inlet Loss	in. H2O	4.
Exhaust Loss	in. H2O	16.5
Ambient Temp.	Deg F.	95.
Evap. Cooler Status		On
Evap. Cooler Effectiveness	%	85
Fuel Type		Cast Gas
Fuel LHV	Btu/lb	20,869
Fuel Temperature	Deg F	80
Output	kW	175,300.
Heat Rate (LHV)	Btu/kWh	9,150.
Heat Cons. (LHV) X 10^6	Btu/h	1,604.
Exhaust Flow X 10^3	lb/h	3471.
Exhaust Temp.	Deg F.	1125.
Exhaust Heat (LHV) X 10^6	Btu/h	975.7
Steam Flow	lb/h	113,450.

EMISSIONS		
NOx	ppmvd @ 15% O2	12
NOx AS NO2	lb/h	79
CO	ppmvd	15.
CO	lb/h	45.
UHC	ppmvw	7.
UHC	lb/h	14.
Particulates	lb/h	9.

EXHAUST ANALYSIS	% VOL.
Argon	0.82
Nitrogen	69.06
Oxygen	11.04
Carbon Dioxide	3.84
Water	15.24

SITE CONDITIONS		
Elevation	ft.	96.0
Site Pressure	psia	14.65
Relative Humidity	%	45
Application		7FH2 Hydrogen-Cooled Generator
Combustion System		9/42 DLN Combustor

Emission information based on GE recommended measurement methods. NOx emissions are corrected to 15% O2 without heat rate correction and are not corrected to ISO reference condition per 40CFR 60.335(a)(1)(i). NOx levels shown will be controlled by algorithms within the SPEEDTRONIC control system.

ATTACHMENT C—

EMISSION RATE CALCULATIONS

Table C-1. Plant Smith Unit 3
CTG Operating Scenarios

Case	Ambient Temperature (°F)	Load (%)	CTG-1	CTG-2	Evaporative Cooling	Steam Power Augmentation	Duct Burner Firing
1	0	100	X	X			
2	0	100	X	X			X
3	0	75	X	X			
4	0	50	X	X			
5	65	100	X	X	X		
6	65	100	X	X	X		X
7	65	75	X	X			
8	65	50	X	X			
9	95	100	X	X	X		
10	95	100	X	X	X	X	
11	95	100	X	X	X	X	X
12	95	100	X	X	X		X
13	95	75	X	X			
14	95	50	X	X			

Sources: ECT, 1999.
Gulf Power, 1999.

Table C-2. Plant Smith Unit 3
CTG/HRSG Hourly Emission Rates (Per CTG/HRSG)
Criteria Air Pollutants and Sulfuric Acid Mist

Temp.	Case	Load	PM_{10}[1]		SO_2[2]		H_2SO_4[3]		Lead[4]	
(°F)		(%)	(lb/hr)	(g/sec)	(lb/hr)	(g/sec)	(lb/hr)	(g/sec)	(lb/hr)	(g/sec)
0	1	100	19.8	2.495	11.6	1.461	1.33	0.168	0.00077	0.00010
	2	100	20.8	2.620	12.7	1.600	1.46	0.184	0.00084	0.00011
	3	75	19.8	2.495	9.3	1.175	1.07	0.135	0.00062	0.00008
	4	50	19.8	2.495	7.4	0.936	0.85	0.108	0.00049	0.00006
65	5	100	19.8	2.495	10.6	1.341	1.22	0.154	0.00070	0.00009
	6	100	20.9	2.633	11.9	1.495	1.36	0.172	0.00078	0.00010
	7	75	19.8	2.495	8.6	1.089	0.99	0.125	0.00057	0.00007
	8	50	19.8	2.495	6.9	0.873	0.80	0.100	0.00046	0.00006
95	9	100	19.8	2.495	10.1	1.267	1.15	0.146	0.00066	0.00008
	10	100	19.8	2.495	10.6	1.338	1.22	0.154	0.00070	0.00009
	11	100	21.5	2.703	12.4	1.566	1.43	0.180	0.00082	0.00010
	12	100	21.0	2.647	11.9	1.501	1.37	0.172	0.00079	0.00010
	13	75	19.8	2.495	8.2	1.035	0.94	0.119	0.00054	0.00007
	14	50	19.8	2.495	6.6	0.830	0.76	0.095	0.00043	0.00005
		Maximums	**21.5**	**2.703**	**12.7**	**1.600**	**1.46**	**0.184**	**0.00084**	**0.00011**

Temp.	Case	Load	NO_x			CO			VOC		
(°F)		(%)	(ppmvd)[5]	(lb/hr)	(g/sec)	(ppmvd)[5]	(lb/hr)	(g/sec)	(ppmvd)[5]	(lb/hr)	(g/sec)
0	1	100	9.0	70.4	8.870	12.1	58.3	7.346	2.50	6.6	0.832
	2	100	10.1	78.7	9.910	15.0	78.7	9.910	3.40	10.2	1.289
	3	75	9.0	56.1	7.069	12.1	46.2	5.821	2.50	5.2	0.660
	4	50	9.0	44.0	5.544	12.6	37.4	4.712	2.89	4.4	0.550
65	5	100	9.0	64.9	8.177	11.9	52.8	6.653	2.50	6.2	0.776
	6	100	10.4	82.9	10.450	15.5	75.4	9.494	3.50	9.8	1.234
	7	75	9.0	51.7	6.514	12.2	42.9	5.405	2.55	5.2	0.651
	8	50	9.0	41.8	5.267	12.8	35.2	4.435	2.65	4.4	0.549
95	9	100	9.0	61.6	7.762	11.9	49.5	6.237	2.40	5.7	0.721
	10	100	9.0	86.9	10.949	11.2	49.5	6.237	2.53	5.0	0.632
	11	100	13.6	113.3	14.276	22.9	116.6	14.692	5.80	16.8	2.121
	12	100	10.6	80.6	10.159	15.8	73.3	9.231	3.60	9.6	1.206
	13	75	9.0	49.5	6.237	12.3	40.7	5.128	2.60	4.2	0.529
	14	50	9.0	39.6	4.990	13.0	34.1	4.297	2.73	5.0	0.632
		Maximums	**13.6**	**113.3**	**14.276**	**22.9**	**116.6**	**14.692**	**5.80**	**16.8**	**2.121**

[1] Excludes sulfuric acid mist.
[2] Based on natural gas sulfur content of 2.0 gr/100 ft^3.
[3] Based on 7.5% conversion of SO_2 to H_2SO_4.
[4] Based on EPA Electric Utility HAP emission factor of 3.70×10^{-1} lb/10^{12} Btu and natural gas heat content of 1,020 Btu/ft^3.
[5] Corrected to 15% O_2.

Sources: ECT, 1999.
GE, 1999.
Gulf Power, 1999.

Table C-3. Plant Smith Unit 3
CTG/HRSG Annual Emission Rates
Criteria Air Pollutants and Sulfuric Acid Mist

Source	Case	No. of CTG/HRSGs	Annual Operations (hrs/yr)	Emission Rates					
				NO_x		CO		VOC	
				(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
CTG/HRSG1,2	6	2	7,760	165.9	643.6	150.70	584.7	19.6	76.0
CTG/HRSG1,2	11	2	1,000	226.6	113.3	233.2	116.6	33.7	16.8
			Totals	**N/A**	**756.9**	**N/A**	**701.3**	**N/A**	**92.8**

Source	Case	No. of CTG/HRSGs	Annual Operations (hrs/yr)	Emission Rates							
				PM/PM_{10}		SO_2		Lead		H_2SO_4	
				(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
CTG/HRSG1,2	6	2	7,760	41.8	162.2	23.7	92.1	0.0016	0.00000	2.7	10.6
CTG/HRSG1,2	11	2	1,000	42.9	21.5	24.9	12.4	0.0016	0.00001	2.9	1.4
			Totals	**N/A**	**183.6**	**N/A**	**104.5**	**N/A**	**0.00001**	**N/A**	**12.0**

Sources: ECT, 1999.
GE, 1999.
Gulf Power, 1999.

Table C-4. Plant Smith Unit 3
CTG/HRSG Exhaust Flow Rates (Per CTG/HRSG)

A. Exhaust Molecular Weight (MW)

Component	MW (lb/mole)	Exhaust Gas Composition - Volume %													
		100 % Load								75 % Load			50 % Load		
	Case	0 °F 1	0 °F 2	65 °F 5	65 °F 6	95 °F 9	95 °F 10	95 °F 11	95 °F 12	0 °F 3	65 °F 7	95 °F 13	0 °F 4	59 °F 8	95 °F 14
Ar	39.944	0.90	0.90	0.88	0.88	0.87	0.82	0.81	0.87	0.89	0.89	0.87	0.91	0.89	0.89
N_2	28.013	75.09	74.82	74.03	73.70	72.91	69.06	68.61	72.54	75.09	74.26	73.37	75.19	74.37	73.50
O_2	31.999	12.58	11.80	12.29	11.35	12.08	11.04	9.68	11.03	12.58	12.50	12.39	12.87	12.81	12.77
CO_2	44.010	3.88	4.23	3.89	4.31	3.84	3.84	4.46	4.32	3.89	3.81	3.75	3.75	3.67	3.57
H_2O	18.015	7.55	8.25	8.91	9.75	10.31	15.24	16.43	11.25	7.55	8.54	9.62	7.29	8.26	9.28
	Totals	100.00	100.00	100.00	100.00	100.01	100.00	100.00	100.00	100.00	100.00	100.00	100.01	100.00	100.01
Exhaust MW (lb/mole)		28.49	28.44	28.34	28.29	28.18	27.64	27.57	28.12	28.49	28.37	28.25	28.51	28.39	28.27
Exhaust Flow (lb/sec)		1,074.17	1,076.39	978.89	981.25	931.39	964.17	968.06	935.14	855.28	803.89	774.17	698.61	663.89	646.11
Exhaust Temp. (°F)		192	190	188	186	175	170	170	183	170	166	180	159	155	173
	(K)	362	361	360	359	353	350	350	357	350	348	355	344	341	351
Ambient Temp. (°F)		0	0	65	65	95	95	95	95	0	65	95	0	65	95
	(K)	255	255	291	291	308	308	308	308	255	291	308	255	291	308
Exhaust O_2 (Vol %, Dry)		13.61	12.86	13.49	12.58	13.47	13.03	11.58	12.43	13.61	13.67	13.71	13.88	13.96	14.08

B. Exhaust Flow Rates

Case	100 % Load								75 % Load			50 % Load		
	0 °F 1	0 °F 2	65 °F 5	65 °F 6	95 °F 9	95 °F 10	95 °F 11	95 °F 12	0 °F 3	65 °F 7	95 °F 13	0 °F 4	59 °F 8	95 °F 14
ACFM	1,076,530	1,077,167	980,124	981,334	918,862	962,248	968,750	936,283	828,210	776,637	768,024	664,209	629,708	633,397
Velocity (fps)	81.4	81.5	74.1	74.2	69.5	72.8	73.3	70.8	62.6	58.7	58.1	50.2	47.6	47.9
Velocity (m/s)	24.8	24.8	22.6	22.6	21.2	22.2	22.3	21.6	19.1	17.9	17.7	15.3	14.5	14.6
SCFM, Dry[1]	805,875	802,674	727,378	723,767	685,187	683,482	678,430	682,268	641,648	599,054	572,603	525,212	495,928	479,253

[1] At 68 °F.

Sources: ECT, 1999.
GE, 1999.
Gulf Power, 1999.

Table C-4. Plant Smith Unit 3
CTG/HRSG Exhaust Data (Per CTG/HRSG)

C. Correction of VOC Concentrations to 15% O_2, dry

	100 % Load								75 % Load			50 % Load		
	0 °F	0 °F	65 °F	65 °F	95 °F	95 °F	95 °F	95 °F	0 °F	65 °F	95 °F	0 °F	59 °F	95 °F
Case	1	2	5	6	9	10	11	12	3	7	13	4	8	14
VOC ($ppmv_w$)	2.86	4.25	2.86	4.46	2.71	2.86	7.65	4.59	2.86	2.86	2.86	2.86	2.86	2.86
VOC ($ppmv_d$)	3.09	4.63	3.14	4.94	3.02	3.37	9.16	5.17	3.09	3.13	3.16	3.08	3.12	3.15
VOC (15% O_2)	2.50	3.40	2.50	3.50	2.40	2.53	5.80	3.60	2.50	2.55	2.60	2.59	2.65	2.73

D. Correction of CO Concentrations to 15% O_2, dry

	100 % Load								75 % Load			50 % Load		
	0 °F	0 °F	65 °F	65 °F	95 °F	95 °F	95 °F	95 °F	0 °F	65 °F	95 °F	0 °F	59 °F	95 °F
Case	1	2	5	6	9	10	11	12	3	7	13	4	8	14
CO ($ppmv_d$)	15.00	20.43	15.00	21.86	15.00	15.00	36.16	22.69	15.00	15.00	15.00	15.00	15.00	15.00
CO (15% O_2)	12.14	15.00	11.95	15.50	11.91	11.24	22.90	15.80	12.14	12.24	12.31	12.61	12.76	12.97

Sources: ECT, 1999.
GE, 1999.
Gulf Power, 1999.

Table C-5. Plant Smith Unit 3

Natural Gas Fuel Flow Rates; Per CTG/HRSG Unit

	100 % Load								75 % Load			50 % Load		
	0 °F	0 °F	65 °F	65 °F	95 °F	95 °F	95 °F	95 °F	0 °F	65 °F	95 °F	0 °F	65 °F	95 °F
Case	1	2	5	6	9	10	11	12	3	7	13	4	8	14
Heat Input - LHV (MMBtu/hr)	1,751.0	1,917.9	1,606.8	1,791.4	1,518.5	1,604.0	1,876.9	1,798.4	1,408.6	1,304.6	1,240.7	1,122.2	1,045.6	994.5
Fuel Rate[1] (lb/hr)	83,904	91,902	76,995	85,841	72,763	76,860	89,935	86,176	67,497	62,514	59,452	53,774	50,103	47,654
Fuel Rate (lb/sec)	23.307	25.528	21.387	23.845	20.212	21.350	24.982	23.938	18.749	17.365	16.514	14.937	13.918	13.237
Fuel Rate[2] (10^6 ft^3/hr)	1.845	2.021	1.693	1.887	1.600	1.690	1.977	1.895	1.484	1.375	1.307	1.182	1.102	1.048

[1] Based on natural gas heat content of 20,869 Btu/lb (LHV).
[2] Based on natural gas density of 0.04548 lb/ft^3.

Sources: ECT, 1999.
GE, 1999.
Gulf Power, 1999.

Table C-6. Plant Smith Unit 3
CTG NSPS Subpart GG Limit (Per CTG)

Fuel	PG7241FA Gas Turbine ISO Heat Rate (LHV)		F	NO_x Std
	(Btu/kw-hr)	(kj/w-hr)		(ppmvd)
Gas	9,150	9.654	0.0	111.9

Sources: ECT, 1999.
GE, 1999.

COOLING TOWER EMISSION RATE ESTIMATES

Particulate matter (PM/PM_{10}) emissions from the induced draft mechanical cooling tower were estimated using procedures found in AP42, Section 13.4, Wet Cooling Towers.

A. Cooling Tower Data

Total Liquid Drift = 0.001% of recirculation water flow rate
Total Liquid Drift = 0.001 gal / 100 gal recirculation water flow rate

Recirculation Water Flow Rate = 125,000 gal/min

Recirculation Water Total Dissolved Solids (TDS) = 29,000 ppmw

B. PM/PM_{10} Emission Rate Calculations

PM/PM_{10} = (125,000 gal/min) x (0.001 gal / 100 gal) x (8.345 lb / gal water) x (29,000 lb PM/PM_{10} / 10^6 lb water) x (60 min/hr)

PM/PM_{10} = 18.15 lb/hr

PM/PM_{10} = 79.5 ton/yr (8,760 hours/year operation)

ATTACHMENT D—

NO_x NETTING ANALYSIS

Gulf Power Plant Smith Unit 3
NO_x Netting Analysis

A. Unit 1 Baseline NO_x Emissions

Year	Fuel Usage		Fuel Heat Content		Total Heat Input	CEMS NO_x Emission Rate	NO_x Emission Rate
	Coal (ton/yr)	Oil (gal/yr)	Coal (Btu/lb)	Oil (Btu/gal)	(10^6 Btu/yr)	(lb/10^6 Btu)	(ton/yr)
1996[a]	520,766.0	65,900	11,775	138,500	12,273,166	0.614	3,767.9
1998	522,256.5	70,760	11,765	138,480	12,298,494	0.557	3,425.1
2-Yr Average	521,511.3	68,330	11,770	138,490	12,285,830	0.586	3,596.5

B. Unit 3 NO_x Emissions (Two CTG/HRSG Units)

Operating Case	NO_x Emissions (lb/hr)	Operations (hr/yr)	NO_x Emissions (ton/yr)
6[b]	165.9	7,760	643.6
11[c]	226.6	1,000	113.3
Totals	N/A	8,760	756.9

C. Net Change in NO_x Emissions

Emission Source	'96, '98 Baseline (ton/yr) [lb/10^6 Btu]	Following Unit 3 Installation (ton/yr) [lb/10^6 Btu][d]	Emission Rate Change (ton/yr)
Unit 1	3,596.5 [0.586]	2,830.4 [0.461]	-766.1
Unit 3	0.0	756.9	756.9
		Net Change	-9.1
Annual Cap for Unit 1 and Unit 3[e]		**3,587.4**	

Notes:

a - 1997 not used for averaging purposes due to 37 day outage occurring during 1997 per agreement with Clair Fancy/Al Linero (FDEP Division of Air Resources Management) on 1/25/99.

b - Base load, 65 °F, evaporative cooling, duct burner firing.

c - Base load, 95 °F, evaporative cooling, duct burner firing, and steam power augmentation.

d - Based on installation of low-NO_x burners and improved burner management system.

e - A federally enforceable annual NO_x emissions cap of 3,587 tpy for Unit 1 and Unit 3 is requested.

Sources: Gulf, 1999.
ECT, 1999.

June 3, 1999

SOUTHERN COMPANY
Energy to Serve Your World™

Estimates of Changes in CO, VOC, and Particulate Emissions From Low NOx Firing at Gulf Power's Lansing Smith Unit 1

A substantial amount of information has been published regarding possible changes in emissions from coal-fired utility boilers resulting from the installation of low NOx combustion modifications. Some of the best information available was developed at Gulf Power's Plant Smith Unit 2, during the U. S. DOE's Clean Coal Project (CCP). The information developed during that program, along with other relevant published information, is discussed in the following paragraphs.

Carbon Monoxide (CO) – Data taken at the Smith Unit 2 CCP demonstration indicated that the CO emissions, starting at 10 to 15 ppm for the original burners, were slightly decreased (10 ppm) with the NOx burner modifications that closely match those proposed for Smith Unit 1[1].

Volatile Organic Compounds (VOC) – VOC's, like CO, are the result of incomplete combustion of the coal. Because of this relationship, normally VOC and CO emissions will track, with CO rising to several hundred ppm before significant VOC's appear. A study of air toxics was preformed as part of the Smith Unit 2 CCP[2]. In this report, all but one of the 19 identified compounds in the volatile organic sampling train (VOST) were lower in the low NOx firing test than in the baseline testing, with 10 of the 19 compounds not detected in the low NOx testing. (Even though the authors speculate that the baseline test samples may have been contaminated, most of the compounds were not detected in the low NOx firing case.) As further evidence of minimal impact from these burner changes, EPRI's Emission Factor Handbook[3] makes no distinction between uncontrolled and low NOx firing for coal-fired boilers when estimating organic emissions. In summary, no changes are expected in the already low emissions of VOC's as a result of installing low NOx burner tips at Smith Unit 1.

Particulate Emissions – After the numerous low NOx modifications made to coal-fired boilers in the Southern Company electric system, the only impact on particulate emissions that has been seen is due to increased unburned carbon in the fly ash. This added carbon load, because it is not collected as efficiently as fly ash, can lead to increased mass emissions if the existing ESP is marginal. However, after the utility industry discovered these initial problems with unburned carbon, it was recognized that pulverizer performance can control the top coal particle size, and therefore the unburned carbon, and these problems have been mostly resolved. Even though the study of Smith Unit 2 described previously[2] found a slight increase in ESP outlet mass emissions from the base case to the most extreme low NOx test case, it is expected that the new low NOx burner

modifications at Smith Unit 1 will not cause any measurable increase in particulate emissions. The reason for this assertion is that the low NOx retrofit proposed uses a more advanced burner tip, without resorting to the extreme air staging that seems to cause the increase in unburned carbon in fly ash.

Larry S. Monroe, Ph.D.
Principal Research Engineer
Research and Environmental Affairs
Southern Company Services, Inc.

References

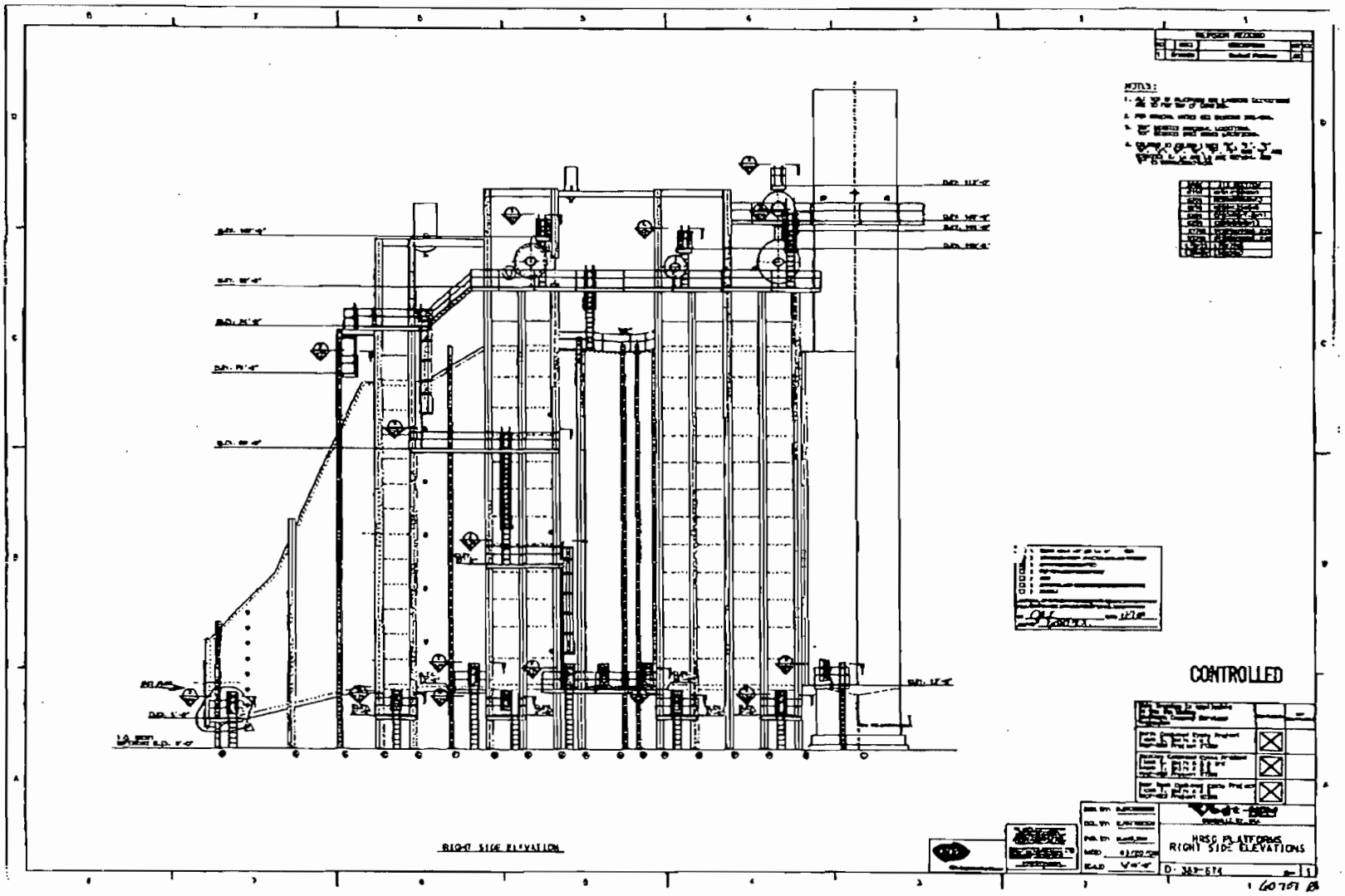
[1]R. R. Hardman, L. L. Smith, and S. Tavoulareas, "Results from the ICCT T-Fired Demonstration Project Including the Effect of Coal Fineness on NOx Emissions and Unburned Carbon Levels," presented at the EPRI/EPA 1993 Joint Symposium on Stationary Combustion NOx Control, Miami Beach, Florida, May 1993.

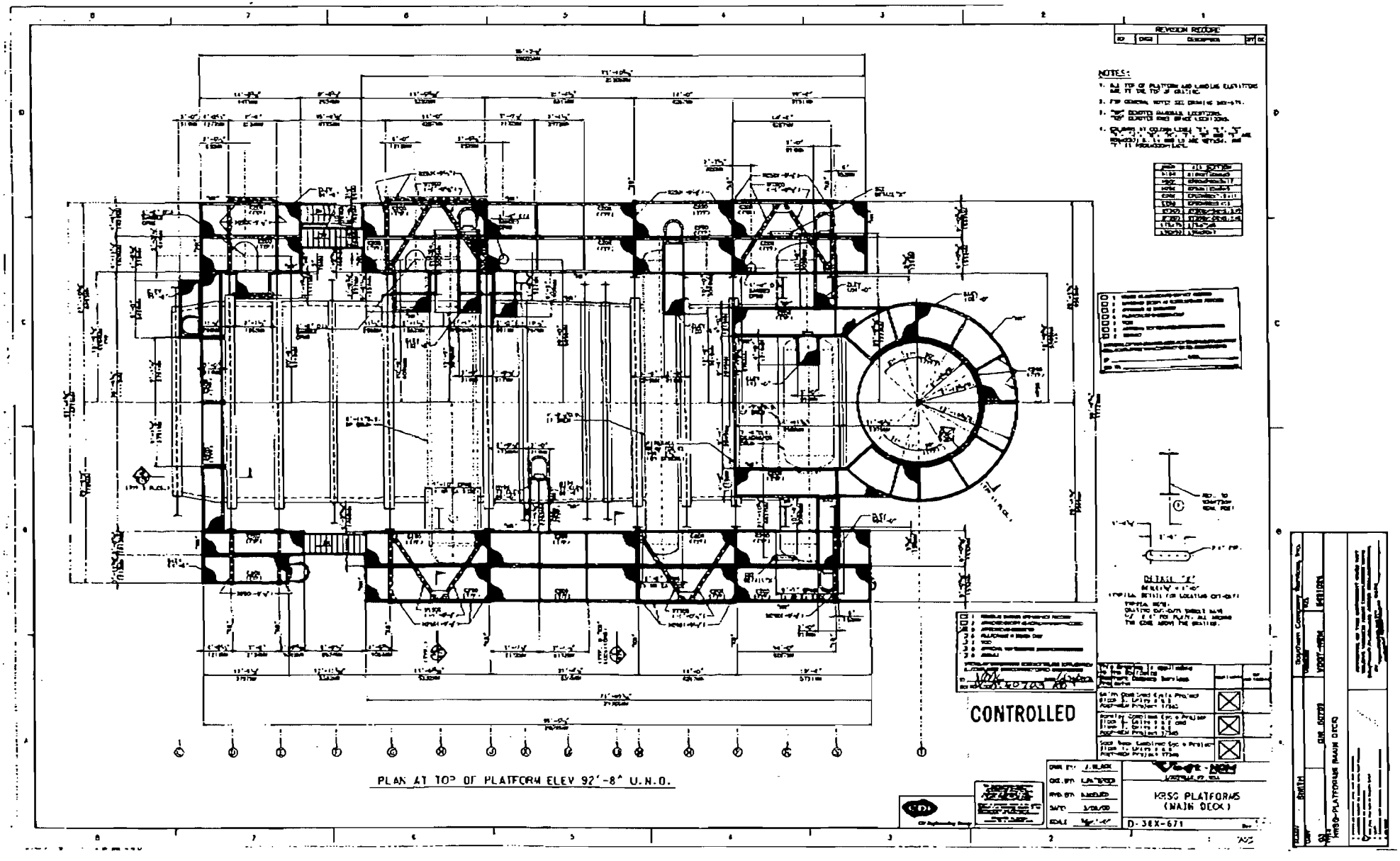
[2]E. B. Dismukes, **Measurement of Chemical Emissions Under the Influence of Low NOx Combustion Modifications**, Final Report to Southern Company Service, Inc., Contract C-91-000017, October 1993.

[3]**Emissions Factors Handbook: Guidelines for Estimating Trace Substance Emissions from Fossil Fuel Steam Plant**, EPRI, Palo Alto, CA, TR-105611, November 1995.

TOTAL P.03

ATTACHMENT A-5
DESCRIPTION OF STACK SAMPLING FACILITIES





ATTACHMENT A-6
ACID RAIN PHASE II APPLICATION

DR File Copy

One Energy Place
Pensacola, Florida 32520

850.444.6111

GULF POWER
A SOUTHERN COMPANY

March 27, 2000

Certified Mail

Mr. Scott M. Sheplak, P.E.
Department of Environmental Protection
2600 Blair Stone Road
Mail Station #5510
Tallahassee, Florida 32399-2400

Dear Mr. Sheplak:

RE: # 2 Revised Phase II Acid Rain Permit Application
Lansing Smith Electric Generating Plant (ORIS Code: 643)
Title V Permit No: 0050014 - AV

Attached, please find one original and three copies of the revised Phase II Acid Rain Permit Application for the Lansing Smith Electric Generating Plant (ORIS Code 643). The revised application includes a request to add two new generating units (i.e. Units 4 and 5) at the facility. These units are the new combined cycle units under current review by the Department. (See PSD-FL-269) A corresponding change in the Certification of Representation to include these units at Plant Lansing Smith has been submitted to EPA on March 20, 2000. This submission corrects the revised Phase II application previously submitted on March 20, 2000 for Lansing Smith. Please note that the Boiler ID numbers for the new combined cycle units (Units 4 & 5) have been changed (i.e., From 3 & 4 to 4 & 5). This numbering nomenclature coincides with the proposed PSD and Title V Permit. No other changes are noted in the application.

If you have any questions or need further information regarding the addition of these units under the Acid Rain Program at Plant Lansing Smith, please call me at (850) 444.6527.

Sincerely,

G. Dwain Waters Q.E.P.

G. Dwain Waters, Q.E.P.
Air Quality Programs Coordinator

cc: Robert G. Moore, Gulf Power Company
James O Vick, Gulf Power Company
Kim Flowers, Gulf Power Company
Tracy Reeder, Gulf Power Company
Tom Turk, Gulf Power Company
Danny Herrin, Southern Company Services
Douglas Neeley, EPA – Region IV

Phase II Permit Application

For more information, see instructions and refer to 40 CFR 72.30 and 72.31 and Chapter 62-214, F.A.C.

This submission is: ☐ New ☒ Revised

STEP 1
Identify the source by plant name, State, and ORIS code from NADB

Plant Name: Lansing Smith Electric Generating Plant | State: FL | ORIS Code: 643

STEP 2 Enter the boiler ID# from NADB for each affected unit and indicate whether a repowering plan is being submitted for the unit by entering "yes" or "no" at column c. For new units, enter the requested information in columns d and e.

a	b	c	d	e
Boiler ID#	Compliance Plan: Unit will hold allowances in accordance with 40 CFR 72.9(c)(1)	Compliance Plan: Repowering Plan	New Units: Commence Operation Date	New Units: Monitor Certification Deadline
1	Yes	No		
2	Yes	No		
4	Yes	No	01/14/2002	08/28/2002
5	Yes	No	01/14/2002	08/28/2002
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			

STEP 3
Check the box if the response in column c of Step 2 is "Yes for any unit

☐ For each unit that will be repowered, the Repowering Extension Plan form is included and the Repowering Technology Petition form has been submitted or will be submitted by June 1, 1997.

Plant Name (from Step 1) **Lansing Smith Electric Generating Plant**

STEP 4
Read the standard requirements and certification, enter the name of the designated representative, and sign and date

Standard Requirements

Permit Requirements.

(1) The designated representative of each Acid Rain source and each Acid Rain unit at the source shall:
(i) Submit a complete Acid Rain part application (including a compliance plan) under 40 CFR part 72, Rules 62-214.320 and 330, F.A.C. in accordance with the deadlines specified in Rule 62-214.320, F.A.C.; and
(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain part application and issue or deny an Acid Rain permit;
(2) The owners and operators of each Acid Rain source and each Acid Rain unit at the source shall:
(i) Operate the unit in compliance with a complete Acid Rain part application or a superseding Acid Rain part issued by the permitting authority; and
(ii) Have an Acid Rain Part.

Monitoring Requirements.

(1) The owners and operators and, to the extent applicable, designated representative of each Acid Rain source and each Acid Rain unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75, and Rule 62-214.420, F.A.C.
(2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
(3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements.

(1) The owners and operators of each source and each Acid Rain unit at the source shall:
(i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)) not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
(ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
(2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
(3) An Acid Rain unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
(i) Starting January 1, 2000, an Acid Rain unit under 40 CFR 72.6(a)(2); or
(ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an Acid Rain unit under 40 CFR 72.6(a)(3).
(4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
(5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1)(i) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
(6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or the written exemption under 40 CFR 72.7 and 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
(7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements. The owners and operators of the source and each Acid Rain unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements.

(1) The designated representative of an Acid Rain unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
(2) The owners and operators of an Acid Rain unit that has excess emissions in any calendar year shall:
(i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
(ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements.

(1) Unless otherwise provided, the owners and operators of the source and each Acid Rain unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:
(i) The certificate of representation for the designated representative for the source and each Acid Rain unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with Rule 62-214.350, F.A.C.; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
(ii) All emissions monitoring information, in accordance with 40 CFR part 75;
(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,

Plant Name (from Step 1) **Lansing Smith Electric Generating Plant**

Recordkeeping and Reporting Requirements (cont)

(iv) Copies of all documents used to complete an Acid Rain part application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.

(2) The designated representative of an Acid Rain source and each Acid Rain unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability.

(1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain part application, an Acid Rain part, or a written exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
(2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
(3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
(4) Each Acid Rain source and each Acid Rain unit shall meet the requirements of the Acid Rain Program.
(5) Any provision of the Acid Rain Program that applies to an Acid Rain source (including a provision applicable to the designated representative of an Acid Rain source) shall also apply to the owners and operators of such source and of the Acid Rain units at the source.
(6) Any provision of the Acid Rain Program that applies to an Acid Rain unit (including a provision applicable to the designated representative of an Acid Rain unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR 72.44 (Phase II repowering extension plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR part 75 (including 40 CFR 75.16, 75.17, and 75.18), the owners and operators and the designated representative of one Acid Rain unit shall not be liable for any violation by any other Acid Rain unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.
(7) Each violation of a provision of 40 CFR parts 72, 73, 75, 77, and 78 by an Acid Rain source or Acid Rain unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

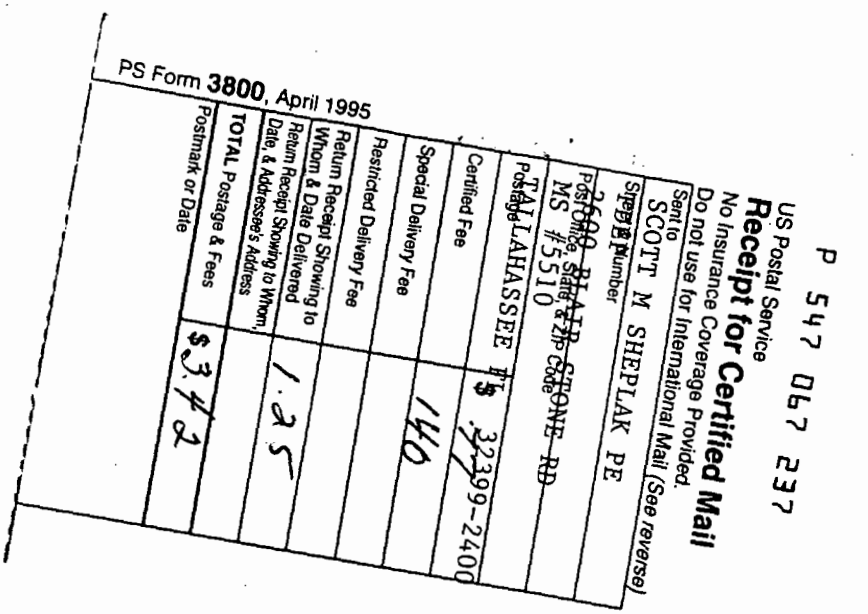
Effect on Other Authorities. No provision of the Acid Rain Program, an Acid Rain part application, an Acid Rain part, or a written exemption under 40 CFR 72.7 or 72.8 shall be construed as:

(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an Acid Rain source or Acid Rain unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;
(2) Limiting the number of allowances a unit can hold; *provided*, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;
(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;
(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

Certification

I am authorized to make this submission on behalf of the owners and operators of the Acid Rain source or Acid Rain units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name Robert G. Moore	
Signature Robert G Moore	Date 3/27/00



SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "*Return Receipt Requested*" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

SCOTT M SHEPLAK PE
FDEP
2600 BLAIR STONE RD
MS 5510
TALLAHASSEE FL 32399-2400

4a. Article Number

P 547 067 237

4b. Service Type

☐ Registered ☐ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery: MAR 30 2000

5. Received By: *(Print Name)* Theress Pittman

8. Addressee's Address *(Only if requested and fee is paid)*

RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

Return Receipt

DR File Ex Copies

One Energy Place
Pensacola, Florida 32520

Tel 850.444.6111

GULF POWER
A SOUTHERN COMPANY

Certified Mail

June 10, 2002

Ms. Sandra Veazey
Florida Department of Environmental Protection
Northwest District
160 Governmental Center
Pensacola, FL 32501-5794

Dear Ms. Veazey:

RE: LANSING SMITH ELECTRIC GENERATING PLANT
RESPONSIBLE OFFICIAL REQUEST CHANGE
PERMIT No: 0050014-001-AV

Attached, please find a revised "Responsible Official Notification Form" for Gulf Power's Lansing Smith Electric Generating Plant. This request is pursuant to a personnel change within Gulf Power for the Vice-President, Power Generation from Robert G. Moore to Gene L. Ussery, Jr.

If you have any questions or need further information regarding this change of Responsible Official for the Lansing Smith Electric Generating Plant, please call me at (850) 444.6527.
Sincerely,

G. Dwain Waters, QEP

G. Dwain Waters
Air Quality Programs Supervisor, QEP

cc: w/att: Jim. Vick, Gulf Power Company
Mike Sarab, Gulf Power Company
Trey Hall Gulf Power Company
Marie Largilliere, Gulf Power Company
Danny Herrin, Southern Company Services
Gary Perko, HGS

Department of Environmental Protection

Division of Air Resource Management

RESPONSIBLE OFFICIAL NOTIFICATION FORM

Note: A responsible official is not necessarily a designated representative under the Acid Rain Program. To become a designated representative, submit a certificate of representation to the U.S. Environmental Protection Agency (EPA) in accordance with 40 CFR Part 72.24.

Identification of Facility

1. Facility Owner/Company Name: **Gulf Power Company**	
2. Site Name: **Lansing Smith Electric Generating Plant**	3. County: **Bay**
4. Title V Air Operation Permit/Project No. *(leave blank for initial Title V applications)*: **0050014-001-AV**	

Notification Type *(Check one or more)*

[ ] **INITIAL:** Notification of responsible officials for an initial Title V application.

[ ] **RENEWAL:** Notification of responsible officials for a renewal Title V application.

[X] **CHANGE:** Notification of change in responsible official(s).

Effective date of change in responsible official(s) **06/10/02**

Primary Responsible Official

1. Name and Position Title of Responsible Official: **Gene L. Ussery, Jr.**

2. Responsible Official Mailing Address:
   Organization/Firm: **Gulf Power Company**
   Street Address: **One Energy Place**
   City: **Pensacola** State: **Florida** Zip Code: **32520-0100**

3. Responsible Official Telephone Numbers:
   Telephone: **(850) 444-6383** Fax: **(850) 444-6744**

4. Responsible Official Qualification *(Check one or more of the following options, as applicable)*:

[X] 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.

5. Responsible Official Statement:

I, the undersigned, am a responsible official, as defined in Rule 62-210.200, F.A.C., of the Title V source addressed in this notification. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this notification are true, accurate and complete. Further, I certify that I have authority over the decisions of all other responsible officials, if any, for purposes of Title V permitting.

Signature

6/12/02
Date

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258

Certificate of Representation

For more information, see instructions and refer to 40 CFR 72.24

This submission is: ☐ New ☒ Revised (revised submissions must be complete; see instructions)

This submission includes combustion or process sources under 40 CFR part 74 ☐

STEP 1
Identify the source by plant name, State, and ORIS code.

Plant Name	State	ORIS Code
Lansing Smith Electric Generating Plant	FL	643

STEP 2
Enter requested information for the designated representative.

Name	W. Paul Bowers	
Address	Southern Company Generation and Energy Marketing 600 North 18th Street - 15th Floor Birmingham, Alabama 35203	
Phone Number	205.257.5355	Fax Number 205.257.0526
E-mail address (if available)	wpbowers@southernco.com	

STEP 3
Enter requested information for the alternate designated representative, if applicable.

Name	Gene L. Ussery, Jr. / James O. Vick	
Phone Number	850.444.6383 / 850.444.6311	Fax Number 850.444.6744 / 805.444.6217
E-mail address (if available)	glussery@southernco.com / jovick@southernco.com	

STEP 4
Complete Step 5, read the certifications, and sign and date. For a designated representative of a combustion or process source under 40 CFR part 74, the references in the certifications to "affected unit" or "affected units" also apply to the combustion or process source under 40 CFR part 74 and the references to "affected source" also apply to the source at which the combustion or process source is located.

I certify that I was selected as the designated representative or alternate designated representative, as applicable, by an agreement binding on the owners and operators of the affected source and each affected unit at the source.

I certify that I have given notice of the agreement, selecting me as the 'designated representative' for the affected source and each affected unit at the source identified in this certificate of representation, in a newspaper of general circulation in the area where the source is located or in a State publication designed to give general public notice.

I certify that I have all necessary authority to carry out my duties and responsibilities under the Acid Rain Program on behalf of the owners and operators of the affected source and of each affected unit at the source and that each such owner and operator shall be fully bound by my actions, inactions, or submissions.

I certify that I shall abide by any fiduciary responsibilities imposed by the agreement by which I was selected as designated representative or alternate designated representative, as applicable.

I certify that the owners and operators of the affected source and of each affected unit at the source shall be bound by any order issued to me by the Administrator, the permitting authority, or a court regarding the source or unit.

Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, an affected unit, or where a utility or industrial customer purchases power from an affected unit under life-of-the-unit, firm power contractual arrangements, I certify that:

I have given a written notice of my selection as the designated representative or alternate designated representative, as applicable, and of the agreement by which I was selected to each owner and operator of the affected source and of each affected unit at the source; and

Allowances and the proceeds of transactions involving allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement or, if such multiple holders have expressly provided for a different distribution of allowances by contract, that allowances and the proceeds of transactions involving allowances will be deemed to be held or distributed in accordance with the contract.

The agreement by which I was selected as the alternate designated representative, if applicable, includes a procedure for the owners and operators of the source and affected units at the source to authorize the alternate designated representative to act in lieu of the designated representative.

Lansing Smith Electric Generating Plant
Plant Name (from Step 1)

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Signature (designated representative)	Date
Signature (alternate designated representative) [signature] James O Vick	Date 6/11/02

STEP 5
Provide the name of every owner and operator of the source and identify each affected unit (or combustion or process source) they own and/or operate.

Name: Gulf Power Company					☒ Owner	☐ Operator
ID# 1	ID# 2	ID# 4	ID# 5	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#

Name					☐ Owner	☐ Operator
ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#

Name					☐ Owner	☐ Operator
ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#

Name					☐ Owner	☐ Operator
ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#

One Energy Place
Pensacola, Florida 32520

Tel 850.444.6111

GULF POWER
A SOUTHERN COMPANY

May 24, 2002

HAND DELIVERED

Ms. Sandra Veazey
Florida Department of Environmental Protection
Northwest District
160 Governmental Center
Pensacola, Florida 32501-5794

Ms. Veazey:

RE: LANSING SMITH ELECTRIC GENERATING PLAN – UNITS 4 & 5
PREVENTION OF SIGNIFICANT DETERIORATION PERMIT COMPLIANCE
DEP File No. PA 99-40, PSD-FL-269

Please find enclosed one copy of the Compliance Test Report, which includes the required Visible Emissions, Volatile Organic Compounds Emissions, SO2/SAM, and Particulate Matter Test Reports, for the new combined-cycle units located at Plant Smith.

The test results as reported by Gulf Power's Field Services are summarized in the table below. These results are in compliance with the facility's permit limits, which are provided in the table.

Unit	NOx	NOx Standard	VOC	VOC Standard	CO	CO Standard
Mode	(lb/hr)	(lb/hr)	(ppm)	(ppm)	(ppm)	(ppm)
Unit 4						
Turbine/Duct	67.8	82.9	0.15	4.00	1.21	16.0
Power Aug	56.6	113.2	0.61	6.00	4.78	23.0
Unit 5						
Turbine/Duct	64.5	82.9	0.31	4.00	1.26	16.0
Power Aug	58.2	113.2	0.38	6.00	8.61	23.0

Enclosed is a certification of compliance of these results by Gulf Power's Responsible Official and the revised manufacturer's curve for heat input as required by Specific Condition Number Eight of the PSD permit.

Should you have any questions concerning this report, please call me at (850) 444-6527.

Sincerely,

G. Dwain Waters, Q.E.P.

G. Dwain Waters
Air Quality Programs Supervisor, QEP

Gulf Power Company
Mr. Mike Sarab
Mrs. Marie Largilliere
Mr. J.O. Vick
Mr. Mike Smith
Mr. Robert Haskew
Mr. Trey Hall

CERTIFICATION BY RESPONSIBLE OFFICIAL

"I, the undersigned, am the responsible official, as defined in Chapter 62-210.200, F.A.C., for Gulf Power Title V sources for which this report is being submitted. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made and data contained in this report are true, accurate and complete."

Responsible Official Signature:

Robert G Moore

Robert G. Moore
Vice-President of Power Generation/Transmission

5/24/02

Date:

ATTACHMENT A-7

COMPLIANCE TEST REPORTS

State Certification Test Results

Plant Smith

Unit 4 & 5

Table of Contents

I. *Executive Summary*

This report documents the annual air emission testing performed at Lansing Smith Electric Generating Plant located in Southport, Florida. The combined cycle unit consists of two gas fired combustion turbines and a steam turbine. Each of the gas turbines has its own stack in which the gases are released into the ambient air. For this reason each has its own continuous emissions monitoring system. The following certification report is for the both units, designated as Units 4 and 5.

Gulf Power installed NOx and CO_2 analyzers and subsequent certification testing was performed beginning the week of March 18th, 2002. All testing was completed on April 12th, 2002. The testing was conducted according to the Environmental Protection Agency's (EPA) 40 CFR Part 60. This report documents the test reports and supporting data.

NOx emissions were measured on both a parts-per-million (ppm) and a pound-per-hour basis. As required by the EPA methods, the NOx ppm was corrected to 15% oxygen and standard conditions of temperature, pressure and humidity (ISO, International Organization for Standardization, conditions). Gulf Power was granted authority to use an alternative procedure, from FDEP-Tallahassee, to conduct this test using the RATA test equipment and methodologies. Please see the letter in Appendix D, Miscellaneous Information and Documentation.

II. *Statement of Authenticity*

All field data collection and subsequent data reduction was done by the following personnel. We certify that the details and results presented in this report are authentic and accurate to the best of our knowledge.

Date: 5/24/02 Signature: _____
John McPherson,
Environmental Specialist

Date: 5/24/02 Signature: _____
G. Dwain Waters, QEP
Air Quality Programs Supervisor

III. *Summary of Test Results*

Unit	4	4	5	5
Date(s)	3/21/02	4/5/02	3/27/02	4/12/02
Mode	Turbine/Duct	Power Aug	Turbine/Duct	Power Aug
Turbine Generation (MW)	175	185	175	183
Total NOx pounds/hour	67.903	56.587	64.463	58.178
NOx ppm @ISO	12.574	11.530	12.086	12.419
VOC Emissions @ 15% O2	0.16	0.61	0.31	0.38
SO2/SAM BACT (grain/scf)	0.116	0.112	0.139	0.102
Opacity (VE) Tests Results	0%	0%	0%	0%

IV. *Reference Method and Other Test Equipment*

The reference method testing equipment is housed in a mobile continuous emission monitoring system. This trailer utilizes dilution extractive technology to analyze the stack emission concentrations.

The trailer is equipped with two separate data collection systems. Each system is totally independent. Both systems contain the gas measuring instruments and data collection systems.

The CO_2 is measured using a Siemens Ultramat 6 Analyzer. This monitor is a selective nondispersive infrared radiation (NDIR) gas analyzer that operates on the infrared double-beam, alternating light principle. The full range for the instrument is 10%. The serial number for the CO_2 analyzer is N5-672.

A ThermoEnvironmental Model 42C Nitrogen Oxides Gas Analyzer determines the NO_x levels in the gas stream. This monitor operates on the principle of chemiluminescence. This analyzer has a converter that converts NO_2 to NO to enable it to accurately measure the NO_x in the sample stream. The full range for the instrument is 200 ppm. The serial number for the NO_x monitor is 42C-70201-365.

Any additional information regarding instrument operation or capabilities can be obtained from the manufacturer or from Gulf Power Company by request.

The in-stack dilution probe is an EPM Environmental Model 797, and is constructed of Inconel, with a 316L stainless steel extension. The probe length is 10 feet. The probe extracts and dilutes the sample from the duct by creating an internal vacuum with respect to the flue gas. The sample is drawn through a glass critical orifice and mixed with clean dilution air that is provided by the trailer. This mixture is then delivered to the trailer to be analyzed by each instrument. The dilution ratio for this system is 250:1.

The sample system is controlled via personal computer using the Spectrum Systems Spectra Test Software to interface with a SpectraPak loplexer controller. This interface enables the tester to manually initiate calibration gases to the probe, blowback of the system, and start all data collection.

All calibration gases that are used in the certification process are Certified Protocol 1 Calibration Gases. All certificates are included in Appendix G.

Appendix A

Emissions Test Data

Unit 4

(Turbine/Duct Mode)

Calculations of Average Emissions

Calculation of Average Emissions

Mode: **Turbine and Duct Burners**
Test #: **1**
Date: 21-Mar-02
Source: Smith Unit 4
Location: Plant Smith, Panama City, FL
Run Number: One
Start Time: 4:38 PM
Stop Time: 5:38 PM

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.00 ppm NOx	0.01	0.03	0.02
11.10 ppm NOx	10.91	10.94	10.93
0.00 percent CO2	0.13	0.09	0.11
5.56 percent CO2	5.60	5.58	5.59
0.00 ppm CO	0.02	0.02	0.02
25.41 ppm CO	25.32	25.32	25.32
0.00 percent O2	0.06	0.06	0.06
10.10 percent O2	10.09	10.09	10.09

Unadjusted Mean Reference Values:	Bias/Drift Corrected Mean Reference Values:
11.660 ppm NOx	11.84 ppm NOx
4.376 percent CO2	4.33 percent CO2
1.030 ppm CO	1.01 ppm CO
14.778 percent O2	14.82 percent O2

Special Data:

Stack Moisture	7.5	%
Barometric Press	29.99	inches Hg
Ambient Temp	72.5	deg F
Relative Humidity	58.00	%
Generation	174	Mw
Turbine Fuel	28598.650	scfm
Duct Burner	4581.400	scfm
Natural Gas GCV	1034.000	Btu/cf

Calculations:

NOx dry	12.803	ppm
CO2 dry	4.679	%
CO dry	1.014	ppm
NOx dry 15% O2	12.426	ppm
CO dry 15% O2	0.984	ppm
Specific Humidity	0.010	mass ratio
ISO correction	1.027	factor
NOx ppm @ISO	12.758	ppm
NOx rate	0.0339	#/MMBtu NOx
Total Fuel	2058.490	mmBtu/hour
Total NOx	69.699	pounds/hour

Calculation of Average Emissions

Mode: **Turbine and Duct Burners**
Test #: 1
Date: 21-Mar-02
Source: Smith Unit 4
Location: Plant Smith, Panama City, FL
Run Number: Two
Start Time: 7:30 PM
Stop Time: 8:30 PM

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.00 ppm NOx	0.03	0.07	0.05
11.10 ppm NOx	10.94	11.01	10.98
0.00 percent CO2	0.09	0.09	0.09
5.56 percent CO2	5.58	5.57	5.58
0.00 ppm CO	0.02	0.04	0.03
25.41 ppm CO	25.32	25.30	25.31
0.00 percent O2	0.061	0.043	0.05
10.10 percent O2	10.092	10.067	10.08

Unadjusted Mean Reference Values:	Bias/Drift Corrected Mean Reference Values:
12.730 ppm NOx	12.88 ppm NOx
4.484 percent CO2	4.45 percent CO2
1.530 ppm CO	1.51 ppm CO
14.077 percent O2	14.13 percent O2

Special Data:

Stack Moisture	7.5	%
Barometric Press	30.03	inches Hg
Ambient Temp	68	deg F
Relative Humidity	63.50	%
Generation	175	Mw
Turbine Fuel	28830.183	scfm
Duct Burner	4726.017	scfm
Natural Gas GCV	1034.000	Btu/cf

Calculations:

NOx dry	13.921	ppm
CO2 dry	4.811	%
CO dry	1.508	ppm
NOx dry 15% O2	12.123	ppm
CO dry 15% O2	1.313	ppm
Specific Humidity	0.009	mass ratio
ISO correction	1.028	factor
NOx ppm @ISO	12.462	ppm
NOx rate	0.0322	#/MMBtu NOx
Total Fuel	2081.827	mmBtu/hour
Total NOx	66.966	pounds/hour

Calculation of Average Emissions

Mode: **Turbine and Duct Burners**
Test #: **1**
Date: 21-Mar-02
Source: Smith Unit 4
Location: Plant Smith, Panama City, FL
Run Number: Three
Start Time: 9:05 PM
Stop Time: 10:05 PM

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.00 ppm NOx	0.07	0.02	0.05
11.10 ppm NOx	11.01	10.97	10.99
0.00 percent CO2	0.09	0.06	0.07
5.56 percent CO2	5.57	5.55	5.56
0.00 ppm CO	0.04	0.04	0.04
25.41 ppm CO	25.30	25.30	25.30
0.00 percent O2	0.043	0.043	0.04
10.10 percent O2	10.067	10.098	10.08

Unadjusted Mean Reference Values:	Bias/Drift Corrected Mean Reference Values:
12.770 ppm NOx	12.91 ppm NOx
4.480 percent CO2	4.47 percent CO2
1.560 ppm CO	1.53 ppm CO
14.119 percent O2	14.16 percent O2

Special Data:

Stack Moisture	7.5	%
Barometric Press	30.08	inches Hg
Ambient Temp	63	deg F
Relative Humidity	67.50	%
Generation	176	Mw
Turbine Fuel	28889.650	scfm
Duct Burner	4716.067	scfm
Natural Gas GCV	1034.000	Btu/cf

Calculations:

NOx dry	13.952	ppm
CO2 dry	4.828	%
CO dry	1.529	ppm
NOx dry 15% O2	12.219	ppm
CO dry 15% O2	1.339	ppm
Specific Humidity	0.008	mass ratio
ISO correction	1.023	factor
NOx ppm @ISO	12.503	ppm
NOx rate	0.0322	#/MMBtu NOx
Total Fuel	2084.899	mmBtu/hour
Total NOx	67.044	pounds/hour

Averages Over 3 Runs:

Total NOx	**67.903**	**pounds/hour**
NOx @ISO	**12.574**	**ppm**
CO dry 15% O2	**1.212**	**ppm**

Calibration Error Results

Calibration Check

Mode: Turbine and Duct Burners
Test #: 1
Date: 21-Mar-02
Source: Smith Unit 4
Location: Plant Smith, Panama City, FL
Run Number: One

Nitrogen Oxides Monitor

Full Scale: 100

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
ALM042254	0.00	0.01	0.01	0.01
AAL13953	11.10	11.03	-0.07	-0.07
ALM003653	18.10	18.17	0.07	0.07

Carbon Dioxide Monitor

Full Scale: 15

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
AAL13953	0.00	0.02	0.02	0.16
ALM042254	5.56	5.54	-0.02	-0.11
ALM047716	9.05	9.07	0.01	0.10

Calibration Check

Mode: Turbine and Duct Burners
Test #: 1
Date: 21-Mar-02
Source: Smith Unit 4
Location: Plant Smith, Panama City, FL
Run Number: Two

Nitrogen Oxides Monitor

Full Scale: 100

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
ALM042254	0.00	0.01	0.01	0.01
AAL13953	11.10	11.03	-0.07	-0.07
ALM003653	18.10	18.17	0.07	0.07

Carbon Dioxide Monitor

Full Scale: 15

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
AAL13953	0.00	0.02	0.02	0.16
ALM042254	5.56	5.54	-0.02	-0.11
ALM047716	9.05	9.07	0.01	0.10

Calibration Check

Mode: Turbine and Duct Burners
Test #: 1
Date: 21-Mar-02
Source: Smith Unit 4
Location: Plant Smith, Panama City, FL
Run Number: Three

Nitrogen Oxides Monitor

Full Scale: 100

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
ALM042254	0.00	0.01	0.01	0.01
AAL13953	11.10	11.03	-0.07	-0.07
ALM003653	18.10	18.17	0.07	0.07

Carbon Dioxide Monitor

Full Scale: 15

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
AAL13953	0.00	0.02	0.02	0.16
ALM042254	5.56	5.54	-0.02	-0.11
ALM047716	9.05	9.07	0.01	0.10

Sampling System Bias and Drift

Sampling System Bias and Drift

Mode: Turbine and Duct Burners
Test #: 1
Date: 21-Mar-02
Source: Smith Unit 4
Location: Plant Smith, Panama City, FL
Run #: One

Monitor Type	Analyzer Cal Response	Initial Cal Value	Calculatec Bias (%)	Final Cal Value	Calcualatec Bias (%)	Calculatec Drift (%)
NOx	0.01	0.01	0.00	0.03	0.10	0.10
NOx	11.03	10.91	-0.60	10.94	-0.45	0.15
CO2	0.02	0.13	1.03	0.09	0.69	-0.34
CO2	5.54	5.60	0.61	5.58	0.35	-0.26

Sampling System Bias and Drift

Mode: Turbine and Duct Burners
Test #: 1
Date: 21-Mar-02
Source: Smith Unit 4
Location: Plant Smith, Panama City, FL
Run #: Two

Monitor Type	Analyzer Cal Response	Initial Cal Value	Calculatec Bias (%)	Final Cal Value	Calcualatec Bias (%)	Calculatec Drift (%)
NOx	0.01	0.03	0.10	0.07	0.30	0.20
NOx	11.03	10.94	-0.45	11.01	-0.10	0.35
CO2	0.02	0.09	0.69	0.09	0.66	-0.03
CO2	5.54	5.58	0.35	5.57	0.30	-0.05

Sampling System Bias and Drift

Mode: Turbine and Duct Burners
Test #: 1
Date: 21-Mar-02
Source: Smith Unit 4
Location: Plant Smith, Panama City, FL
Run #: Three

Monitor Type	Analyzer Cal Response	Initial Cal Value	Calculatec Bias (%)	Final Cal Value	Calcualatec Bias (%)	Calculatec Drift (%)
NOx	0.01	0.07	0.30	0.02	0.05	-0.25
NOx	11.03	11.01	-0.10	10.97	-0.30	-0.20
CO2	0.02	0.09	0.66	0.06	0.32	-0.34
CO2	5.54	5.57	0.30	5.55	0.03	-0.27

Unit 4

(Power Augmentation Mode)

Calculations of Average Emissions

Calculation of Average Emissions

Mode: **Power Augmentation**
Test #: 1
Date: 5-Apr-02
Source: Smith Unit 4
Location: Plant Smith, Panama City, FL
Run Number: One
Start Time: 1:20 PM
Stop Time: 2:20 PM

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.00 ppm NOx	0.07	0.07	0.07
11.10 ppm NOx	11.11	11.00	11.06
0.00 percent CO2	0.00	0.01	0.00
5.56 percent CO2	5.45	5.58	5.51
0.00 ppm CO	0.20	0.04	0.12
25.41 ppm CO	25.77	25.36	25.57
0.00 percent O2	0.03	0.03	0.03
10.10 percent O2	10.15	9.59	9.87

Unadjusted Mean Reference Values:	Bias/Drift Corrected Mean Reference Values:
12.980 ppm NOx	13.04 ppm NOx
4.382 percent CO2	4.42 percent CO2
5.780 ppm CO	5.65 ppm CO
13.362 percent O2	13.68 percent O2

Special Data:

Stack Moisture	13.73	%
Barometric Press	30.10	inches Hg
Ambient Temp	71.87	deg F
Relative Humidity	26.79	%
Generation	184	Mw
Turbine Fuel	29303.617	scfm
Duct Burner	4644.417	scfm
Natural Gas GCV	1034.000	Btu/cf

Calculations:

NOx dry	15.114	ppm
CO2 dry	5.126	%
CO dry	5.651	ppm
NOx dry 15% O2	12.358	ppm
CO dry 15% O2	4.620	ppm
Specific Humidity	0.004	mass ratio
ISO correction	0.928	factor
NOx ppm @ISO	11.463	ppm
NOx rate	0.0278	#/MMBtu NOx
Total Fuel	2106.136	mmBtu/hour
Total NOx	58.486	pounds/hour

Calculation of Average Emissions

Mode: **Power Augmentation**
Test #: 1
Date: 5-Apr-02
Source: Smith Unit 4
Location: Plant Smith, Panama City, FL
Run Number: Two
Start Time: 4:27 PM
Stop Time: 5:27 PM

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.00 ppm NOx	0.08	0.04	0.06
11.10 ppm NOx	10.93	11.05	10.99
0.00 percent CO2	0.01	-0.01	0.00
5.56 percent CO2	5.58	5.50	5.54
0.00 ppm CO	0.04	0.12	0.08
25.41 ppm CO	25.36	25.61	25.49
0.00 percent O2	0.018	0.006	0.01
10.10 percent O2	10.018	10.012	10.02

Unadjusted Mean Reference Values:	*Bias/Drift Corrected* Mean Reference Values:
13.110 ppm NOx	13.25 ppm NOx
4.448 percent CO2	4.46 percent CO2
5.820 ppm CO	5.74 ppm CO
13.543 percent O2	13.66 percent O2

Special Data:

Stack Moisture	13.73	%
Barometric Press	30.10	inches Hg
Ambient Temp	70.7	deg F
Relative Humidity	28.97	%
Generation	184	Mw
Turbine Fuel	27279.433	scfm
Duct Burner	4660.417	scfm
Natural Gas GCV	1034.000	Btu/cf

Calculations:

NOx dry	15.362	ppm
CO2 dry	5.174	%
CO dry	5.740	ppm
NOx dry 15% O2	12.510	ppm
CO dry 15% O2	4.674	ppm
Specific Humidity	0.005	mass ratio
ISO correction	0.934	factor
NOx ppm @ISO	11.682	ppm
NOx rate	0.0280	#/MMBtu NOx
Total Fuel	1981.548	mmBtu/hour
Total NOx	55.551	pounds/hour

Calculation of Average Emissions

Mode: **Power Augmentation**
Test #: **1**
Date: 5-Apr-02
Source: Smith Unit 4
Location: Plant Smith, Panama City, FL
Run Number: Three
Start Time: 6:03 PM
Stop Time: 7:03 PM

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.00 ppm NOx	0.00	0.03	0.02
11.10 ppm NOx	11.05	11.08	11.07
0.00 percent CO2	-0.01	0.02	0.01
5.56 percent CO2	5.50	5.49	5.50
0.00 ppm CO	0.12	0.12	0.12
25.41 ppm CO	25.61	25.57	25.59
0.00 percent O2	0.006	0.031	0.02
10.10 percent O2	10.012	10.049	10.03

Unadjusted Mean Reference Values:	Bias/Drift Corrected Mean Reference Values:
12.540 ppm NOx	12.58 ppm NOx
4.363 percent CO2	4.41 percent CO2
6.250 ppm CO	6.12 ppm CO
13.646 percent O2	13.75 percent O2

Special Data:

Stack Moisture	13.73	%
Barometric Press	30.10	inches Hg
Ambient Temp	66.47	deg F
Relative Humidity	36.06	%
Generation	188	Mw
Turbine Fuel	27648.717	scfm
Duct Burner	4646.483	scfm
Natural Gas GCV	1034.000	Btu/cf

Calculations:

NOx dry	14.579	ppm
CO2 dry	5.111	%
CO dry	6.116	ppm
NOx dry 15% O2	12.028	ppm
CO dry 15% O2	5.046	ppm
Specific Humidity	0.005	mass ratio
ISO correction	0.952	factor
NOx ppm @ISO	11.447	ppm
NOx rate	0.0278	#/MMBtu NOx
Total Fuel	2003.594	mmBtu/hour
Total NOx	55.724	pounds/hour

Averages Over 3 Runs:

Total NOx	**56.587**	**pounds/hour**
NOx @ISO	**11.530**	**ppm**
CO dry 15% O2	**4.780**	**ppm**

Calibration Error Results

Calibration Check

Mode: Power Augmentation
Test #: 1
Date: 5-Apr-02
Source: Smith Unit 4
Location: Plant Smith, Panama City, FL
Run Number: One

Nitrogen Oxides Monitor

Full Scale: 100

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
ALM042254	0.00	0.03	0.03	0.03
AAL13953	11.10	10.95	-0.15	-0.15
ALM003653	18.10	17.89	-0.21	-0.21

Carbon Dioxide Monitor

Full Scale: 15

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
AAL13953	0.00	-0.06	-0.06	-0.39
ALM042254	5.56	5.59	0.03	0.21
ALM047716	9.05	8.92	-0.13	-0.86

Calibration Check

Mode: Power Augmentation
Test #: 1
Date: 5-Apr-02
Source: Smith Unit 4
Location: Plant Smith, Panama City, FL
Run Number: Three

Nitrogen Oxides Monitor

Full Scale: 100

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
ALM042254	0.00	0.03	0.03	0.03
AAL13953	11.10	10.95	-0.15	-0.15
ALM003653	18.10	17.89	-0.21	-0.21

Carbon Dioxide Monitor

Full Scale: 15

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
AAL13953	0.00	-0.06	-0.06	-0.39
ALM042254	5.56	5.59	0.03	0.21
ALM047716	9.05	8.92	-0.13	-0.86

Sampling System Bias and Drift

Sampling System Bias and Drift

Mode: Power Augmentation
Test #: 1
Date: 5-Apr-02
Source: Smith Unit 4
Location: Plant Smith, Panama City, FL
Run #: One

Monitor Type	Analyzer Cal Response	Initial Cal Value	Calculatec Bias (%)	Final Cal Value	Calcualatec Bias (%)	Calculatec Drift (%)
NOx	0.03	0.07	0.20	0.07	0.20	0.00
NOx	10.95	11.11	0.80	11.00	0.25	-0.55
CO2	-0.06	0.00	0.61	0.01	0.64	0.03
CO2	5.59	5.45	-1.44	5.58	-0.12	1.32

Sampling System Bias and Drift

Mode: Power Augmentation
Test #: 1
Date: 5-Apr-02
Source: Smith Unit 4
Location: Plant Smith, Panama City, FL
Run #: Two

Monitor Type	Analyzer Cal Response	Initial Cal Value	Calculatec Bias (%)	Final Cal Value	Calcualatec Bias (%)	Calculatec Drift (%)
NOx	0.03	0.08	0.25	0.04	0.05	-0.20
NOx	10.95	10.93	-0.10	11.05	0.50	0.60
CO2	-0.06	0.01	0.66	-0.01	0.54	-0.12
CO2	5.59	5.58	-0.12	5.50	-0.88	-0.76

Sampling System Bias and Drift

Mode: Power Augmentation
Test #: 1
Date: 5-Apr-02
Source: Smith Unit 4
Location: Plant Smith, Panama City, FL
Run #: Three

Monitor Type	Analyzer Cal Response	Initial Cal Value	Calculatec Bias (%)	Final Cal Value	Calcualatec Bias (%)	Calculatec Drift (%)
NOx	0.03	0.00	-0.13	0.03	0.00	0.13
NOx	10.95	11.05	0.50	11.08	0.65	0.15
CO2	-0.06	-0.01	0.54	0.02	0.83	0.29
CO2	5.59	5.50	-0.88	5.49	-1.02	-0.14

Plant Smith

Unit 4

Power Augmentation

Date of Test: April 5, 2002

Run #	Heat Input MMBTU/Hour	NOx (lb/Hour)	NOx Standard (lb/hour)	VOC (ppm)	VOC Standard (ppm)	CO (ppm)	CO Standard (ppm)
1	2106.136	58.5	113.2	1.11	6.00	4.62	23.00
2	1981.548	55.6	113.2	0.22	6.00	4.67	23.00
3	2003.594	55.7	113.2	0.5	6.00	5.05	23.00
Average:	**2030.426**	**56.6**	**113.2**	**0.61**	**6.00**	**4.78**	**23.00**

*Note: The VOC and CO concentrations have been corrected to 15% O_2.

Unit 5

(Turbine/Duct Mode)

Calculations of Average Emissions

Calculation of Average Emissions

Mode: **Turbine and Duct Burners**
Test #: 1
Date: 27-Mar-02
Source: Smith Unit 5
Location: Plant Smith, Panama City, FL
Run Number: One
Start Time: 6:37 PM
Stop Time: 7:37 PM

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.00 ppm NOx	0.05	0.10	0.08
11.10 ppm NOx	11.12	10.93	11.03
0.00 percent CO2	0.00	0.08	0.04
5.56 percent CO2	5.57	5.53	5.55
0.00 ppm CO	0.04	-0.02	0.01
25.41 ppm CO	24.17	25.24	24.71
0.00 percent O2	0.06	0.05	0.06
10.10 percent O2	9.95	10.10	10.03

Unadjusted Mean Reference Values:	Bias/Drift Corrected Mean Reference Values:
12.580 ppm NOx	12.67 ppm NOx
4.449 percent CO2	4.45 percent CO2
1.410 ppm CO	1.44 ppm CO
14.256 percent O2	14.38 percent O2

Special Data:

Stack Moisture	6.7	%
Barometric Press	30.02	inches Hg
Ambient Temp	70	deg F
Relative Humidity	46.00	%
Generation	172	Mw
Turbine Fuel	28088.600	scfm
Duct Burner	4836.633	scfm
Natural Gas GCV	1037.000	Btu/cf

Calculations:

NOx dry	13.581	ppm
CO2 dry	4.768	%
CO dry	1.440	ppm
NOx dry 15% O2	12.291	ppm
CO dry 15% O2	1.303	ppm
Specific Humidity	0.007	mass ratio
ISO correction	0.982	factor
NOx ppm @ISO	12.074	ppm
NOx rate	0.0314	#/MMBtu NOx
Total Fuel	2048.608	mmBtu/hour
Total NOx	64.412	pounds/hour

Calculation of Average Emissions

Mode: **Turbine and Duct Burners**
Test #: **1**
Date: 27-Mar-02
Source: Smith Unit 5
Location: Plant Smith, Panama City, FL
Run Number: Two
Start Time: 8:12 PM
Stop Time: 9:12 PM

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.00 ppm NOx	0.10	0.12	0.11
11.10 ppm NOx	10.93	10.69	10.81
0.00 percent CO2	0.08	0.10	0.09
5.56 percent CO2	5.53	5.55	5.54
0.00 ppm CO	-0.02	-0.10	-0.06
25.41 ppm CO	25.24	24.97	25.11
0.00 percent O2	0.049	0.049	0.05
10.10 percent O2	10.104	10.116	10.11

Unadjusted Mean Reference Values:	*Bias/Drift Corrected* Mean Reference Values:
12.310 ppm NOx	12.66 ppm NOx
4.510 percent CO2	4.51 percent CO2
1.340 ppm CO	1.41 ppm CO
14.238 percent O2	14.24 percent O2

Special Data:

Stack Moisture	6.7	%
Barometric Press	30.05	inches Hg
Ambient Temp	62	deg F
Relative Humidity	63.00	%
Generation	176	Mw
Turbine Fuel	28596.533	scfm
Duct Burner	4843.817	scfm
Natural Gas GCV	1037.000	Btu/cf

Calculations:

NOx dry	13.565	ppm
CO2 dry	4.833	%
CO dry	1.413	ppm
NOx dry 15% O2	12.024	ppm
CO dry 15% O2	1.253	ppm
Specific Humidity	0.007	mass ratio
ISO correction	1.010	factor
NOx ppm @ISO	12.150	ppm
NOx rate	0.0312	#/MMBtu NOx
Total Fuel	2080.659	mmBtu/hour
Total NOx	64.957	pounds/hour

Calculation of Average Emissions

Mode: **Turbine and Duct Burners**
Test #: **1**
Date: 27-Mar-02
Source: Smith Unit 5
Location: Plant Smith, Panama City, FL
Run Number: Three
Start Time: 9:45 PM
Stop Time: 10:45 PM

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.00 ppm NOx	0.12	0.09	0.11
11.10 ppm NOx	10.69	10.53	10.61
0.00 percent CO2	0.10	0.09	0.09
5.56 percent CO2	5.55	5.57	5.56
0.00 ppm CO	-0.10	-0.12	-0.11
25.41 ppm CO	24.97	24.97	24.97
0.00 percent O2	0.049	0.061	0.06
10.10 percent O2	10.116	10.116	10.12

Unadjusted Mean Reference Values:	Bias/Drift Corrected Mean Reference Values:
11.860 ppm NOx	12.42 ppm NOx
4.578 percent CO2	4.56 percent CO2
1.240 ppm CO	1.37 ppm CO
14.231 percent O2	14.23 percent O2

Special Data:

Stack Moisture	6.7	%
Barometric Press	30.06	inches Hg
Ambient Temp	59.5	deg F
Relative Humidity	71	%
Generation	177	Mw
Turbine Fuel	28816.950	scfm
Duct Burner	4847.450	scfm
Natural Gas GCV	1037.000	Btu/cf

Calculations:

NOx dry	13.313	ppm
CO2 dry	4.890	%
CO dry	1.368	ppm
NOx dry 15% O2	11.771	ppm
CO dry 15% O2	1.210	ppm
Specific Humidity	0.008	mass ratio
ISO correction	1.022	factor
NOx ppm @ISO	12.035	ppm
NOx rate	0.0306	#/MMBtu NOx
Total Fuel	2094.599	mmBtu/hour
Total NOx	64.018	pounds/hour

Averages Over 3 Runs:

Total NOx	**64.463**	**pounds/hour**
NOx @ISO	**12.086**	**ppm**
CO dry 15% O2	**1.278**	**ppm**

Calibration Error Results

Calibration Check

Mode: Turbine and Duct Burners
Test #: 1
Date: 27-Mar-02
Source: Smith Unit 5
Location: Plant Smith, Panama City, FL
Run Number: One

Nitrogen Oxides Monitor

Full Scale: 100

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
ALM042254	0.00	0.05	0.05	0.05
AAL13953	11.10	11.12	0.02	0.02
ALM003653	18.10	17.99	-0.11	-0.11

Carbon Dioxide Monitor

Full Scale: 15

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
AAL13953	0.00	0.00	0.00	0.01
ALM042254	5.56	5.57	0.01	0.03
ALM047716	9.05	9.04	-0.02	-0.10

Calibration Check

Mode: Turbine and Duct Burners
Test #: 1
Date: 27-Mar-02
Source: Smith Unit 5
Location: Plant Smith, Panama City, FL
Run Number: Two

Nitrogen Oxides Monitor

Full Scale: 100

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
ALM042254	0.00	0.05	0.05	0.05
AAL13953	11.10	11.12	0.02	0.02
ALM003653	18.10	17.99	-0.11	-0.11

Carbon Dioxide Monitor

Full Scale: 15

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
AAL13953	0.00	0.00	0.00	0.01
ALM042254	5.56	5.57	0.01	0.03
ALM047716	9.05	9.04	-0.02	-0.10

Calibration Check

Mode: Turbine and Duct Burners
Test #: 1
Date: 27-Mar-02
Source: Smith Unit 5
Location: Plant Smith, Panama City, FL
Run Number: Three

Nitrogen Oxides Monitor

Full Scale: 100

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
ALM042254	0.00	0.05	0.05	0.05
AAL13953	11.10	11.12	0.02	0.02
ALM003653	18.10	17.99	-0.11	-0.11

Carbon Dioxide Monitor

Full Scale: 15

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
AAL13953	0.00	0.00	0.00	0.01
ALM042254	5.56	5.57	0.01	0.03
ALM047716	9.05	9.04	-0.02	-0.10

Sampling System Bias and Drift

Sampling System Bias and Drift

Mode: Turbine and Duct Burners
Test #: 1
Date: 27-Mar-02
Source: Smith Unit 5
Location: Plant Smith, Panama City, FL
Run #: One

Monitor Type	Analyzer Cal Response	Initial Cal Value	Calculatec Bias (%)	Final Cal Value	Calcualatec Bias (%)	Calculatec Drift (%)
NOx	0.05	0.05	0.00	0.10	0.25	0.25
NOx	11.12	11.12	0.00	10.93	-0.95	-0.95
CO2	0.00	0.00	0.00	0.08	0.81	0.81
CO2	5.57	5.57	0.00	5.53	-0.34	-0.34

Sampling System Bias and Drift

Mode: Turbine and Duct Burners
Test #: 1
Date: 27-Mar-02
Source: Smith Unit 5
Location: Plant Smith, Panama City, FL
Run #: Two

Monitor Type	Analyzer Cal Response	Initial Cal Value	Calculatec Bias (%)	Final Cal Value	Calcualatec Bias (%)	Calculatec Drift (%)
NOx	0.05	0.10	0.25	0.12	0.35	0.10
NOx	11.12	10.93	-0.95	10.69	-2.15	-1.20
CO2	0.00	0.08	0.81	0.10	0.93	0.12
CO2	5.57	5.53	-0.34	5.55	-0.19	0.15

Sampling System Bias and Drift

Mode: Turbine and Duct Burners
Test #: 1
Date: 27-Mar-02
Source: Smith Unit 5
Location: Plant Smith, Panama City, FL
Run #: Three

Monitor Type	Analyzer Cal Response	Initial Cal Value	Calculatec Bias (%)	Final Cal Value	Calcualatec Bias (%)	Calculatec Drift (%)
NOx	0.05	0.12	0.35	0.09	0.20	-0.15
NOx	11.12	10.69	-2.15	10.53	-2.95	-0.80
CO2	0.00	0.10	0.93	0.09	0.88	-0.05
CO2	5.57	5.55	-0.19	5.57	0.08	0.27

Plant Smith

Unit 5

Turbine and Duct Burner

Date of Test: March 27, 2002

Run #	Heat Input MMBTU/Hour	NOx (lb/Hour)	NOx Standard (lb/hour)	VOC (ppm)	VOC Standard (ppm)	CO (ppm)	CO Standard (ppm)
1	2048.608	64.4	82.9	0.54	4.00	1.30	16.00
2	2080.659	65.0	82.9	0.23	4.00	1.25	16.00
3	2094.599	64.0	82.9	0.15	4.00	1.21	16.00
Average:	**2074.622**	**64.5**	**82.9**	**0.31**	**4.00**	**1.26**	**16.00**

*Note: The VOC and CO concentrations have been corrected to 15% O_2.

Unit 5

(Power Augmentation Mode)

Calculations of Average Emissions

Calculation of Average Emissions

Mode: **Power Augmentation**
Test #: **1**
Date: 12-Apr-02
Source: Smith Unit 5
Location: Plant Smith, Panama City, FL
Run Number: One
Start Time: 10:49 AM
Stop Time: 11:50 AM

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.00 ppm NOx	-0.02	0.00	-0.01
11.10 ppm NOx	11.20	11.16	11.18
0.00 percent CO2	0.00	0.04	0.02
5.56 percent CO2	5.56	5.62	5.59
0 percent CO	0.06	0.04	0.05
25.41 percent CO	25.36	25.32	25.34
0.00 percent O2	0.02	0.00	0.01
10.10 percent O2	10.24	10.10	10.17

Unadjusted Mean Reference Values:	Bias/Drift Corrected Mean Reference Values:
12.100 ppm NOx	12.01 ppm NOx
4.506 percent CO2	4.48 percent CO2
11.370 ppm CO	11.37 ppm CO
13.509 percent O2	13.42 percent O2

Special Data:

Stack Moisture	14.37	%
Barometric Press	30.14	inches Hg
Ambient Temp	72.77	deg F
Relative Humidity	79.59	%
Generation	183	Mw
Turbine Fuel	26902.331	scfm
Duct Burner	4553.545	scfm
Natural Gas GCV	1033.000	Btu/cf

Calculations:

NOx dry	14.029	ppm
CO2 dry	5.229	%
CO dry	11.374	ppm
NOx dry 15% O2	11.064	ppm
CO dry 15% O2	8.970	ppm CO
Specific Humidity	0.014	mass ratio
ISO correction	1.103	factor
NOx ppm @ISO	12.199	ppm
NOx rate	0.0290	#/MMBtu NOx
Total Fuel	1949.635	mmBtu/hour
Total NOx	56.477	pounds/hour

Calculation of Average Emissions

Mode: **Power Augmentation**
Test #: 1
Date: 12-Apr-02
Source: Smith Unit 5
Location: Plant Smith, Panama City, FL
Run Number: Two
Start Time: 12:29 PM
Stop Time: 1:30 PM

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.00 ppm NOx	0.00	0.00	0.00
11.10 ppm NOx	11.16	11.24	11.20
0.00 percent CO2	0.04	0.09	0.07
5.56 percent CO2	5.62	5.58	5.60
0 percent CO	0.04	0.04	0.04
25.41 percent CO	25.32	25.34	25.33
0.00 percent O2	0	0.031	0.02
10.10 percent O2	10.104	10.085	10.09

Unadjusted Mean Reference Values:	Bias/Drift Corrected Mean Reference Values:
12.400 ppm NOx	12.29 ppm NOx
4.464 percent CO2	4.42 percent CO2
10.030 ppm CO	10.04 ppm CO
13.583 percent O2	13.60 percent O2

Special Data:

Stack Moisture	14.37	%
Barometric Press	30.14	inches Hg
Ambient Temp	72.14	deg F
Relative Humidity	78.25	%
Generation	183	Mw
Turbine Fuel	26888.323	scfm
Duct Burner	4558.683	scfm
Natural Gas GCV	1033.000	Btu/cf

Calculations:

NOx dry	14.351	ppm
CO2 dry	5.159	%
CO dry	10.037	ppm
NOx dry 15% O2	11.604	ppm
CO dry 15% O2	8.115	ppm CO
Specific Humidity	0.013	mass ratio
ISO correction	1.094	factor
NOx ppm @ISO	12.691	ppm
NOx rate	0.0305	#/MMBtu NOx
Total Fuel	1949.085	mmBtu/hour
Total NOx	59.534	pounds/hour

Calculation of Average Emissions

Mode: **Power Augmentation**
Test #: 1
Date: 12-Apr-02
Source: Smith Unit 5
Location: Plant Smith, Panama City, FL
Run Number: Three
Start Time: 2:04 PM
Stop Time: 3:05 PM

Calibration Gas Value	Initial Calibration	Final Calibration	Average
0.00 ppm NOx	0.00	-0.03	-0.02
11.10 ppm NOx	11.24	11.14	11.19
0.00 percent CO2	0.09	0.03	0.06
5.56 percent CO2	5.58	5.71	5.64
0 percent CO	0.04	-0.012	0.01
25.41 percent CO	25.34	25.12	25.23
0.00 percent O2	0.031	0.012	0.02
10.10 percent O2	10.085	10.104	10.09

Unadjusted Mean Reference Values:	Bias/Drift Corrected Mean Reference Values:
12.300 ppm NOx	12.20 ppm NOx
4.463 percent CO2	4.39 percent CO2
10.960 ppm CO	11.03 ppm CO
13.449 percent O2	13.47 percent O2

Special Data:

Stack Moisture	14.37	%
Barometric Press	30.14	inches Hg
Ambient Temp	71.69	deg F
Relative Humidity	78.90550589	%
Generation	183	Mw
Turbine Fuel	26941.950	scfm
Duct Burner	4562.479	scfm
Natural Gas GCV	1033.000	Btu/cf

Calculations:

NOx dry	14.246	ppm
CO2 dry	5.123	%
CO dry	11.032	ppm
NOx dry 15% O2	11.311	ppm
CO dry 15% O2	8.759	ppm CO
Specific Humidity	0.013	mass ratio
ISO correction	1.093	factor
NOx ppm @ISO	12.366	ppm
NOx rate	0.0300	#/MMBtu NOx
Total Fuel	1952.644	mmBtu/hour
Total NOx	58.524	pounds/hour

Averages Over 3 Runs:

Total NOx	**58.178**	**pounds/hour**
NOx @ISO	**12.419**	**ppm**
CO dry 15% O2	**8.615**	**ppm**

Calibration Error Results

Calibration Check

Mode: Power Augmentation
Test #: 1
Date: 12-Apr-02
Source: Smith Unit 5
Location: Plant Smith, Panama City, FL
Run Number: One

Nitrogen Oxides Monitor

Full Scale: 100

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
ALM042254	0.00	-0.02	-0.02	-0.02
AAL13953	11.10	11.20	0.10	0.10
ALM003653	18.10	17.87	-0.23	-0.23

Carbon Dioxide Monitor

Full Scale: 15

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
AAL13953	0.00	0.00	0.00	0.00
ALM042254	5.56	5.56	0.00	-0.03
ALM047716	9.05	8.90	-0.15	-0.99

Calibration Check

Mode: Power Augmentation
Test #: 1
Date: 12-Apr-02
Source: Smith Unit 5
Location: Plant Smith, Panama City, FL
Run Number: Two

Nitrogen Oxides Monitor

Full Scale: 100

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
ALM042254	0.00	-0.02	-0.02	-0.02
AAL13953	11.10	11.20	0.10	0.10
ALM003653	18.10	17.87	-0.23	-0.23

Carbon Dioxide Monitor

Full Scale: 15

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
AAL13953	0.00	0.00	0.00	0.00
ALM042254	5.56	5.56	0.00	-0.03
ALM047716	9.05	8.90	-0.15	-0.99

Calibration Check

Mode: Power Augmentation
Test #: 1
Date: 12-Apr-02
Source: Smith Unit 5
Location: Plant Smith, Panama City, FL
Run Number: Three

Nitrogen Oxides Monitor

Full Scale: 100

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
ALM042254	0.00	-0.02	-0.02	-0.02
AAL13953	11.10	11.20	0.10	0.10
ALM003653	18.10	17.87	-0.23	-0.23

Carbon Dioxide Monitor

Full Scale: 15

Cylinder Number	Reference Gas Concentration	Analyzer Response	Difference	Calibration Error (%)
AAL13953	0.00	0.00	0.00	0.00
ALM042254	5.56	5.56	0.00	-0.03
ALM047716	9.05	8.90	-0.15	-0.99

Sampling System Bias and Drift

Sampling System Bias and Drift

Mode: Power Augmentation
Test #: 1
Date: 12-Apr-02
Source: Smith Unit 5
Location: Plant Smith, Panama City, FL
Run #: One

Monitor Type	Analyzer Cal Response	Initial Cal Value	Calculatec Bias (%)	Final Cal Value	Calcualatec Bias (%)	Calculatec Drift (%)
NOx	-0.02	-0.02	0.00	0.00	0.10	0.10
NOx	11.20	11.20	0.00	11.16	-0.20	-0.20
CO2	0.00	0.00	0.00	0.04	0.37	0.37
CO2	5.56	5.56	0.00	5.62	0.68	0.68

Sampling System Bias and Drift

Mode: Power Augmentation
Test #: 1
Date: 12-Apr-02
Source: Smith Unit 5
Location: Plant Smith, Panama City, FL
Run #: Two

Monitor Type	Analyzer Cal Response	Initial Cal Value	Calculatec Bias (%)	Final Cal Value	Calcualatec Bias (%)	Calculatec Drift (%)
NOx	-0.02	0.00	0.10	0.00	0.10	0.00
NOx	11.20	11.16	-0.20	11.24	0.20	0.40
CO2	0.00	0.04	0.37	0.09	0.93	0.56
CO2	5.56	5.62	0.68	5.58	0.22	-0.46

Sampling System Bias and Drift

Mode: Power Augmentation
Test #: 1
Date: 12-Apr-02
Source: Smith Unit 5
Location: Plant Smith, Panama City, FL
Run #: Three

Monitor Type	Analyzer Cal Response	Initial Cal Value	Calculatec Bias (%)	Final Cal Value	Calcualatec Bias (%)	Calculatec Drift (%)
NOx	-0.02	0.00	0.10	-0.03	-0.05	-0.15
NOx	11.20	11.24	0.20	11.14	-0.30	-0.50
CO2	0.00	0.09	0.93	0.03	0.34	-0.59
CO2	5.56	5.58	0.22	5.71	1.49	1.27

Appendix B

Visual Emissions Test Results

Unit 4 Turb + Duct Burner

State of Florida

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Visible Emissions Observation Form

Status: YES / NO / UNK

Source/Process Information

FACILITY NAME: Gulf Power Company

SOURCE NAME: Smith Plant Unit 3A — PERMIT NO:

LOCATION/ADDRESS: Southport FL

CONTACT: Marie Boisgillierce — PHONE NO: 850-522-3490

PROCESS/PRODUCTION RATE: Normal Turbine + Duct Burner

CONTROL EQUIPMENT — OPERATING MODE: Normal Turb. Duct B.

FUEL TYPE/RATE: Nat. Gas — MATERIAL TYPE/RATE — PERMITTED RATE

DESCRIBE EMISSION POINT: 400 ft (Right most Stack)

HEIGHT ABOVE GROUND LEVEL: 120 FT — HEIGHT RELATIVE TO OBSERVER: 120 FT

Emissions Description

DESCRIBE EMISSIONS — START: ~~BLUE~~ None — END: ~~BLUE~~ None

PLUME COLOR: Scattered — PLUME TYPE: Scattered ...

WATER DROPLETS PRESENT? YES ☐ NO ☐ — IF YES, IS PLUME: ATTACHED ☐ DETACHED ☐

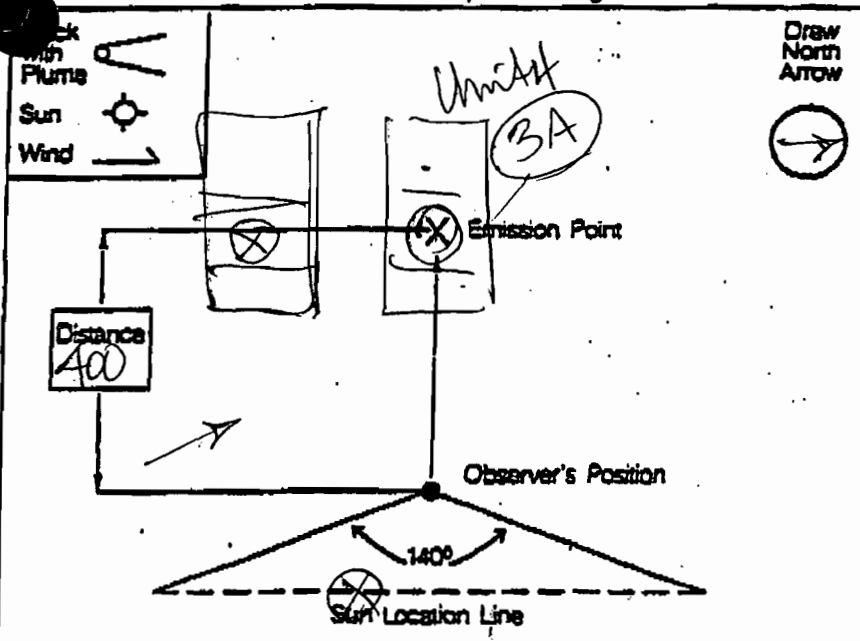
Meteorological Information

BACKGROUND — START: Blue Sky — END: — BACKGROUND COLOR — START: BLUE — END:

SKY CONDITIONS (% CLOUD COVER) — START: Scattered — END: — AMBIENT TEMP — START: 73 — END: 73

WIND SPEED — START: 3-5 — END: 3-5 — WIND DIRECTION — START: SW — END: SW

Observation Data, Site Diagram



Opacity Readings

OBSERVATION DATE: 21 May 02 — START TIME: 1630 — STOP TIME: 1730

SEC / MIN	0	15	30	45	SEC / MIN	0	15	30	45
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0
30	0	0	0	0	60	0	0	0	0

Compliance Information

RANGE OF OPACITY READINGS: MIN 0 MAX 0

AVERAGE OF HIGHEST 24 CONSECUTIVE READINGS

SHORT TERM AVERAGE DATA

AVERAGING PERIOD ____ MINUTES — ACTUAL AVERAGE 0 %

COMMENTS:

Certification Data, Signatures

OBSERVER'S NAME: John A Perez

OBSERVER'S SIGNATURE — DATE: 21 May 02

ORGANIZATION: Gulf Power

CERTIFIED BY: ETA — DATE: 11/15/2000

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APS NUMBER

TOTAL P.05

imb/D.B. + POWER AUG

State of Florida

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STATUS YES | NO | ...

Visible Emissions Observation Form

Unit 3A (4)

Source/Process Information

FACILITY NAME: Gulf Power Company

SOURCE NAME: Smith Plant

PERMIT NO:

LOCATION/ADDRESS: Southport, FL

CONTACT: Marie Largilliere

PHONE NO: 850 522-

PROCESS/PRODUCTION RATE: Combined Cycle Turbine (Normal)

CONTROL EQUIPMENT: —

OPERATING MODE: Power AUG

FUEL TYPE/RATE: Natural Gas

MATERIAL TYPE/RATE:

PERMITTED RATE: —

DESCRIBE EMISSION POINT: 400 (Right most Stack

HEIGHT ABOVE GROUND LEVEL: FT

HEIGHT RELATIVE TO OBSERVER: FT

Emissions Description

DESCRIBE EMISSIONS START: Blue None Noted

PLUME COLOR: —

PLUME TYPE: —

WATER DROPLETS PRESENT? YES ☐ NO ☒

IF YES, IS PLUME: ATTACHED ☐ DETACHED ☐ NA

Meteorological Information

BACKGROUND START: Blue Sky END

BACKGROUND COLOR START: Blue Sky END

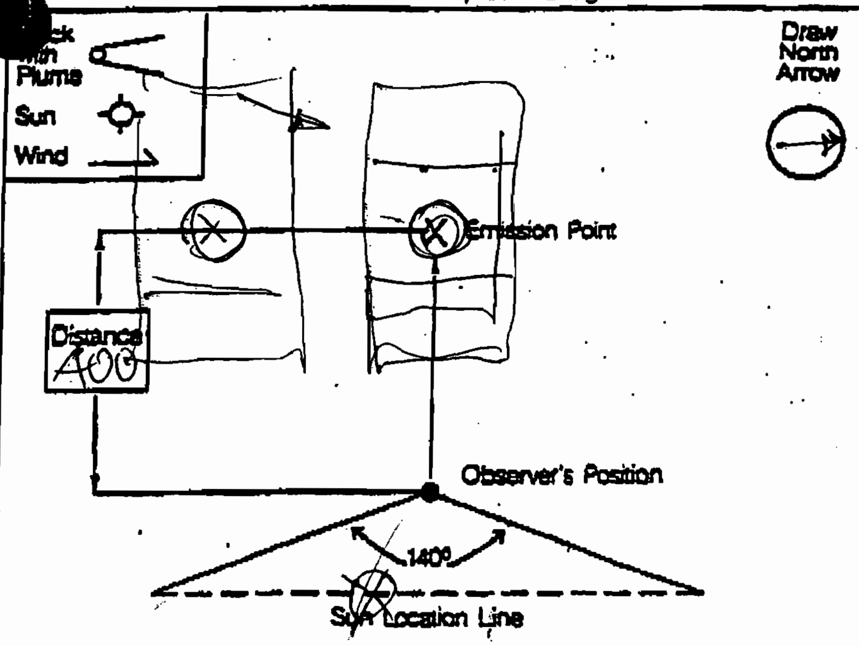
SKY CONDITIONS/% CLOUD COVER START: Scatter END

AMBIENT TEMP START: 72 END: 72

WIND SPEED START: 3-5 END: 3-5

WIND DIRECTION START: SE END: SE

Observation Data, Site Diagram



Opacity Readings

OBSERVATION DATE: 5 April 02 START TIME: 1330 STOP TIME: 1430

MIN \ SEC	0	15	30	45	MIN \ SEC	0	15	30	45
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0
30	0	0	0	0	60	0	0	0	0

Compliance Information

RANGE OF OPACITY READINGS: MIN 0 MAX 0

AVERAGE OF HIGHEST 24 CONSECUTIVE READINGS:

SHORT TERM AVERAGE DATA

AVERAGING PERIOD ______ MINUTES ACTUAL AVERAGE 0 %

COMMENTS:

Certification Data, Signatures

OBSERVER'S NAME: John McPherson

OBSERVER'S SIGNATURE: [signature] DATE: 5 Apr 02

ORGANIZATION: Gulf Power Co.

CERTIFIED BY: ETA DATE: 11/15/00

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APIS NUMBER

TOTAL P.05

(Unit 5)
(Turbine + Duct Burner Mode)

State of Florida

Best Available Copy

Visible Emissions Observation Form

Status: YES | NO

Source/Process Information

FACILITY NAME: Gulf Power Company Smith Plant
SOURCE NAME: Smith Combined Cycle Unit 3 — PERMIT NO: Unit 3 (B)
LOCATION/ADDRESS: South Port, FL
CONTACT: Marie Laryilliere — PHONE NO: 850 522-3490
PROCESS/PRODUCTION RATE: South port, FL (Gas Turbine + Duct Burner)
CONTROL EQUIPMENT: None — OPERATING MODE: Normal
FUEL TYPE/RATE: Natural Gas — MATERIAL TYPE/RATE — PERMITTED RATE
DESCRIBE EMISSION POINT: 400 (Left most Stack)
HEIGHT ABOVE GROUND LEVEL: 120 FT — HEIGHT RELATIVE TO OBSERVER: 20 FT

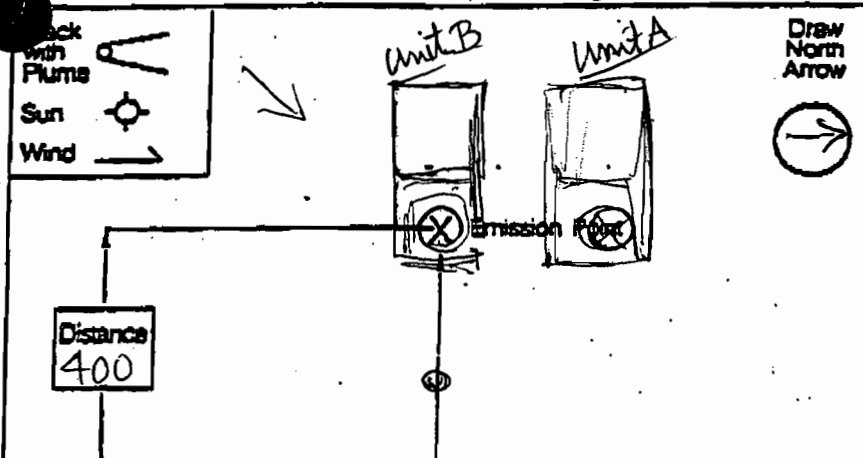
Emissions Description

DESCRIBE EMISSIONS: START: None Noted — END: None Noted
PLUME COLOR: — PLUME TYPE: —
WATER DROPLETS PRESENT? YES ☐ NO ☒ NA — IF YES, IS PLUME: ATTACHED ☐ DETACHED ☐ NA

Meteorological Information

BACKGROUND: START: Blue Sky — END: Same — BACKGROUND COLOR: START: Blue — END: Blue
SKY CONDITIONS (CLOUD COVER): START: Scattered — END: Same — AMBIENT TEMP: START: 60 — END: 58
WIND SPEED: START: 1-3 — END: 1-3 — WIND DIRECTION: START: SW — END: SW

Observation Data, Site Diagram



Opacity Readings

OBSERVATION DATE: April 02, 02 — START TIME: 1830 — STOP TIME: 1930

SEC / MIN	0	15	30	45	SEC / MIN	0	15	30	45
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0
30	0	0	0	0	60	0	0	0	0

Compliance Information

RANGE OF OPACITY READINGS: MIN 0 — MAX 0
AVERAGE OF HIGHEST 24 CONSECUTIVE READINGS: All 0s
SHORT TERM AVERAGE DATA
READING PERIOD ____ MINUTES — ACTUAL AVERAGE 0 %
COMMENTS:

Certification Data, Signatures

OBSERVER'S NAME: John McPeters
OBSERVER'S SIGNATURE: [signature] — DATE: 5/2/02
ORGANIZATION: Gulf Power
CERTIFIED BY: ETA — DATE: 11/15/2001
I HAVE RECEIVED A COPY OF THESE OBSERVATIONS. SIGNATURE: — DATE: /
APS NUMBER

TOTAL P.05

Power Aug (Unit 5)

State of Florida

Best Available Copy

Visible Emissions Observation Form

Status: YES / NO

Source/Process Information

FACILITY NAME: Gulf Power Company

PLANT NAME: Plant Smith Unit 3B — PERMIT NO:

LOCATION/ADDRESS: South Port FL

CONTACT: Marie Lagalliere — PHONE NO: 850 522-3490

PROCESS/PRODUCTION RATE: Normal High Load (Turbine + Duct Burner

CONTROL EQUIPMENT: None — OPERATING MODE: (Power Aug)

FUEL TYPE/RATE: Natural gas — MATERIAL TYPE/RATE: — PERMITTED RATE:

DESCRIBE EMISSION POINT: 450 (Left most Stack)

HEIGHT ABOVE GROUND LEVEL: 20 FT — HEIGHT RELATIVE TO OBSERVER: 120 FT

Emissions Description

DESCRIBE EMISSIONS — START: None Noted — END: None

PLUME COLOR: None — PLUME TYPE: None

WATER DROPLETS PRESENT? YES ☐ NO ☑ — IF YES, IS PLUME: ATTACHED ☐ DETACHED ☐ NA

Meteorological Information

BACKGROUND — START: Blue Sky — END: Blue — BACKGROUND COLOR — START: Blue — END: Blue

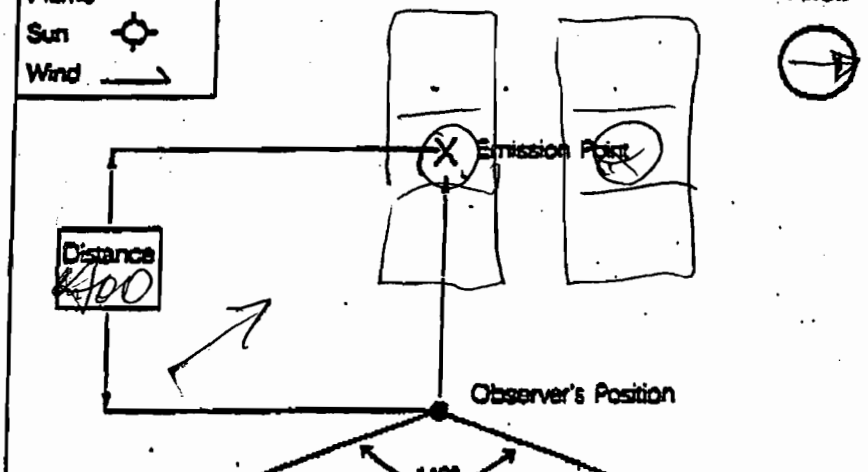
SKY CONDITIONS/% CLOUD COVER — START: Scatt. — END: Scatt — AMBIENT TEMP — START: 72 — END: 70

WIND SPEED — START: 3-5 — END: — WIND DIRECTION — START: SW — END: Same

Observation Data, Site Diagram

Check with Plume
Sun
Wind

Draw North Arrow



Opacity Readings

OBSERVATION DATE: April 2 '02 — START TIME: 1030 — STOP TIME: 1130

SEC / MIN	0	15	30	45	SEC / MIN	0	15	30	45
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0
30	0	0	0	0	60	0	0	0	0

Compliance Information

RANGE OF OPACITY READINGS: MIN 0 MAX 0

AVERAGE OF HIGHEST 24 CONSECUTIVE READINGS:

SHORT TERM AVERAGE DATA: READING PERIOD ____ MINUTES ACTUAL AVERAGE 0 %

COMMENTS:

Certification Data, Signatures

OBSERVER'S NAME: John McPherson

OBSERVER'S SIGNATURE: [signature] DATE: 5/2/02

ORGANIZATION: Gulf Power

CERTIFIED BY: ETA DATE: 11/15/01

I HAVE RECEIVED A COPY OF THESE OBSERVATIONS. SIGNATURE: DATE:

APS NUMBER:

TOTAL P.05

Appendix C

SO2/SAM BACT Compliance

FGT
Last Updated 4/12/02 11:56

Station Name	Total Sulfur Previous Day Avg ppm 04/11/02	Total Sulfur Previous Day Avg Grains/hcf 04/11/02
Perry 36" Stream #1	2.4	0.152
Perry 30" Stream #2	1.6	0.101
Perry 24" Stream #3	1.6	0.100
Brooker 24" Stream	3.4	0.214

Florida Gas makes no warranty or representation whatsoever as to the accuracy of the information
This information is provided on a best efforts basis and is an estimate.
The information is not used for billing purposes.
Florida Gas is not responsible for any reliance on this information by any party.

Stream History

SMITH 3

Gas Day	Index	Perry 36" Stream #1 15SA36PSUL.A Avg ppm	Perry 36" Stream #1 Avg Grains/hcf	Perry 30" Stream #2 15SA30PSUL.A Avg ppm	Perry 30" Stream #2 Avg Grains/hcf	Perry 24 Stream # 15SA24PSU Avg ppm
04/10/02	33	2.431	0.152	1.617	0.101	1.595
04/09/02	32	2.464	0.154	2.259	0.141	2.178
04/08/02	31	1.910	0.119	1.744	0.109	1.734
04/07/02	30	1.428	0.089	1.650	0.103	1.584
04/06/02	29	1.480	0.093	1.693	0.106	1.775
04/05/02	28	1.918	0.120	1.790	0.112	1.815
04/04/02	27	1.663	0.104	1.622	0.101	1.577
04/03/02	26	2.973	0.186	2.116	0.132	1.932
04/02/02	25	2.080	0.130	0.937	0.059	0.942
04/01/02	24	1.750	0.109	1.171	0.073	1.190
03/31/02	23	1.297	0.081	1.428	0.089	1.455
03/30/02	22	1.293	0.081	2.036	0.127	2.004
03/29/02	21	1.610	0.101	1.569	0.098	1.517
03/28/02	20	1.718	0.107	2.174	0.136	2.163
03/27/02	19	2.166	0.135	2.227	0.139	2.240
03/26/02	18	2.962	0.185	1.924	0.120	1.904
03/25/02	17	3.112	0.194	2.031	0.127	1.955
03/24/02	16	2.527	0.158	2.191	0.137	2.337
03/23/02	15	2.147	0.134	2.496	0.156	2.625
03/22/02	14	2.205	0.138	2.119	0.132	2.130
03/21/02	13	2.214	0.138	1.862	0.116	1.881
03/20/02	12	2.404	0.150	1.607	0.100	1.617
03/19/02	11	3.120	0.195	1.899	0.119	1.836
03/18/02	10	2.792	0.174	2.056	0.128	2.059
03/17/02	9	2.436	0.152	2.136	0.134	2.089
03/16/02	8	2.307	0.144	2.096	0.131	1.880
03/15/02	7	2.069	0.129	1.797	0.112	1.722
03/14/02	6	1.634	0.102	2.531	0.158	2.718
03/13/02	5	1.477	0.092	1.573	0.098	1.646
03/12/02	4	1.205	0.075	1.776	0.111	1.851
03/11/02	3	0.800	0.050	1.073	0.067	1.128
03/10/02	2	0.705	0.044	1.024	0.064	1.037
03/09/02	1	0.451	0.028	0.447	0.028	0.508

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FGT

Last Updated 5/14/02 7:55

Station Name	Total Sulfur Previous Day Avg ppm 05/12/02	Total Sulfur Previous Day Avg Grains/hcf 05/12/02
Perry 36" Stream #1	1.8	0.114
Perry 30" Stream #2	1.5	0.096
Perry 24" Stream #3	1.5	0.094
Brooker 24" Stream	4.0	0.252

Florida Gas makes no warranty or representation whatsoever as to the accuracy of the information
This information is provided on a best efforts basis and is an estimate.
The information is not used for billing purposes.
Florida Gas is not responsible for any reliance on this information by any party.

Stream History

SMITH 3

Gas Day	Index	Perry 36" Stream #1 15SA36PSUL.A Avg ppm	Perry 36" Stream #1 Avg Grains/hcf	Perry 30" Stream #2 15SA30PSUL.A Avg ppm	Perry 30" Stream #2 Avg Grains/hcf	Perry 24 Stream # 15SA24PSU Avg ppm
05/11/02	33	1.820	0.114	1.292	0.081	1.253
05/10/02	32	1.848	0.115	1.409	0.088	1.349
05/09/02	31	1.656	0.104	1.365	0.085	1.217
05/08/02	30	1.871	0.117	1.570	0.098	1.493
05/07/02	29	2.676	0.167	2.158	0.135	2.109
05/06/02	28	2.819	0.176	2.233	0.140	2.190
05/05/02	27	2.428	0.152	1.901	0.119	1.957
05/04/02	26	3.045	0.190	2.126	0.133	2.090
05/03/02	25	2.941	0.184	2.316	0.145	2.146
05/02/02	24	2.381	0.149	2.045	0.128	1.988
05/01/02	23	1.863	0.116	1.625	0.102	1.495
04/30/02	22	1.648	0.103	1.374	0.086	1.310
04/29/02	21	1.746	0.109	1.343	0.084	1.227
04/28/02	20	1.709	0.107	1.387	0.087	1.360
04/27/02	19	1.640	0.103	1.389	0.087	1.377
04/26/02	18	1.957	0.122	2.094	0.131	2.103
04/25/02	17	2.698	0.169	3.010	0.188	3.108
04/24/02	16	2.592	0.162	2.300	0.144	2.247
04/23/02	15	2.344	0.146	2.306	0.144	2.393
04/22/02	14	2.765	0.173	2.538	0.159	2.365
04/21/02	13	2.699	0.169	2.385	0.149	2.261
04/20/02	12	2.527	0.158	2.420	0.151	2.403
04/19/02	11	2.826	0.177	2.860	0.179	2.835
04/18/02	10	3.066	0.192	2.380	0.149	2.296
04/17/02	9	2.636	0.165	2.933	0.183	2.971
04/16/02	8	3.122	0.195	3.277	0.205	3.382
04/15/02	7	2.412	0.151	2.901	0.181	2.915
04/14/02	6	2.761	0.173	1.717	0.107	1.672
04/13/02	5	2.492	0.156	1.684	0.105	1.595
04/12/02	4	2.169	0.136	1.635	0.102	1.521
04/11/02	3	2.319	0.145	1.524	0.095	1.476
04/10/02	2	2.431	0.152	1.617	0.101	1.595
04/09/02	1	2.464	0.154	2.259	0.141	2.178

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Appendix D

Volatile Organic Compounds Emissions Test Summary

VOLATILE ORGANIC COMPOUNDS TEST RESULTS
GULF POWER COMPANY
Plant Smith - Unit 4 Turbine Mode + Duct Burner
3/21/02

TEST	START TIME Military	STOP TIME Military	WATER VAPOR IN STACK GAS (percent)	OXYGEN (Dry) (measured) (Percent)	OXYGEN (Wet) (calculated) (Percent)	Volatile Organic Compounds Emissions (ppm-wet)	Volatile Organic Compounds Emissions Corrected to 15.0% O2
RUN 1	16:13	17:13	7.5	15.0	13.9	0.20	0.17
RUN 2	17:39	18:39	7.5	14.8	13.7	0.20	0.16
RUN 3	20:29	21:29	7.5	14.1	13.0	0.20	0.15
RUN 4	22:04	23:04	7.5	14.1	13.1	0.20	0.15
Average			**7.50**	**14.50**	**13.41**	**0.20**	**0.16**

Gulf Power Company
Smith

Plant

VOLATILE ORGANIC COMPOUNDS TEST RESULTS
GULF POWER COMPANY
Plant Smith - Unit 4 Power Augmentation Mode
4/5/02

TEST	START TIME Military	STOP TIME Military	WATER VAPOR IN STACK GAS (percent)	OXYGEN (Dry) (measured) (Percent)	OXYGEN (Wet) (calculated) (Percent)	Volatile Organic Compounds Emissions (ppm-wet)	Volatile Organic Compounds Emissions Corrected to 15.0% O2
RUN 1	14:00	15:00	13.73	14.08	12.15	1.64	1.11
RUN 2	16:01	16:39	13.73	14.05	12.12	0.32	0.22
RUN 3	17:27	18:27	13.73	14.06	12.13	0.74	0.50
Average			**13.73**	**14.06**	**12.13**	**0.90**	**0.61**

VOLATILE ORGANIC COMPOUNDS TEST RESULTS
GULF POWER COMPANY
Plant Smith - Unit 5 Turbine Mode + Duct Burner
3/27/02

TEST	START TIME Military	STOP TIME Military	WATER VAPOR IN STACK GAS (percent)	OXYGEN (Dry) (measured) (Percent)	OXYGEN (Wet) (calculated) (Percent)	Volatile Organic Compounds Emissions (ppm-wet)	Volatile Organic Compounds Emissions Corrected to 15.0% O2
RUN 1	19:36	20:36	6.7	14.3	13.3	0.70	0.54
RUN 2	21:11	22:11	6.7	14.2	13.3	0.30	0.23
RUN 3	22:45	23:45	6.7	14.2	13.3	0.20	0.15
Average			**6.7**	**14.2**	**13.3**	**0.40**	**0.31**

VOLATILE ORGANIC COMPOUNDS TEST RESULTS
GULF POWER COMPANY
Plant Smith - Unit 5 Power Augmentation Mode
4/12/02

TEST	START TIME Military	STOP TIME Military	WATER VAPOR IN STACK GAS (percent)	OXYGEN (Dry) (measured) (Percent)	OXYGEN (Wet) (calculated) (Percent)	Volatile Organic Compounds Emissions (ppm-wet)	Volatile Organic Compounds Emissions Corrected to 15.0% O2
RUN 1	11:26	12:26	13.73	14.08	12.15	0.50	0.34
RUN 2	13:13	14:13	13.73	14.05	12.12	0.56	0.38
RUN 3	14:50	15:52	13.73	14.06	12.13	0.63	0.42
Average			**13.73**	**14.06**	**12.13**	**0.56**	**0.38**

SANDERS ENGINEERING & ANALYTICAL SERVICES, INC.

VOLATILE ORGANIC COMPOUNDS EMISSIONS TEST REPORT

FOR

GULF POWER COMPANY

Plant Smith
Units 4 and 5

March 21 and 27, 2002
and April 4 and 12, 2002

1568 LEROY STEVENS ROAD
MOBILE, ALABAMA 36695
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E-MAIL: sanders@sandersengineering.com

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ILLUSTRATIONS

1. INTRODUCTION

Sanders Engineering & Analytical Services, Inc. (SEAS) performed volatile organic compounds and volumetric flow rate emissions testing for Gulf Power Company on Units 4 and 5 located at the Plant Smith facility in Panama City, Florida. The testing was conducted March 21 and 27, 2002 and April 4 and 12, 2002. The testing was performed in accordance with the applicable U.S. EPA procedures specified at 40 CFR, Part 60, Appendix A, Methods 1, 2, 3a, 4, and 25a. Further discussions of the test methods are included later in the report.

The purpose of the testing was to gain additional information concerning the emission characteristics of the unit. The tests were conducted by Mr. Joseph Sanders, Mr. Christopher Cabaniss, and Mr. Richard Reynolds of Sanders Engineering & Analytical Services, Inc., and were coordinated with Mr. John McPherson of Gulf Power Company.

2. DESCRIPTION OF SAMPLING PROGRAM

The sampling program consisted of moisture and volatile organic compounds emissions testing in compliance with US EPA methods. The following is a brief description of these types of tests.

2.1. Moisture Testing

The quantitative determination of stack gas moisture was made in accordance with 40 CFR, Part 60, Appendix A, Method 4. A probe was placed inside the stack at a traverse point with the tip pointing directly into the gas stream. The first impingers were partially filled with 100 milliliters of deionized water. The next impinger is left empty. Preweighed 6 to 16 mesh indication silica gel was added to the last impinger. Crushed ice was placed around the impingers. The pump was started and the flow was adjusted to a sampling rate of approximately 0.75 cubic feet per minute or a delta H of 1.5 inches of water. Stack gases were withdrawn from the stack. The water was condensed in the impingers and measured. Readings of gas meter temperature, sample rate, and total gas sampled were taken and recorded on the field data sheet. At the conclusion of each run (minimum of 20 cubic feet) the pump was turned off, final readings recorded, and final system leak checks were performed.

Care was exercised in moving the collection train to the sample recovery area to minimize the loss of collected sample, or the gain of extraneous water. The volume of water in the impingers was measured and the silica gel impinger weighed and recorded on the field data sheet. The temperature of the sample gas was measured. Calibrations of the testing equipment are included in Appendix A. The completed field data sheets are presented in Appendix B.

2.2. Gaseous Emissions Testing

Gaseous testing was accomplished by withdrawing a sample of the stack gas through a stainless steel probe, a moisture removal system, and into instruments specifically designed for the measurement of the particular pollutants of interest. These instruments responded linearly to concentrations of the pollutants. The output of these instruments is a continuous analog voltage which is digitized and input into a PC based data acquisition system. The PC data acquisition system polls the instruments 1000 times per second. The computer averages these readings into one-second averages during calibrations and one minute averages at other times. These one second and one minute averages are written to the hard disk each minute to ensure no data loss due to power failure or other inadvertent occurrence. The computer stores in memory all calibration and stack gas analyses during each run. The average for each calibration and for each independent run were averaged for the time of the runs. A description of the testing procedures is included in Section 6. The gas certifications are included in Appendix C.

3. SUMMARY AND DISCUSSION OF RESULTS

There were no unusual problems encountered during the performance of the testing. The results of the volatile organic compounds emissions testing for Units 4 and 5 are presented in Tables I through IV. The quality assurance for the volatile organic compounds testing is presented in Tables V through VIII. The results of the volumetric flow rate test results are presented in Tables IX through XII.

TABLE I. VOLATILE ORGANIC COMPOUNDS TEST RESULTS
GULF POWER COMPANY
Plant Smith - Unit 4 Power Augmentation Mode
4/5/02

TEST	START TIME Military	STOP TIME Military	WATER VAPOR IN STACK GAS (percent)	OXYGEN (Dry) (measured) (Percent)	OXYGEN (Wet) (calculated) (Percent)	Volatile Organic Compounds Emissions (ppm·wet)	Volatile Organic Compounds Emissions Corrected to 15.0% O2
RUN 1	14:00	15:00	12.04	13.68	12.03	1.64	1.09
RUN 2	17:27	18:27	12.04	13.66	12.02	0.32	0.21
RUN 3	19:02	20:02	12.04	13.75	12.09	0.74	0.50
Average			**12.04**	**13.70**	**12.05**	**0.90**	**0.60**

TABLE II. VOLATILE ORGANIC COMPOUNDS TEST RESULTS
GULF POWER COMPANY
Plant Smith - Unit 4 Turbine and Duct Burner
3/21/02

TEST	START TIME Military	STOP TIME Military	WATER VAPOR IN STACK GAS (percent)	OXYGEN (Dry) (measured) (Percent)	OXYGEN (Wet) (calculated) (Percent)	Volatile Organic Compounds Emissions (ppm-wet)	Volatile Organic Compounds Emissions Corrected to 15.0% O2
RUN 1	16:13	17:13	7.5	14.82	13.7	0.20	0.16
RUN 2	17:39	18:39	7.5	14.13	13.1	0.20	0.15
RUN 3	20:29	21:29	7.5	14.16	13.1	0.20	0.15
RUN 4	22:04	23:04	7.5	14.12	13.1	0.20	0.15
Average			**7.5**	**14.31**	**13.24**	**0.20**	**0.15**

TABLE III. VOLATILE ORGANIC COMPOUNDS TEST RESULTS
GULF POWER COMPANY
Plant Smith - Unit 5 Power Augmentation Mode
4/12/02

TEST	START TIME Military	STOP TIME Military	WATER VAPOR IN STACK GAS (percent)	OXYGEN (Dry) (measured) (Percent)	OXYGEN (Wet) (calculated) (Percent)	Volatile Organic Compounds Emissions (ppm-wet)	Volatile Organic Compounds Emissions Corrected to 15.0% O2
RUN 1	11:26	12:26	13.77	13.42	11.57	0.50	0.31
RUN 2	13:13	14:13	13.77	13.60	11.73	0.56	0.36
RUN 3	14:50	15:52	13.77	13.47	11.61	0.63	0.40
Average			**13.77**	**13.50**	**11.64**	**0.56**	**0.36**

TABLE IV. VOLATILE ORGANIC COMPOUNDS TEST RESULTS
GULF POWER COMPANY
Plant Smith - Unit 5 Turbine and Duct Burner Mode
3/27/02

TEST	START TIME Military	STOP TIME Military	WATER VAPOR IN STACK GAS (percent)	OXYGEN (Dry) (measured) (Percent)	OXYGEN (Wet) (calculated) (Percent)	Volatile Organic Compounds Emissions (ppm-wet)	Volatile Organic Compounds Emissions Corrected to 15.0% O2
RUN 1	19:36	20:36	6.7	14.4	13.4	0.70	0.55
RUN 2	21:11	22:11	6.7	14.2	13.3	0.30	0.23
RUN 3	22:45	23:45	6.7	14.2	13.3	0.20	0.15
Average			**6.7**	**14.3**	**13.3**	**0.40**	**0.31**

TABLE V. VOLATILE ORGANIC COMPOUNDS TESTING QUALITY ASSURANCE

GULF POWER COMPANY

Plant Smith · Unit 4 Power Augmentation Mode

4/5/02

Analyzer Calibration Data

INITIAL ANALYZER SPAN (PPM) =		20	ANALYZER ID.	VOC (Propane)
	CYLINDER VALUE PPM	ANALYZER RESPONSE (PPM)	DIFFERENCE (PPM)	DIFFERENCE FROM CYLINDER (ALLOWED 5%)
Zero Gas	*0*	*0.0*	0.0	0.0
High Range Gas	*17.4*	*17.4*	0.0	0.0
Mid Range Gas	*9.6*	*9.7*	-0.1	-1.3
Low Range Gas	*5.9*	*5.9*	0.1	0.8

Test Results & Analyzer Calibration Drift Data

calculation data entry								DRIFT		test results
start time of Run	*stop time of Run*	RUN NO.	*ANALYZER stack gas concentration uncorrected (PPM)*	*system Zero (PPM)*	*system upscale (PPM)*	*CYLINDER CONCENTRATION UPSCALE CALIBRATION GAS (PPM)*	*ANALYZER SPAN (PPM)*	ZERO DRIFT % SPAN (ALLOWED 3%)	UPSCALE DRIFT % SPAN (ALLOWED 3%)	VOLATILE ORGANIC COMPOUNDS CONCENTRATION (PPM-WET)
		INITIAL SYSTEM		*0.0*	*5.9*					
14:00	*15:00*	Run 1	*1.64*	*0.2*	*5.9*	*5.9*	*20*	1.0	0.0	**1.64**
17:27	*18:27*	Run 2	*0.74*	*0.1*	*5.8*	*5.9*	*20*	0.0	0.0	**0.74**
19:02	*20:02*	Run 3	*0.74*	*0.1*	*5.8*	*5.9*	*20*	0.0	0.0	**0.74**

TABLE VI. VOLATILE ORGANIC COMPOUNDS TESTING QUALITY ASSURANCE

GULF POWER COMPANY
Plant Smith · Unit 4 Turbine and Duct Burner
3/21/02

Analyzer Calibration Data

INITIAL ANALYZER SPAN (PPM) =		20	ANALYZER ID.	VOC (Propane)
	CYLINDER VALUE PPM	ANALYZER RESPONSE (PPM)	DIFFERENCE (PPM)	DIFFERENCE FROM CYLINDER (ALLOWED 5%)
Zero Gas	*0*	*0.0*	0.0	0.0
High Range Gas	*17.4*	*17.4*	0.0	0.0
Mid Range Gas	*9.6*	*9.8*	·0.2	·2.1
Low Range Gas	*5.9*	*5.9*	0.0	0.0

Test Results & Analyzer Calibration Drift Data

calculation data entry								DRIFT		test results
start time of Run	*stop time of Run*	RUN NO.	*ANALYZER stack gas concentration uncorrected (PPM)*	*system Zero (PPM)*	*system upscale (PPM)*	*CYLINDER CONCENTRATION UPSCALE CALIBRATION GAS (PPM)*	*ANALYZER SPAN (PPM)*	ZERO DRIFT % SPAN (ALLOWED 3%)	UPSCALE DRIFT % SPAN (ALLOWED 3%)	VOLATILE ORGANIC COMPOUNDS CONCENTRATION (PPM-WET)
		INITIAL SYSTEM		*0.0*	*5.9*					
16:13	*17:13*	Run 1	*0.2*	*0.0*	*5.9*	*5.9*	*20*	0.0	0.0	0.2
17:39	*18:39*	Run 2	*0.2*	*0.0*	*5.9*	*5.9*	*20*	0.0	0.0	0.2
20:29	*21:29*	Run 3	*0.2*	*0.0*	*5.9*	*5.9*	*20*	0.0	0.0	0.2
22:04	*23:04*	Run 4	*0.2*	*0.0*	*5.9*	*5.9*	*20*	0.0	0.0	0.2

TABLE VII. VOLATILE ORGANIC COMPOUNDS TESTING QUALITY ASSURANCE

GULF POWER COMPANY
Plant Smith · Unit 5 Power Augmentation Mode
4/12/02

Analyzer Calibration Data

INITIAL ANALYZER SPAN (PPM) =		20	ANALYZER ID.	VOC (Propane)
	CYLINDER VALUE PPM	ANALYZER RESPONSE (PPM)	DIFFERENCE (PPM)	DIFFERENCE FROM CYLINDER (ALLOWED 6%)
Zero Gas	*0*	*0.0*	0.0	0.0
High Range Gas	*17.4*	*17.4*	0.0	0.0
Mid Range Gas	*9.6*	*9.8*	-0.2	-1.7
Low Range Gas	*5.9*	*5.9*	0.0	-0.3

Test Results & Analyzer Calibration Drift Data

calculation data entry								DRIFT		test results
start time of Run	*stop time of Run*	RUN NO.	*ANALYZER stack gas concentration uncorrected (PPM)*	*system Zero (PPM)*	*system upscale (PPM)*	*CYLINDER CONCENTRATION UPSCALE CALIBRATION GAS*	*ANALYZER SPAN*	ZERO DRIFT % SPAN (ALLOWED 3%)	UPSCALE DRIFT % SPAN (ALLOWED 3%)	VOLATILE ORGANIC COMPOUNDS CONCENTRATION (PPM-WET)
		INITIAL SYSTEM		*0.0*	*5.9*	*0.0*	*6*			
11:26	*12:26*	RUN 1	*0.50*	*Run 1*	*3.1*	*0.0*	*6*	5.9	20.0	**0.50**
13:13	*14:13*	RUN 2	*0.56*	*Run 2*	*2.5*	*0.0*	*6*	5.9	20.0	**0.56**
14:50	*15:52*	RUN 3	*0.63*	*Run 3*	*2.9*	*0.0*	*6*	5.9	20.0	**0.63**

TABLE VIII. VOLATILE ORGANIC COMPOUNDS TESTING QUALITY ASSURANCE

GULF POWER COMPANY

Plant Smith · Unit 5 Turbine and Duct Burner Mode

3/27/02

Analyzer Calibration Data

INITIAL ANALYZER SPAN (PPM) =		20	ANALYZER ID	VOC (Propane)
	CYLINDER VALUE PPM	ANALYZER RESPONSE (PPM)	DIFFERENCE (PPM)	DIFFERENCE FROM CYLINDER (ALLOWED 5%)
Zero Gas	*0*	*0.0*	0.0	0.0
High Range Gas	*17.4*	*17.4*	0.0	0.0
Mid Range Gas	*9.6*	*9.7*	·0.1	·1.0
Low Range Gas	*5.9*	*5.9*	0.0	0.0

Test Results & Analyzer Calibration Drift Data

calculation data entry								DRIFT		test results
start time of Run	*stop time of Run*	RUN NO.	*ANALYZER stack gas concentration uncorrected (PPM)*	*system Zero (PPM)*	*system upscale (PPM)*	*CYLINDER CONCENTRATION UPSCALE CALIBRATION GAS (PPM)*	*ANALYZER SPAN (PPM)*	ZERO DRIFT % SPAN (ALLOWED 3%)	UPSCALE DRIFT % SPAN (ALLOWED 3%)	VOLATILE ORGANIC COMPOUNDS CONCENTRATION (PPM-WET)
		INITIAL SYSTEM		*0.0*	*5.9*					
19:36	*20:36*	Run 1	*0.7*	*0.2*	*5.9*	*5.9*	*20*	1.0	0.0	**0.7**
21:11	*22:11*	Run 2	*0.3*	*0.0*	*5.9*	*5.9*	*20*	·1.0	0.0	**0.3**
22:45	*23:45*	Run 3	*0.2*	*0.0*	*5.7*	*5.9*	*20*	0.0	·1.0	**0.2**

TABLE IX. VOLUMETRIC FLOW RATE TEST RESULTS
GULF POWER COMPANY
Plant Smith - Unit 4 Power Augmentation Mode
4/5/02

Title of Run		RUN 1
Date of Test	Month/Day/Year	4/5/02
Sampling Time -Start	Military	1722
Sampling Time -Stop	Military	1757
Barometric Pressure	Inches Mercury	30.10
Average Orifice Pressure (ΔH)	Inches Water	1.5
Meter Correction Factor		0.914
Average Meter Temperature	Degrees F	79.6
Volume of Gas Metered	Cubic Feet	28.200
Volume of Water Collected	Milliliters	74.0
Sampling Time	Minutes	45

RESULTS OF COMPUTATIONS

		RUN 1
Volume of Gas Sampled	Standard Dry Cubic Feet	25.453
Water vapor in Stack Gas	Percent	12.04

TABLE X. VOLUMETRIC FLOW RATE TEST RESULTS
GULF POWER COMPANY
Plant Smith - Unit 4 Turbine and Duct Burner
3/21/02

Title of Run		**RUN 1**
Date of Test	Month/Day/Year	3/21/02
Sampling Time -Start	Military	1315
Sampling Time -Stop	Military	1345
Plant Load	Megawatts	175
Barometric Pressure	Inches Mercury	30.01
Average Orifice Pressure (ΔH)	Inches Water	1.5
Meter Correction Factor		0.914
Average Meter Temperature	Degrees F	73.1
Volume of Gas Metered	Cubic Feet	23.600
Volume of Water Collected	Milliliters	37.0
Sampling Time	Minutes	35

RESULTS OF COMPUTATIONS

		RUN 1
Volume of Gas Sampled	Standard Dry Cubic Feet	21.497
Molecular Wt. of Stack Gas	LB/LB-MOLE	27.251
Water vapor in Stack Gas	Percent	7.5

TABLE XI. VOLUMETRIC FLOW RATE TEST RESULTS
GULF POWER COMPANY
Plant Smith - Unit 5 Power Augmentation Mode
4/12/02

Title of Run		RUN 1
Date of Test	Month/Day/Year	4/12/02
Sampling Time -Start	Military	1108
Sampling Time -Stop	Military	1148
Barometric Pressure	Inches Mercury	30.14
Average Orifice Pressure (ΔH)	Inches Water	1.5
Meter Correction Factor		0.918
Average Meter Temperature	Degrees F	88.8
Volume of Gas Metered	Cubic Feet	22.445
Volume of Water Collected	Milliliters	68.0
Sampling Time	Minutes	40

RESULTS OF COMPUTATIONS

		RUN 1
Volume of Gas Sampled	Standard Dry Cubic Feet	20.036
Water vapor in Stack Gas	Percent	13.77

TABLE XII. VOLUMETRIC FLOW RATE TEST RESULTS
GULF POWER OMPANY
Plant Smith - Unit 5 Turbine and Duct Burner Mode
3/27/02

Title of Run		**RUN 1**
Date of Test	Month/Day/Year	3/27/02
Sampling Time -Start	Military	1845
Sampling Time -Stop	Military	1935
Plant Load	Megawatts	175
Barometric Pressure	Inches Mercury	30.20
Average Orifice Pressure (ΔH)	Inches Water	1.5
Meter Correction Factor		0.918
Average Meter Temperature	Degrees F	54.8
Volume of Gas Metered	Cubic Feet	37.205
Volume of Water Collected	Milliliters	54.0
Sampling Time	Minutes	50

RESULTS OF COMPUTATIONS

		RUN 1
Volume of Gas Sampled	Standard Dry Cubic Feet	35.476
Molecular Wt. of Stack Gas	LB/LB-MOLE	27.331
Water vapor in Stack Gas	Percent	6.7

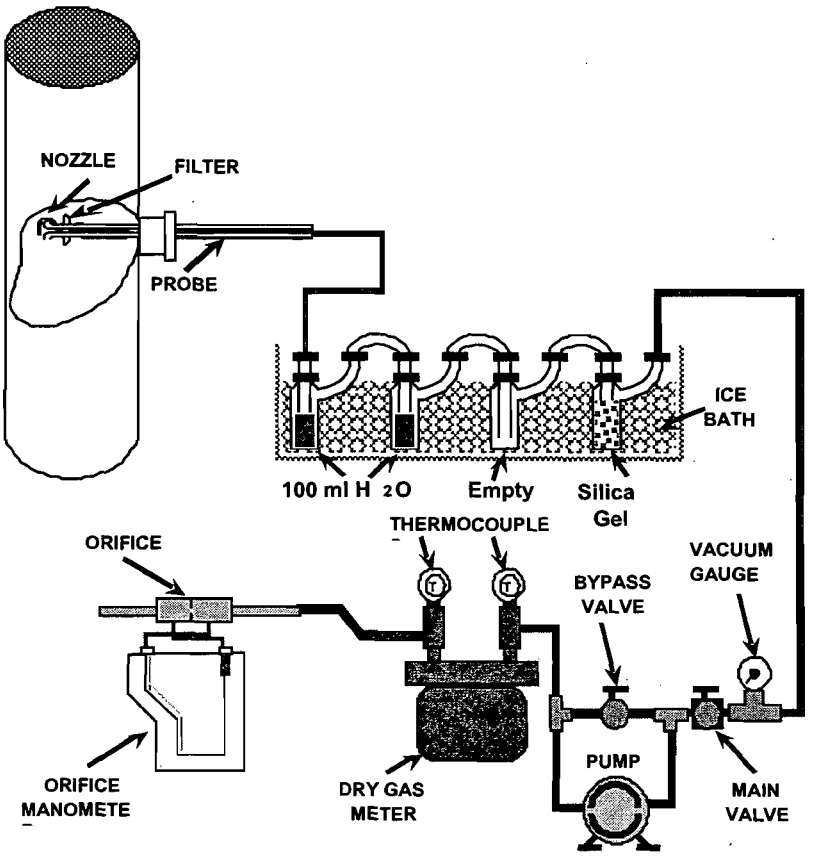
4. PROCESS DESCRIPTION

The process consists of a steam electric generating unit firing bituminous coal for the production of electric energy. The coal is received by barge, and loaded directly onto the conveyor feeding the plant or onto the stockpile and later loaded onto the conveyor belt transporting the coal to the plant. The coal from the conveyor is loaded into bunkers capable of holding between 36 to 48 hours supply of coal. The coal is then fed to pulverizing mills before being fired in the unit through the burners. Upon combustion of the coal in the fire box, approximately 20 percent of the ash falls to the bottom of the boiler and is removed by the ash removal system. The remaining 80 percent exits with the flue gases through the heat exchange and economizer sections of the furnace, and is collected by electrostatic precipitators.

5. VELOCITY SAMPLING PROCEDURE (EPA Method 4)

The sampling procedure utilized is that specified in **40 CFR, Part 60, Appendix A, Method 4.** A brief description of this procedure is as follows:

Figure 1. Moisture Sampling Train



The first impingers were partially filled with 100 milliliters of deionized water. The next impinger was left empty to act as a moisture trap. Preweighed 6 to 16 mesh indication silica gel was added to the last impinger. The sampling equipment manufactured by Lear Siegler (Model 100) or Sanders Engineering (Model 200) was assembled as shown in the attached drawing. The system was leak checked by plugging the inlet to the nozzle and pulling a 15 inch mercury vacuum. A leakage rate not in excess of 0.02 cubic feet per minute was considered acceptable.

Crushed ice was placed around the impingers. The probe was placed on the traverse point with the tip pointing directly into the gas stream. The pump was started and the flow adjusted to a sampling rate of approximately 0.75 cubic feet per minute or a delta H of 1.5 inches of water. Readings of gas meter temperature,

sample rate, and total gas sampled were taken and recorded on the field data sheet. At the conclusion of each run (minimum of 20 cubic feet) the pump was turned off, final readings recorded, and final system leak checks were performed.

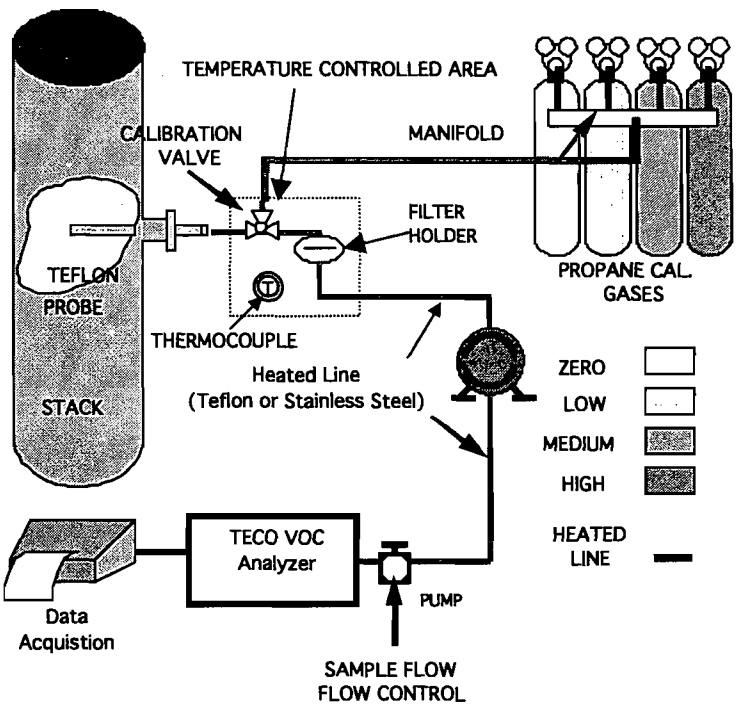
Care was exercised in moving the collection train to the sample recovery area to minimize the loss of collected sample or the gain of extraneous water. The volume of water in the impingers was measured and the silica gel impinger weighed and recorded on the field data sheet. The temperature of the sample gas was measured

6. VOLATILE ORGANIC COMPOUND SAMPLING PROCEDURE (Method 25a)

Volatile organic compounds analysis was performed per 40 CFR, Part 60, **Appendix A, Method 25a.**

The sample was drawn through a stainless steel probe and then through a three-way calibration valve. Heated Teflon® line was utilized to transport the sample through a water knockout and a filter, through a pump into a sample flow control valve, into a manifold with a bypass valve, to an analyzer sample flow control valve, and a TECO volatile organic compounds flame ionization analyzer. The sample train is presented in the attached figure.

Figure 2. Volatile Organic Compounds Sampling Train



The instrument was allowed to warm up for at least 30 minutes before it was initially calibrated. A high range calibration gas was introduced to the instrument at the three-way valve. The instrument was allowed to fully respond to the calibration gas and the analyzer was adjusted to the correct value. Zero air was used as zero gas to check the zero reading of the instrument and adjusted to the correct value. Next, the middle and low gases were introduced to the system at the three-way valve. The response value for each of these gases was recorded. If any of the readings indicated a difference of more than ±5 percent of the span the analyzer was recalibrated.

To begin sampling the three-way valve was switched to allow the instrument to sample the stack gas. Twice the system response time was allowed to elapse before the chart was marked for the beginning of the run. At the end of each run the three-way valve was switched to allow introduction of the calibration gas closest in value to the stack gas concentration. Zero air was introduced to the system. The zero and calibration drift were recorded. If the drift values were greater than ±5 percent of the span the run was invalidated. The three-way valve was switched to allow sampling of the stack gas and the next run was begun. This procedure was repeated until all runs were completed.

6.1. Sample Recovery & Analysis

After the tests were completed the data was reduced to give an average volatile organic compound concentration in parts per million for each run. This average concentration was corrected for the analyzer zero and span drift using the equation:

$$C_{gas} = \frac{(C - Co)\ Cma}{(Cm - Co)}$$

Where:

C gas = Effluent gas Concentration, dry basis, ppm.

C = Average gas concentration indicated by the gas analyzer, dry basis, ppm

Co = Average of Initial and final system calibration responses for the zero gas, ppm.

Cm = Average of initial and final calibration responses for the upscale calibration gas, ppm.

Cma = Actual concentration of the scale calibration gas, ppm.

7. QUALITY ASSURANCE

In order to ensure the accuracy of all the data collected in the field and at the laboratory, SEAS has instituted a comprehensive quality assurance and quality control program. New or repaired items which require calibration are calibrated before their initial use in the field. Equipment whose calibration may change with use are calibrated before and after each use. When an item is found to be out of calibration, the unit is either discarded or repaired, and then recalibrated before being returned to service. All equipment is periodically recalibrated in full regardless of the results of the regular inspections or its present calibration status. Calibrations are performed in a manner consistent with the EPA reference methods recommended in the "Quality Assurance Handbook for Air Pollution Measurement Systems" published by the US Environmental Protection Agency. To the maximum degree possible all calibrations are traceable to the National Institute of Standards and Technology (NIST).

In order to ensure that the test will be performed in a timely manner without undue delays, SEAS sampling vans are equipped with duplicate sampling devices for almost every device needed to perform the test. If a particular device is broken or does not pass inspection, a second device is available immediately at the site to continue the testing procedures. Any device that appears to be outside calibration or in need of repair is tagged in the field and repaired, calibrated, or discarded immediately upon return to the laboratory.

7.1. CALIBRATIONS

Certain pieces of equipment need to be calibrated before and after each test. Those items include the pitot tubes, the differential pressure gauges, the dry gas meter, and the nozzles used for the particulate testing. The following is a brief description of the calibration procedures for each of these important devices.

7.1.1. PITOT TUBES

All pitot tubes are the S-type as required by EPA Reference Method 2 (40 CFR, Part 60, Appendix A, Method 2). This method contains certain geometric standards for the construction of S-type pitot tubes. All of SEAS pitot tubes are constructed according to these standards. According to the EPA any pitot tube constructed to these standards will have a coefficient of 0.84 ± 0.02. To ensure the exact value of SEAS pitot tubes, all pitot tubes are initially calibrated in SEAS wind tunnel to determine the exact pitot coefficient. This coefficient should not change unless the pitot is physically damaged. Each pitot tube is checked before going to the field to make sure it meets the geometry as specified. Any pitot tube that does not meet the specifications is not used in the test.

7.1.2. DIFFERENTIAL PRESSURE GAUGES

SEAS uses several different types of pressure gauges including oil tube manometers, water tube manometers, magnehelics, and current output electronic load cells. Each of these devices are inspected before taken to the field and are inspected for leaks during each test. The magnehelics and load cells are tested against an incline manometer water gauge to ensure accuracy.

7.1.3. TEMPERATURE SENSORS

All temperature sensors used in SEAS sampling program are either mercury in-glass thermometers or type K thermocouples. These thermocouples are a physical device which produce a voltage proportional to the temperature. The thermocouple reading device is calibrated before and after each series of tests to ensure accuracy of $\pm$ 2 percent. The calibration of the thermocouple is accomplished by using a NIST traceable calibrated reference thermocouple potentiometer system.

7.1.4. NOZZLES

The inside diameter of each nozzle is measured to the nearest 0.001 inches prior to its initial use. Upon arriving in the field each nozzle is again measured with a micrometer on three different points on the diameter to ensure its original measurement and that the nozzle is perfectly round. If the difference between the maximum and minimum diameters measured does not exceed 0.003 inches, the nozzle is acceptable; otherwise, this nozzle is discarded and another is selected. At the end of each test the nozzles are again measured on three different points on the diameter to ensure that during the test the nozzle has not become dented or deformed.

7.1.5. DRY GAS METER

The dry gas meter is calibrated every six months against a spirometer transfer standard. It is again calibrated before and after each use in the field. During the semiannual calibration, a five point calibration is made at a minimum of one-half inch water column orifice pressure up to four inches water column orifice pressure. Before and after each test, the dry gas meter is again recalibrated at three repetitions at a representative flow rate experienced during the test. If the final calibration does not agree with the initial calibration within five percent the

calibration that yields the lowest volume of sample pulled is used in the calculation of results and the dry gas meter is repaired and recalibrated.

7.1.6. ORIFICE

The flow meter orifice is used to establish isokinetic sampling rates during the test. The orifice is calibrated in conjunction with the calibration of the dry gas meter. The orifice is calibrated over a wide range of flow rates and the arithmetic mean of the orifice calibration is used for sampling purposes. The orifice is recalibrated every time the gas meter is recertified.

APPENDIX A QUALITY CONTROL OF TESTING EQUIPMENT

INITIAL METER BOX CALIBRATION

Calibrated By: RR BOX #: C-175 Date: 12/20/01

			Orifice #:	8	Orifice #:	3	Orifice #:	1	
		Unit	RUN 1	RUN 2	RUN 1	RUN 2	RUN 1	RUN 2	
Meter	ΔH	In. H_2O	1.60	1.60	1.30	1.30	0.85	0.85	
	Initial Gas Volume	$Ft.^3$	518.500	525.800	534.800	542.000	552.600	558.100	
	Final Gas Volume	$Ft.^3$	525.800	534.000	542.000	551.600	558.100	563.700	
	Initial Temp. In	°F	75	77	77	76	76	75	
	Initial Temp. Out	°F	71	73	73	74	73	73	
	Final Temp. In	°F	77	77	76	76	75	76	
	Final Temp. Out	°F	73	73	74	73	73	76	
	Vacuum	In. Hg	20	20	20	20	20	20	
	Ambient Temp.	°F	70	70	70	70	70	70	
	Barometric Pressure	In. Hg	30.20	30.20	30.20	30.20	30.20	30.20	
	Time	sec	583	652	631	845	602	612	
	K'		0.5200	0.5200	0.4677	0.4677	0.3735	0.3735	
CALCULATIONS									
	Total Meter Gas Volume	Actual $Ft.^3$	7.300	8.200	7.200	9.600	5.500	5.600	
	Time	Minutes	9.717	10.867	10.517	14.083	10.033	10.200	
	Volume through the Meter	*SDCF without Y*	7.311	8.197	7.192	9.594	5.496	5.588	
	Volume through the Orifice	*SDCF*	6.628	7.413	6.452	8.641	4.916	4.998	
	Calculated Y	*Dimensionless*	0.907	0.904	0.897	0.901	0.895	0.894	0.900
		Difference Allowable 0.02	0.007	0.005	-0.002	0.001	-0.005	-0.005	
	Calculated ΔH@		1.888	1.888	1.893	1.896	1.944	1.933	1.907
		Difference Allowable 0.2	-0.019	-0.019	-0.014	-0.011	0.037	0.026	

Magnehelic Calibrations

Device	Calibration	Delta P	
	Standard	Magnehelic	
Units	inches water	inches water	*Percent*
Reading	Reference	Sample	*Error*
1	0.50	0.50	*0.0*
2	1.00	1.00	*0.0*
3	1.50	1.50	*0.0*

Allowed Error = 5% of Reading

Thermocouple Calibrations

Device	Calibration	Thermocouple	
	Standard	Detector	
Units	Degrees F.	Degrees F.	*Percent*
Reading	Reference	Sample	*Error*
1	100	102	*0.4*
2	200	205	*0.8*
3	400	405	*0.6*

Allowed Error = 1.5% of Absolute Temperature (Degrees Rankin);

Absolute Temperature = Temperature in Degrees Fahrenheit. + 460

Final Meter Box Calibration Check by Critical Orifice

Calibrated By: jcs Date 4/26/02 METER BOX #: C-175

			Orifice # 3				
		Units	RUN 1	RUN 2	RUN 3		
Meter	ΔH	In. H_2O	1.28	1.28	1.28		
	Initial Gas Volume	$Ft.^3$	244.400	251.400	274.500		
	Final Gas Volume	$Ft.^3$	251.200	265.900	280.100		
	Initial Temp. In	°F	78	80	80		
	Initial Temp. Out	°F	75	77	77		
	Final Temp. In	°F	80	80	81		
	Final Temp. Out	°F	77	77	79		
Vacuum (must be > 16.0)		In. Hg	17	17	17		
	Ambient Temp.	°F	74	74	73		
	Barometric Pressure	In. Hg	30.07	30.07	30.07		
	Time	sec	593	1262	490		
	K'		0.4677	0.4677	0.4677		
CALCULATIONS							
Total Meter Gas Volume		$Ft.^3$	6.800	14.500	5.600		
	Time	Minutes	9.883	21.033	8.167		
Vm = Volume through the Meter		*SDCF without Y*	6.732	14.328	5.526	Final Average	Initial Average
Vcr = Volume through the Orifice		*SDCF*	6.015	12.801	4.975		
	Calculated Y	*Dimensionless*	0.894	0.893	0.900	0.896	0.900
	Calculated ΔH@		1.891	1.891	1.881	1.888	1.907

Magnehelic Calibrations

Device	Calibration	Delta P	
	Standard	Magnehelic	
Units	inches water	inches water	*Percent*
Reading	Reference	Sample	*Error*
1	1.93	1.93	*0.0*
2	1.31	1.32	*0.8*
3	0.74	0.74	*0.0*

Allowed Error = 5% of Reading

Thermocouple Calibrations

Device	Calibration	Thermocouple	
	Standard	Detector	
Units	Degrees F.	Degrees F.	*Percent*
Reading	Reference	Sample	*Error*
1	70	71	*0.2*
2	300	302	*0.3*
3	800	800	*0.0*

Allowed Error = 1.5% of Absolute Temperature (Degrees Rankin);
Absolute Temperature = Temperature in Degrees Fahrenheit. + 460

INITIAL METER BOX CALIBRATION

Calibrated By: JCS BOX #: s-102 Date: 12/17/01

			Orifice #:	8	Orifice #:	8	Orifice #:	1	
		Unit	RUN 1	RUN 2	RUN 1	RUN 2	RUN 1	RUN 2	
Meter	DH	In. H_2O	1.72	1.72	1.42	1.42	0.96	0.96	
	Initial Gas Volume	$Ft.^3$	696.700	701.700	652.500	657.600	641.700	647.200	
	Final Gas Volume	$Ft.^3$	701.700	706.700	657.500	662.700	647.000	652.200	
	Initial Temp. In	°F	72	73	75	75	75	75	
	Initial Temp. Out	°F	71	72	74	74	74	74	
	Final Temp. In	°F	73	73	75	75	75	75	
	Final Temp. Out	°F	72	72	74	74	74	74	
	Vacuum	In. Hg	17	17	18	18	18	18	
	Ambient Temp.	°F	72	73	73	73	73	74	
	Barometric Pressure	In. Hg	29.80	29.80	29.94	29.94	29.94	29.94	
	Time	sec	415	418	457	465	598	564	
	K'		0.5200	0.5200	0.4677	0.4677	0.3735	0.3735	
CALCULATIONS									
	Total Meter Gas Volume	Actual $Ft.^3$	5.000	5.000	5.000	5.100	5.300	5.000	
	Time	Minutes	6.917	6.967	7.617	7.750	9.967	9.400	
	Volume through the Meter	*SDCF without Y*	4.961	4.957	4.958	5.057	5.249	4.952	
	Volume through the Orifice	*SDCF*	4.647	4.676	4.620	4.701	4.828	4.549	
	Calculated Y	*Dimensionless*	0.937	0.943	0.932	0.930	0.920	0.919	0.930
		Difference Allowable 0.02	0.007	0.013	0.002	0.000	-0.010	-0.011	
	Calculated DH@		2.124	2.128	2.134	2.134	2.262	2.266	2.175
		Difference Allowable 0.2	-0.050	-0.046	-0.041	-0.041	0.087	0.091	

Magnehelic Calibrations

Device	Calibration	Delta P	
	Standard	Magnehelic	
Units	inches water	inches water	*Percent*
Reading	Reference	Sample	*Error*
1	0.54	0.56	*3.7*
2	0.83	0.87	*4.8*
3	1.87	1.84	*-1.6*

Allowed Error = 5% of Reading

Thermocouple Calibrations

Device	Calibration	Thermocouple	
	Standard	Detector	
Units	Degrees F.	Degrees F.	*Percent*
Reading	Reference	Sample	*Error*
1	70	69	*-0.2*
2	300	302	*0.3*
3	700	704	*0.3*

Allowed Error = 1.5% of Absolute Temperature (Degrees Rankin);
Absolute Temperature = Temperature in Degrees Fahrenheit. + 460

Final Meter Box Calibration Check by Critical Orifice

Calibrated By: RJR Date 5/1/02 METER BOX #: s-102

			Orifice # 8				
		Units	RUN 1	RUN 2	RUN 3		
Meter	ΔH	In. H_2O	1.70	1.70	1.70		
	Initial Gas Volume	$Ft.^3$	828.900	838.600	850.300		
	Final Gas Volume	$Ft.^3$	838.600	850.300	857.500		
	Initial Temp. In	°F	75	76	77		
	Initial Temp. Out	°F	75	75	75		
	Final Temp. In	°F	76	77	77		
	Final Temp. Out	°F	75	75	75		
	Vacuum (must be > 16.0)	In. Hg	16	16	16		
	Ambient Temp.	°F	74	74	74		
	Barometric Pressure	In. Hg	29.80	29.80	29.80		
	Time	sec	835	986	607		
	K'		0.5200	0.5200	0.5200		
CALCULATIONS							
	Total Meter Gas Volume	$Ft.^3$	9.700	11.700	7.200		
	Time	Minutes	13.917	16.433	10.117		
Vm = Volume through the Meter		*SDCF without Y*	9.566	11.528	7.091	Final Average	Initial Average
Vcr = Volume through the Orifice		*SDCF*	9.332	11.020	6.784		
	Calculated Y	*Dimensionless*	0.976	0.956	0.957	0.963	0.930
	Calculated ΔH@		2.096	2.096	2.096	2.096	2.175

Magnehelic Calibrations

Device	Calibration	Delta P	
	Standard	Magnehelic	
Units	inches water	inches water	*Percent*
Reading	Reference	Sample	*Error*
1	1.00	1.00	*0.0*
2	0.50	0.50	*0.0*
3	1.50	1.50	*0.0*

Allowed Error = 5% of Reading

Thermocouple Calibrations

Device	Calibration	Thermocouple	
	Standard	Detector	
Units	Degrees F.	Degrees F.	*Percent*
Reading	Reference	Sample	*Error*
1	300	300	*0.0*
2	200	200	*0.0*
3	100	100	*0.0*

Allowed Error = 1.5% of Absolute Temperature (Degrees Rankin);
Absolute Temperature = Temperature in Degrees Fahrenheit. + 460

Magnehelic Calibration

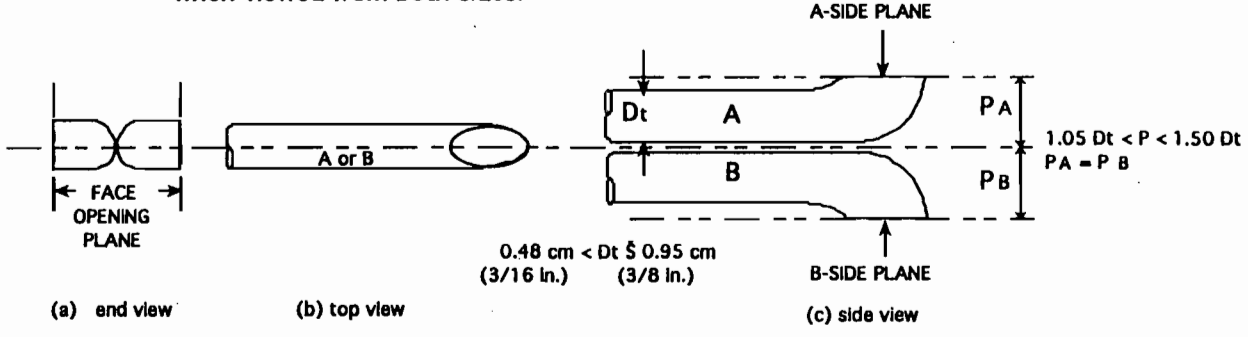
	Box 100						Box 101						Box 100-a				
Ser. No.	WO21 JY	R1090 8AG71	R9807 314022	R977110 5290	6AG44 7	R97022 7GJ31	R00630 1YR66	R22D	A980821 7883	R90051 6G721	R98120 2CA55	R90101 6D102	R08F 2	R97020 3	R10629J A82	R10513 MR42	R90124 RI119
Span (In H2O)	0.25	0.5	2	5	10	25	0.25	0.5	2	5	10	25	0.5	2	5	10	25
Reference Reading @ 0% Span (in H2O)	0.000	0.000	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Device Reading (in H2O)	0.000	0.000	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
% Difference (Allowed = 0.05)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Reference Reading @ 50% Span (in H2O)	0.125	0.250	1.00	2.45	5.00	12.50	0.125	0.25	1.00	2.500	4.80	12.50	0.25	1.00	2.50	5.00	13.00
Device Reading (in H2O)	0.125	0.250	1.00	2.50	5.00	12.50	0.125	0.25	0.96	2.500	5.00	12.55	0.25	1.00	2.50	5.00	13.00
% Difference (Allowed = 0.05)	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Reference Reading @ 90% Span (in H2O)	0.225	0.45	1.80	4.45	9.00	22.50	0.24	0.44	1.80	4.50	9.00	24.00	0.45	1.80	4.50	9.00	24.00
Device Reading (in H2O)	0.225	0.450	1.80	4.45	9.00	22.50	0.230	0.45	1.80	4.500	9.10	24.00	0.45	1.80	4.50	9.00	24.00
% Difference (Allowed = 0.05)	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00

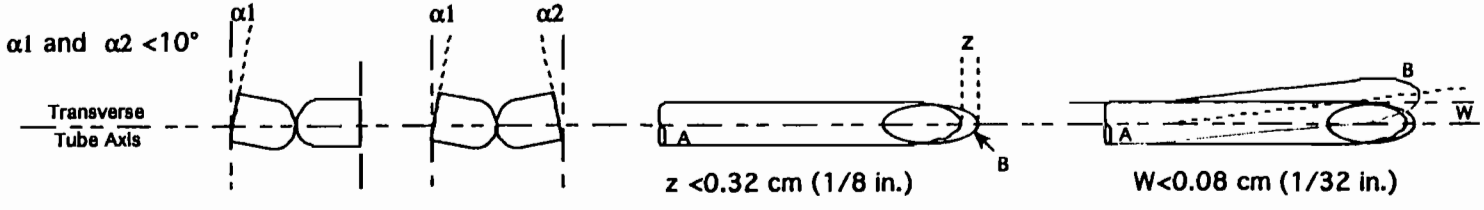
	Box 102						Box 103					
Ser. No.	10819 DR2	R1090 2AG18	R5031 6EB93	810629T A87		R10722 MC6	R05E	R98040 2CA34	R20202 CF1	WOB KJM	R360	
Span (In H2O)	0.25	0.5	2	5		25	0.25	0.5	1	2	5	25
Reference Reading @ 0% Span (in H2O)	0.000	0.000	0.00	0.00		0.00	0.000	0.000	0.00	0.00	0.00	0.00
Device Reading (in H2O)	0.000	0.000	0.00	0.00		0.00	0.000	0.000	0.00	0.00	0.00	0.00
% Difference (Allowed = 0.05)	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Reference Reading @ 50% Span (in H2O)	0.130	0.250	1.00	2.40		12.90	0.125	0.245	0.50	1.00	2.40	12.50
Device Reading (in H2O)	0.125	0.255	1.02	2.50		12.50	0.121	0.250	0.50	1.03	2.50	13.00
% Difference (Allowed = 0.05)	0.04	0.02	0.02	0.04		0.03	0.03	0.02	0.00	0.03	0.04	0.04
Reference Reading @ 90% Span (in H2O)	0.240	0.490	1.90	4.70		24.20	0.235	0.440	0.90	1.90	4.90	24.00
Device Reading (in H2O)	0.240	0.490	1.90	4.75		24.00	0.230	0.450	0.90	1.90	4.92	24.00
% Difference (Allowed = 0.05)	0.00	0.00	0.00	0.01		0.01	0.02	0.02	0.00	0.00	0.00	0.00

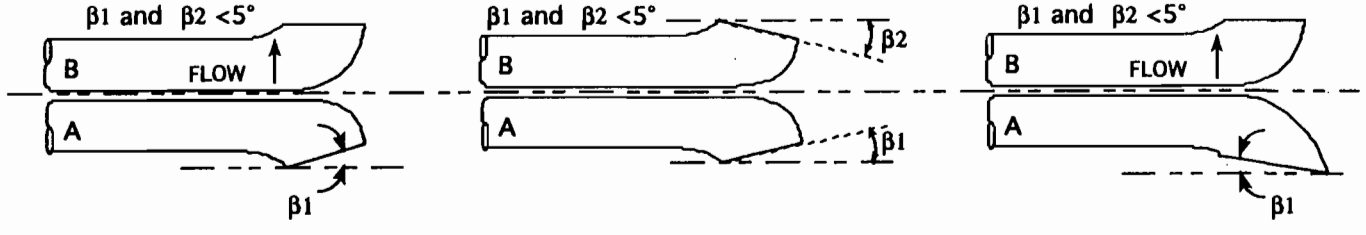
Calibration Date 12-17-01 By J. RAMPULLA

Type S pitot tube construction details:

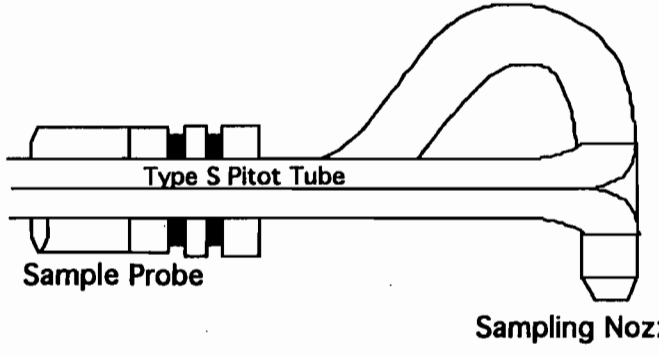
a) end view; face opening planes perpendicular to transverse axis.
b) top view; face opening planes parallel to longitudinal axis.
c) side view; both legs of equal length and centerlines coincident, when viewed from both sides.

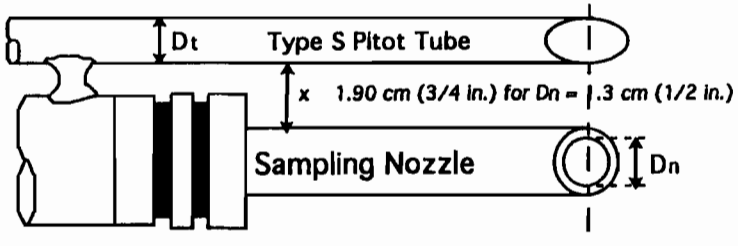


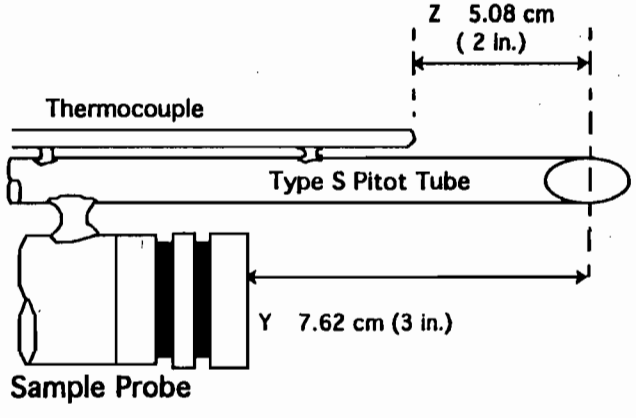




Sampling Nozzle, Thermocouple, and Probe Configuration







APPENDIX B FIELD DATA SHEETS

Moisture & Velocity Data Sheet

Company: Gulf Power Co Operator: RSR

Plant: Smith Date: 3-21-02

Unit: 4 turbine Mode + Duct Burner Pbar: 30.01

Run: 175 Megawatts Static Pressure: _____

Meter Number: C-175

Point	ΔP	Temp. °F

Meter Reading

Final: 801.600

Initial: 778.000

Net: 23.6 CC

Volume of H_2O Collected

	Imp. 1	Imp. 2	Imp. 3	Silica Gel
Final	130	0	/	1712
Initial	100	0	/	1705
Net	30	0	/	7

Total: 37

2.1%

Gas Analysis

% O_2: _____

% CO_2: _____

% CO: _____

Leak Checks

	Pitot System Pre	Pitot System Post	Meter Box Pitot Pre	Meter Box Pitot Post
Impact:			In. Hg:	
Static:			CFM:	

Time	Gas Meter Volume Cu. Ft.	ΔH In. H_2O	Imp. Temp	Gas Meter Temperature °F In	Gas Meter Temperature °F Out	Vac. In. Hg
13:15	778.000	1.5	55	77	77	1
13:25	786.2	1.5	55	69	74	1
13:35	792.9	1.5	55	65	75	1
13:45	801.2	1.5	55	64	86	1
:	801.6	1.5				
:		1.5		73,140		
:		1.5				
:		1.5				
:		1.5				
:		1.5				

Moisture & Velocity Data Sheet

Company: Gulf Power Operator: JCS

Plant: Smith Date: 4-5-02

Unit: 4 Pbar: 30.10

Run: 1 - Power Avg Static Pressure: _____

Meter Number: 5-102

Point	ΔP	Temp. °F

Meter Reading

Final: 962.600

Initial: 934.400

Net: 28.2

Volume of H_2O Collected

	Imp. 1	Imp. 2	Imp. 3	Silica Gel
Final:	166	100	0	1865
Initial:	100	100	0	1857
Net:	66			8

Total: 74

Gas Analysis

% O_2: _____

% CO_2: _____

% CO: _____

Leak Checks

	Pitot System Pre	Pitot System Post	Meter Box Pitot Pre	Meter Box Pitot Post
Impact:			In. Hg:	13 / 10
Static:			CFM:	.000 / 0.000

Time	Gas Meter Volume Cu. Ft.	ΔH In. H_2O	Imp. Temp	Gas Meter Temperature °F In	Gas Meter Temperature °F Out	Vac. In. Hg
17:22	934.4	1.5	60	78	75	2
17:27	938.7	1.5	60	78	74	2
17:32	942.9	1.5	64	82	77	2
17:37	946.6	1.5	57	83	76	2
17:42	950.9	1.5	57	84	76	2
17:47	955.1	1.5	57	85	77	2
17:52	958.3	1.5	56	85	78	2
		1.5				
17:57	962.600	1.5				
		1.5				

Moisture & Velocity Data Sheet

Company: Gulf Power Operator: JCB.

Plant: Smith Date: 4-12-02

Unit: 5 Pbar: 29.95

Run: 1 Static Pressure: —

Meter Number: C-175

Point	ΔP	Temp. °F

Meter Reading

Final: 707.785

Initial: 685.300

Net: _____

Volume of H_2O Collected

	Imp. 1	Imp. 2	Imp. 3	Silica Gel
Final	168	100	0	1767
Initial	100	100	0	1757
Net	68	0	0	10

Total: 69

Gas Analysis

%O_2: _____

%CO_2: _____

%CO: _____

Leak Checks

	Pitot System		Meter Box Pitot	
	Pre	Post	Pre	Post
Impact:	_____		In. Hg: 10	12
Static:	_____		CFM: .002	.001

Time	Gas Meter Volume Cu. Ft.	ΔH In. H_2O	Imp. Temp	Gas Meter Temperature °F In	Gas Meter Temperature °F Out	Vac. In. Hg
11:34	685.300	1.5	54	86	86	3
11:35	688.7	1.5		90	86	3
11:40	696.3	1.5		93	87	3
11:45	702.9	1.5		94	89	3
:	:	1.5				
11:50	707.785	1.5				
:	:	1.5				
:	:	1.5				
:	:	1.5				
:	:	1.5				

Moisture & Velocity Data Sheet

Company: Gulf Power Co Operator: RSR

Plant: Smith Date: 3-27-02

175MW Unit: 5 Pbar: 30.2

Turbine Mode + Duct Burner Run: _____ Static Pressure: _____

Meter Number: C-175

Point	ΔP	Temp. °F

Meter Reading

Final:	891.655
Initial:	854.450
Net:	37.205

Volume of H_2O Collected

	Imp. 1	Imp. 2	Imp. 3	Silica Gel
Final:	150	0		1764
Initial:	100	0		1760
Net:	50	0		4

Total: 54

6.7%

Gas Analysis

% O_2: _____

_____

_____

_____

% CO_2: _____

% CO: _____

Leak Checks

	Pitot System Pre	Pitot System Post	Meter Box Pitot Pre	Meter Box Pitot Post
Impact:				
Static:				

In. Hg: _____ CFM: _____

Time	Gas Meter Volume Cu. Ft.	ΔH In. H_2O	Imp. Temp	Gas Meter Temperature °F In	Gas Meter Temperature °F Out	Vac. In. Hg
6:45	854.450	1.5		61	61	
:		1.5				
7:35	891.655	1.5		45	52	
:		1.5				
:		1.5				
:		1.5				
:		1.5		54.7		
:		1.5				
:		1.5				
:		1.5				

APPENDIX C GAS CERTIFICATIONS

8428 MARKET STREET
HOUSTON, TX 77029
(713) 672-1325

MESSER
MG Industries

ANALYTICAL REPORT – PRODUCT CERTIFICATION

TO:

INDUSTRIAL WELDING SUPPLY
8703 BELLINGRATH ROAD

[redacted], AL 36582
ATTN:

DATE: 02/04/02
P.O. NO.
ORDER NO. 2844
6095288-03-01

CYLINDER NO.	CONSTITUENTS CONCENTRATION:	NOMINAL	ACTUAL	
	EPA PROTOCOL MIXTURE			
Pressure: 1965 psig	CGA: 590		Analysis Date: 02/04/02	
	Shelf Life: 36 MONTH		Expiration Date: 02/04/05	
		Nominal	Actual	Uncertainty
CC44291	PROPANE	6ppm	5.9 ppm	1.2 ppm
	AIR	BALANCE	BALANCE	

REFERENCE STANDARD

Type/Std No.	Cylinder No.	Concentration	Exp. Date
GMIS/951E	150-40E	10.5 PPM PROPANE/N2	09/21/02

INSTRUMENTATION

Instrument	Analytical Principle
HC-324 VARIAN MICRO GC	DETECTOR TCD

ANALYZED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS-1997:G1/ * DENOTES PROCEDURE G2
ANALYTICAL ACCURACY +/-1%

THIS STANDARD SHOULD NOT BE USED WHEN ITS GAS PRESSURE IS BELOW 1.0 MEGAPASCALS (150psig)

Steve Eska
ANALYST
STEVE ESKA

FROM : INDWELD FAX NO. : 2516540091 Mar. 01 2002 09:37AM P4

8428 MARKET STREET
HOUSTON, TX 77029
(713) 672-1325

MESSER
MG Industries

ANALYTICAL REPORT – PRODUCT CERTIFICATION

TO:
INDUSTRIAL WELDING SUPPLY
9705 BELLINGRATH ROAD

THEODORE, AL 36582
ATTN:

DATE:
P.O. NO. 02/04/02
ORDER NO. 2844
6095288-02-01

CYLINDER NO.	CONSTITUENTS CONCENTRATION:	NOMINAL	ACTUAL
	EPA PROTOCOL MIXTURE		
Pressure: 1960 psig	CGA: 590	Analysis Date: 02/04/02	
	Shelf Life: 36 MONTH	Expiration Date: 02/04/05	
		Nominal	Actual	Uncertainty
CC43943	PROPANE	10ppm	9.6 ppm	1.2 ppm
	AIR	BALANCE	BALANCE	

REFERENCE STANDARD

Type/Std No.	Cylinder No.	Concentration	Exp. Date
GMIS/951E	150-498	10.5 PPM PROPANE/N2	09/21/02

INSTRUMENTATION

Instrument	Analytical Principle
HC-324 VARIAN MICRO GC	DETECTOR TCD

ANALYZED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS-1997:G1/ * DENOTES PROCEDURE G2
ANALYTICAL ACCURACY +/-1%

THIS STANDARD SHOULD NOT BE USED WHEN ITS GAS PRESSURE IS BELOW 1.0 MEGAPASCALS (150psig)

STEVE EKKA — ANALYST

FROM : LINDELD FAX NO. : 2516540091 Mar. 01 2002 09:37AM P3

8428 MARKET STREET
HOUSTON, TX 77029
(713) 672-1325

MESSER
MG Industries

ANALYTICAL REPORT – PRODUCT CERTIFICATION

TO:

INDUSTRIAL WELDING SUPPLY
8708 BELLINGRATH ROAD

THEODORE, AL 36582
ATTN: LARRY STOKES

DATE: 02/04/02
P.O. NO. 2844
ORDER NO. 6095288-01-01

CYLINDER NO. CONSTITUENTS CONCENTRATION: NOMINAL ACTUAL

EPA PROTOCOL MIXTURE

Pressure: 1960 psig CGA: 590 Analysis Date: 02/04/02
Shelf Life: 36 MONTH Expiration Date: 02/04/05

		Nominal	Actual	Uncertainty
CC27899	PROPANE	18 ppm	17.4 ppm	1.1 ppm
	AIR	BALANCE	BALANCE	

REFERENCE STANDARD

Type/Std No.	Cylinder No.	Concentration	Exp. Date
GMIS/9928	CC31625	51.3 PPM PROPANE/NZ	09/21/02

INSTRUMENTATION

Instrument	Analytical Principle
HC-324 VARIAN MICRO GC	DETECTOR TCD

ANALYZED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS-1997:G1/ * DENOTES PROCEDURE G2.
ANALYTICAL ACCURACY +/-1%

THIS STANDARD SHOULD NOT BE USED WHEN ITS GAS PRESSURE IS BELOW 1.0 MEGAPASCALS (150psig)

Steve Eska
ANALYST
STEVE ESKA

FROM : INDWELD FAX NO. : 2516540091 Mar. 01 2002 09:36AM P2

Appendix E

Miscellaneous Information and Documentation

Daily Chromatograph

[redacted]aily chromatograph

date requested: May 14 2002 9:07AM

he data contained herein is preliminary data and therefore should be used for contemporaneous operational purposes only and may be subject to change at month end. This data is rovided to assist our customers in tracking their gas usage as closely as possible on a real-time basis. The information contained on this web page is not to be considered billable ıformation. This data will be subject to additional verification and possible modification prior to billing.

Chromatograph Report For: 8038 - Lab @ station 12 (30)

download

Date	BTU	CO2	N2	Grav	Methan	Ethane	Propan	Ibutan	Nbutan	Ipenta	Npenta	C6	C7	H2	Helium	Oxygen
05/14/2002	1042	0.691	0.463	0.589	95.143	2.813	0.528	0.116	0.105	0.039	0.025	0.076	0	0	0	0
05/13/2002	1042	0.701	0.446	0.589	95.134	2.846	0.516	0.111	0.102	0.039	0.026	0.078	0	0	0	0
05/12/2002	1040	0.704	0.431	0.587	95.382	2.699	0.456	0.100	0.088	0.038	0.026	0.077	0	0	0	0
05/11/2002	1041	0.689	0.422	0.588	95.329	2.740	0.475	0.103	0.095	0.040	0.027	0.081	0	0	0	0
05/10/2002	1048	0.703	0.414	0.592	94.613	3.297	0.584	0.120	0.115	0.044	0.029	0.083	0	0	0	0
05/09/2002	1047	0.695	0.407	0.591	94.792	3.158	0.553	0.120	0.111	0.045	0.030	0.089	0	0	0	0
05/08/2002	1046	0.681	0.424	0.591	94.962	2.950	0.574	0.123	0.119	0.047	0.032	0.089	0	0	0	0
05/07/2002	1041	0.673	0.434	0.587	95.342	2.761	0.455	0.101	0.091	0.038	0.025	0.080	0	0	0	0
05/06/2002	1040	0.683	0.426	0.587	95.449	2.662	0.444	0.101	0.090	0.039	0.026	0.080	0	0	0	0
05/05/2002	1039	0.623	0.431	0.585	95.646	2.569	0.417	0.094	0.082	0.038	0.026	0.076	0	0	0	0
05/04/2002	1042	0.685	0.458	0.588	95.221	2.808	0.480	0.103	0.090	0.042	0.029	0.085	0	0	0	0
05/03/2002	1037	0.750	0.447	0.586	95.468	2.626	0.412	0.085	0.075	0.036	0.025	0.076	0	0	0	0
05/02/2002	1035	0.757	0.438	0.585	95.656	2.488	0.381	0.078	0.071	0.034	0.024	0.073	0	0	0	0
05/01/2002	1034	0.706	0.420	0.583	95.900	2.383	0.342	0.071	0.062	0.030	0.021	0.065	0	0	0	0
04/30/2002	1034	0.745	0.440	0.584	95.798	2.412	0.349	0.073	0.064	0.031	0.021	0.066	0	0	0	0
[redacted]2002	1035	0.752	0.463	0.585	95.649	2.491	0.376	0.078	0.074	0.031	0.021	0.064	0	0	0	0
04/[redacted]002	1035	0.732	0.466	0.585	95.689	2.414	0.405	0.088	0.082	0.034	0.023	0.068	0	0	0	0
04/27/2002	1035	0.774	0.450	0.585	95.652	2.427	0.402	0.088	0.082	0.034	0.023	0.068	0	0	0	0
04/26/2002	1036	0.790	0.439	0.586	95.584	2.461	0.415	0.095	0.085	0.036	0.024	0.071	0	0	0	0
04/25/2002	1036	0.719	0.433	0.585	95.722	2.420	0.408	0.089	0.081	0.035	0.024	0.070	0	0	0	0
04/24/2002	1035	0.673	0.437	0.584	95.862	2.352	0.399	0.082	0.074	0.032	0.022	0.067	0	0	0	0
04/23/2002	1035	0.668	0.440	0.584	95.799	2.442	0.387	0.079	0.069	0.031	0.020	0.065	0	0	0	0
04/22/2002	1036	0.663	0.432	0.584	95.745	2.498	0.399	0.077	0.069	0.031	0.021	0.065	0	0	0	0
04/21/2002	1036	0.701	0.447	0.584	95.723	2.459	0.385	0.085	0.078	0.034	0.023	0.066	0	0	0	0
04/20/2002	1034	0.724	0.459	0.584	95.773	2.386	0.371	0.086	0.076	0.033	0.023	0.068	0	0	0	0
04/19/2002	1035	0.701	0.435	0.584	95.774	2.429	0.375	0.084	0.076	0.034	0.024	0.067	0	0	0	0
04/18/2002	1035	0.731	0.439	0.585	95.730	2.436	0.374	0.086	0.077	0.034	0.024	0.068	0	0	0	0
04/17/2002	1035	0.703	0.440	0.584	95.808	2.391	0.371	0.084	0.077	0.033	0.024	0.068	0	0	0	0
04/16/2002	1034	0.727	0.423	0.584	95.827	2.392	0.362	0.082	0.072	0.031	0.021	0.063	0	0	0	0
04/15/2002	1034	0.745	0.410	0.583	95.885	2.355	0.341	0.078	0.067	0.032	0.021	0.067	0	0	0	0
04/14/2002	1033	0.734	0.414	0.583	95.942	2.321	0.333	0.076	0.064	0.031	0.021	0.064	0	0	0	0
04/13/2002	1033	0.738	0.401	0.583	95.970	2.277	0.351	0.079	0.068	0.031	0.021	0.064	0	0	0	0
04/12/2002	1033	0.738	0.407	0.583	95.952	2.322	0.325	0.075	0.064	0.031	0.021	0.065	0	0	0	0
04/11/2002	1033	0.796	0.408	0.584	95.870	2.316	0.345	0.078	0.066	0.032	0.022	0.068	0	0	0	0
04/10/2002	1034	0.854	0.408	0.585	95.611	2.488	0.366	0.083	0.068	0.033	0.023	0.067	0	0	0	0
04/09/2002	1034	0.805	0.417	0.585	95.640	2.512	0.363	0.081	0.066	0.031	0.021	0.062	0	0	0	0
04/08/2002	1033	0.782	0.408	0.584	95.803	2.411	0.345	0.079	0.065	0.029	0.019	0.059	0	0	0	0
04/07/2002	1033	0.786	0.406	0.583	95.890	2.315	0.347	0.081	0.068	0.029	0.019	0.059	0	0	0	0
04/06/2002	1034	0.770	0.429	0.584	95.771	2.382	0.380	0.081	0.070	0.032	0.022	0.063	0	0	0	0
04/[redacted]2002	1034	0.798	0.429	0.584	95.697	2.459	0.364	0.076	0.064	0.030	0.022	0.059	0	0	0	0
[redacted]02	1035	0.786	0.389	0.584	95.758	2.411	0.390	0.082	0.067	0.033	0.022	0.062	0	0	0	0
04/[redacted]2002	1034	0.743	0.384	0.584	95.900	2.327	0.374	0.084	0.068	0.032	0.022	0.066	0	0	0	0
04/02/2002	1036	0.779	0.387	0.585	95.704	2.430	0.400	0.092	0.076	0.035	0.024	0.073	0	0	0	0

04/01/2002	1037	0.781	0.398	0.586	95.594	2.472	0.431	0.100	0.083	0.038	0.026	0.077	0	0	0	0
03/31/2002	1036	0.759	0.428	0.585	95.692	2.384	0.424	0.096	0.080	0.037	0.025	0.074	0	0	0	0
[redacted]	1035	0.767	0.435	0.585	95.701	2.385	0.412	0.090	0.076	0.036	0.024	0.073	0	0	0	0
[redacted]	1035	0.793	0.702	0.588	95.240	2.466	0.458	0.102	0.094	0.040	0.029	0.076	0	0	0	0
03/28/2002	1037	0.784	0.412	0.586	95.549	2.506	0.424	0.099	0.083	0.038	0.025	0.079	0	0	0	0
03/27/2002	1037	0.752	0.413	0.586	95.642	2.437	0.426	0.100	0.083	0.039	0.026	0.082	0	0	0	0
03/26/2002	1036	0.730	0.464	0.585	95.588	2.544	0.390	0.085	0.072	0.034	0.023	0.071	0	0	0	0
03/25/2002	1036	0.767	0.442	0.586	95.590	2.483	0.415	0.093	0.080	0.035	0.023	0.072	0	0	0	0
03/24/2002	1036	0.772	0.412	0.586	95.655	2.424	0.428	0.096	0.081	0.036	0.023	0.073	0	0	0	0
03/23/2002	1035	0.756	0.398	0.585	95.789	2.356	0.401	0.095	0.080	0.035	0.022	0.069	0	0	0	0
03/22/2002	1033	0.712	0.399	0.582	96.030	2.254	0.351	0.077	0.064	0.030	0.021	0.062	0	0	0	0
03/21/2002	1034	0.663	0.404	0.583	96.028	2.266	0.366	0.081	0.068	0.033	0.024	0.067	0	0	0	0
03/20/2002	1035	0.642	0.415	0.582	96.051	2.245	0.368	0.081	0.070	0.035	0.025	0.069	0	0	0	0
03/19/2002	1036	0.658	0.445	0.584	95.829	2.407	0.379	0.082	0.069	0.036	0.027	0.069	0	0	0	0
03/18/2002	1035	0.665	0.470	0.584	95.820	2.406	0.366	0.077	0.067	0.035	0.025	0.066	0	0	0	0
03/17/2002	1035	0.652	0.449	0.583	95.875	2.398	0.356	0.076	0.067	0.035	0.025	0.067	0	0	0	0
03/16/2002	1035	0.686	0.435	0.583	95.832	2.431	0.356	0.077	0.065	0.033	0.023	0.063	0	0	0	0
03/15/2002	1033	0.770	0.434	0.584	95.693	2.540	0.329	0.068	0.058	0.029	0.020	0.058	0	0	0	0
03/14/2002	1038	0.791	0.463	0.587	95.292	2.720	0.434	0.099	0.080	0.034	0.022	0.065	0	0	0	0
03/13/2002	1039	0.811	0.445	0.588	95.225	2.733	0.463	0.110	0.088	0.037	0.022	0.066	0	0	0	0
03/12/2002	1033	0.811	0.444	0.585	95.618	2.558	0.330	0.072	0.060	0.028	0.018	0.059	0	0	0	0
03/11/2002	1033	0.826	0.450	0.585	95.531	2.629	0.330	0.069	0.058	0.028	0.018	0.060	0	0	0	0
03/10/2002	1033	0.804	0.475	0.585	95.555	2.585	0.339	0.073	0.061	0.029	0.019	0.061	0	0	0	0
03/09/2002	1033	0.773	0.466	0.584	95.769	2.414	0.326	0.074	0.063	0.030	0.020	0.065	0	0	0	0
03/08/2002	1032	0.720	0.450	0.583	95.877	2.425	0.302	0.067	0.058	0.027	0.018	0.058	0	0	0	0
03/07/2002	1032	0.733	0.459	0.583	95.801	2.478	0.311	0.064	0.057	0.026	0.017	0.055	0	0	0	0
[redacted]	1032	0.736	0.454	0.583	95.848	2.434	0.304	0.065	0.059	0.027	0.018	0.055	0	0	0	0
[redacted]	1032	0.719	0.448	0.583	95.906	2.387	0.312	0.066	0.059	0.028	0.019	0.057	0	0	0	0
03/04/2002	1031	0.725	0.431	0.582	95.997	2.325	0.298	0.064	0.058	0.028	0.019	0.055	0	0	0	0
03/03/2002	1031	0.774	0.421	0.583	95.960	2.304	0.309	0.065	0.058	0.029	0.021	0.059	0	0	0	0
03/02/2002	1032	0.774	0.410	0.583	95.937	2.338	0.310	0.066	0.058	0.029	0.020	0.059	0	0	0	0
03/01/2002	1032	0.713	0.398	0.582	96.083	2.281	0.304	0.062	0.055	0.028	0.019	0.058	0	0	0	0
02/28/2002	1032	0.731	0.416	0.582	95.938	2.390	0.309	0.061	0.055	0.026	0.019	0.056	0	0	0	0
02/27/2002	1034	0.722	0.431	0.583	95.811	2.462	0.332	0.069	0.062	0.030	0.021	0.059	0	0	0	0
02/26/2002	1035	0.725	0.439	0.584	95.668	2.539	0.363	0.077	0.069	0.033	0.023	0.064	0	0	0	0
02/25/2002	1035	0.678	0.470	0.584	95.625	2.640	0.350	0.067	0.062	0.029	0.021	0.057	0	0	0	0
02/24/2002	1034	0.766	0.455	0.584	95.549	2.673	0.342	0.060	0.055	0.027	0.020	0.052	0	0	0	0
02/23/2002	1035	0.778	0.478	0.586	95.410	2.695	0.390	0.072	0.068	0.030	0.021	0.058	0	0	0	0
02/22/2002	1034	0.798	0.460	0.585	95.495	2.646	0.360	0.069	0.061	0.029	0.021	0.062	0	0	0	0
02/21/2002	1035	0.792	0.423	0.585	95.588	2.539	0.379	0.082	0.070	0.034	0.023	0.070	0	0	0	0
02/20/2002	1036	0.803	0.403	0.586	95.569	2.550	0.383	0.084	0.073	0.037	0.025	0.074	0	0	0	0
02/19/2002	1037	0.817	0.448	0.587	95.321	2.716	0.396	0.088	0.077	0.038	0.025	0.075	0	0	0	0
02/18/2002	1039	0.787	0.482	0.589	95.064	2.926	0.437	0.089	0.078	0.038	0.026	0.071	0	0	0	0
02/17/2002	1039	0.823	0.453	0.588	95.109	2.903	0.413	0.087	0.075	0.039	0.027	0.070	0	0	0	0
02/16/2002	1040	0.807	0.448	0.589	95.065	2.940	0.430	0.091	0.079	0.040	0.028	0.072	0	0	0	0
02/15/2002	1040	0.775	0.448	0.588	95.087	2.958	0.419	0.092	0.081	0.040	0.028	0.071	0	0	0	0
02/14/2002	1038	0.804	0.420	0.587	95.270	2.817	0.395	0.086	0.075	0.037	0.026	0.070	0	0	0	0

[redacted]

FDEP Correspondence

Jeb Bush
Governor

Department of Environmental Protection

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

David B. Struhs
Secretary

February 6, 2002

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. G. Dwain Waters,
Air Quality Programs Supervisor
Gulf Power Company
One Energy Place
Pensacola, Florida 32520-0328

Re: Startup Issues
Lansing Smith Units Units 4 and 5
DEP File No. PSD-FL-269 [PA99-40]

Dear Mr. Waters:

The Department has reviewed your letter dated December 5, 2002, requesting concurrence with your interpretations of various provisions related to startup testing for Units 4 and 5. Following are the responses to the regulatory issues worksheet you submitted for our review and concurrence. Changes to the permit are indicated where applicable.

1. **Maximum Production Rate Definition:** *As applied to the initial startup of a combined cycle unit, maximum production rate is met when a combined cycle unit reaches between 90-100 percent of the total heat input (combustion turbine+ duct burner w/o power augmentation) as outlined in the design and permit application. The maximum production rate may not be reached until 2-3 months after initial first fire.*

   Department Response: Gulf Power is already authorized to test within the requested period as outlined in Specific Condition No. 28 of the PSD-FL-269 permit. This condition reads: "Compliance with the allowable emission limiting standards shall be determined within 60 days after achieving the maximum production rate, but not later than 180 days of initial operation of the unit, and annually thereafter as indicated in this permit, by using the following reference methods as described in 40 CFR 60, Appendix A (1998 version), and adopted by reference in Chapter 62-204.800, F.A.C." No permit change is required.

2. **Custom Fuel Monitoring Plan:** *The custom fuel monitoring plan is no longer required to contain information regarding H_2S as previously required under the Acid Rain Part 75 rules. This change is outlined in a recent EPA rule revision removing H_2S from consideration when determining pipeline quality natural gas. Heat input and total sulfur will be provided by the natural gas pipeline transmission company.*

Department Response: The mentioned rule change has not been finalized and is unlikely to be adopted in its proposed form. The reason is that companies will be unable to comply with a definition of pipeline natural gas that requires total sulfur content to be less than 0.5 grains per 100 cubic feet. For example, the Florida Gas Transmission Company (FGT) has a very low hydrogen sulfide specification of 0.25 gr/100 scf and does typically provide gas with a total sulfur content less than 0.5 gr sulfur/100 scf. However the company Tariff provides for a total sulfur content of 10 gr/100 scf to account for injection of mercaptans as an odorant in compliance with FERC requirements.

Please note that the Department referenced Part 72 and Part 75 definitions and requirements only for the sake of convenience. This allowed use of methods already required for Acid Rain reporting purposes and avoided additional requirements that yield basically the same information. Because of the possible contradictions caused by the proposed changes in Parts 72 and 75, the Department will clarify what is required for the purposes of demonstrating compliance with the BACT and NSPS requirements. However this does not supersede any methods or requirements specific to the Acid Rain program.

Despite the proposed definition of pipeline natural gas and the FGT Tariff, The Department has reasonable assurance that the gas supply will contain less than 2 gr S/100 scf as required by the BACT determination. To avoid possible contradictions with the proposed revision to the natural gas definition and to allow Gulf Power to use the test results regularly provided by the gas supplier, the Department hereby revises Specific Conditions Nos. 23 of PSD-FL-269 as follows:

Specific Condition 23 - Sulfur Dioxide (SO_2) emissions: SO_2 emissions shall be limited by firing ~~pipeline~~ natural gas with a ~~(~~ total sulfur content less than 20 grains per 100 standard cubic foot~~)~~ as determined and provided by the natural gas pipeline transmission company. Compliance with this requirement in conjunction with implementation of the Custom Fuel Monitoring Schedule in Specific Condition 44 will demonstrate compliance with the applicable NSPS SO_2 emissions limitations from the duct burner or the combustion turbine.
{For informational purposes, annual SO_2 emissions will be up to 105 TPY} [40CFR60 Subpart GG and Rules 62-4.070, 62-212.400, and 62-204.800(7), F.A.C.]

3. **Reduction of Multiple Load Testing for NSPS Subpart GG:** ***Pursuant to guidance recently issued by EPA, initial testing at 4 operating loads for NSPS Subpart GG is not necessary if CEMs are used for compliance. Testing of the Smith combustion turbines will take place at maximum CT load in lieu of 4 loads since CEMS will be used for continuous compliance to the NOx standards.***

Department Response: CEMS will be used for continuous compliance with the NO_x standards. Based on the guidance given in the EPA memo dated May, 26 2000, Gulf Power is hereby authorized to test at a single load in lieu of the four 4 loads. Refer to Appendix GG, attached.

4. **RATA Test Results in lieu of Method 20:** ***Pursuant to guidance recently issued by EPA, RATA NO_x test results of greater than 3 hours of data may be used in lieu of Method 20 as long as the CEMS are calibrated in accordance with the procedure in Section 6.2.3. of Method 20. Initial and annual NOx compliance tests at Plant Smith will be conducted using EPA Reference Method 7E in lieu of Method 20. Calibration must meet Section 6.2.3. of Method 20 and greater than 3 hours of data must be used.***

Department Response: Gulf Power is hereby authorized to test (initial and annual) for NOx emissions based on EPA reference Method 7E instead of Method 20. Refer to Specific Condition 29 (3rd bullet) below and to Appendix GG, attached.

- EPA Reference Method 20 "Determination of Oxides of Nitrogen Oxide, Sulfur Dioxide and Diluent Emissions from Stationary Gas Turbines" or EPA Reference Method 7 E "Determination of Nitrogen Oxide Emissions From Stationary Sources". Initial test only for compliance with 40CFR60 Subpart GG, Da. Initial (only) NO_X compliance test for the duct burners (Specific Condition 20) shall be accomplished via testing with duct burners "on" as compared to "off" and computing the difference.

  Annual compliance with the applicable NO_X emissions standards shall also be demonstrated with valid data collected by the required CEM systems during the required annual RATA at permitted capacity. Continuous compliance shall be demonstrated as specified in Specific Condition 30. [Rule 62-212.400(BACT) and 62-297.310(7)(a)4., F.A.C.]

A copy of this letter and attached Appendix GG shall be filed with the referenced permit and shall become part of the permit. This permitting decision is issued pursuant to Chapter 403, Florida Statutes.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above. Mediation is not available in this proceeding.

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542 F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in Section 120.542(2) F.S., and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

This permitting decision is final and effective on the date filed with the clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition pursuant to Rule 62-110.106, F.A.C., and the petition conforms to the content requirements of Rules 28-106.201 and 28-106.301, F.A.C. Upon timely filing of a petition or a request for extension of time, this order will not be effective until further order of the Department.

Any party to this permitting decision (order) has the right to seek judicial review of it under section 120.68 of the Florida Statutes, by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida

Howard L. Rhodes, Director
Division of Air Resources
Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this PERMIT MODIFICATION was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 2/7/02 to the person(s) listed:

Robert G. Moore, V.P.*
Sandra Veazey, NWD
Buck Oven, PPS

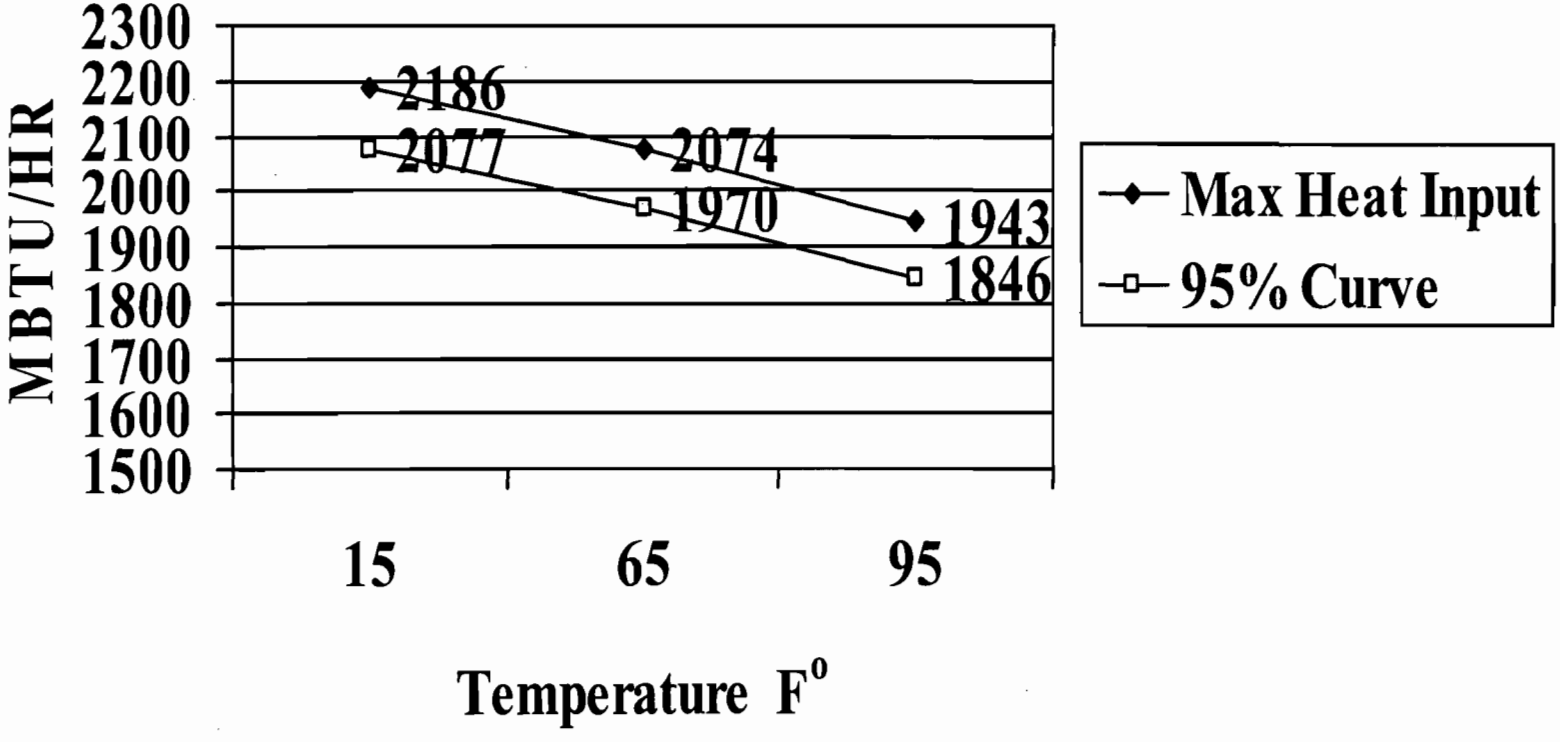
Clerk Stamp

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

Victoria Gibson February 7, 2002
(Clerk) (Date)

Manufacturer's Curve for Heat Input

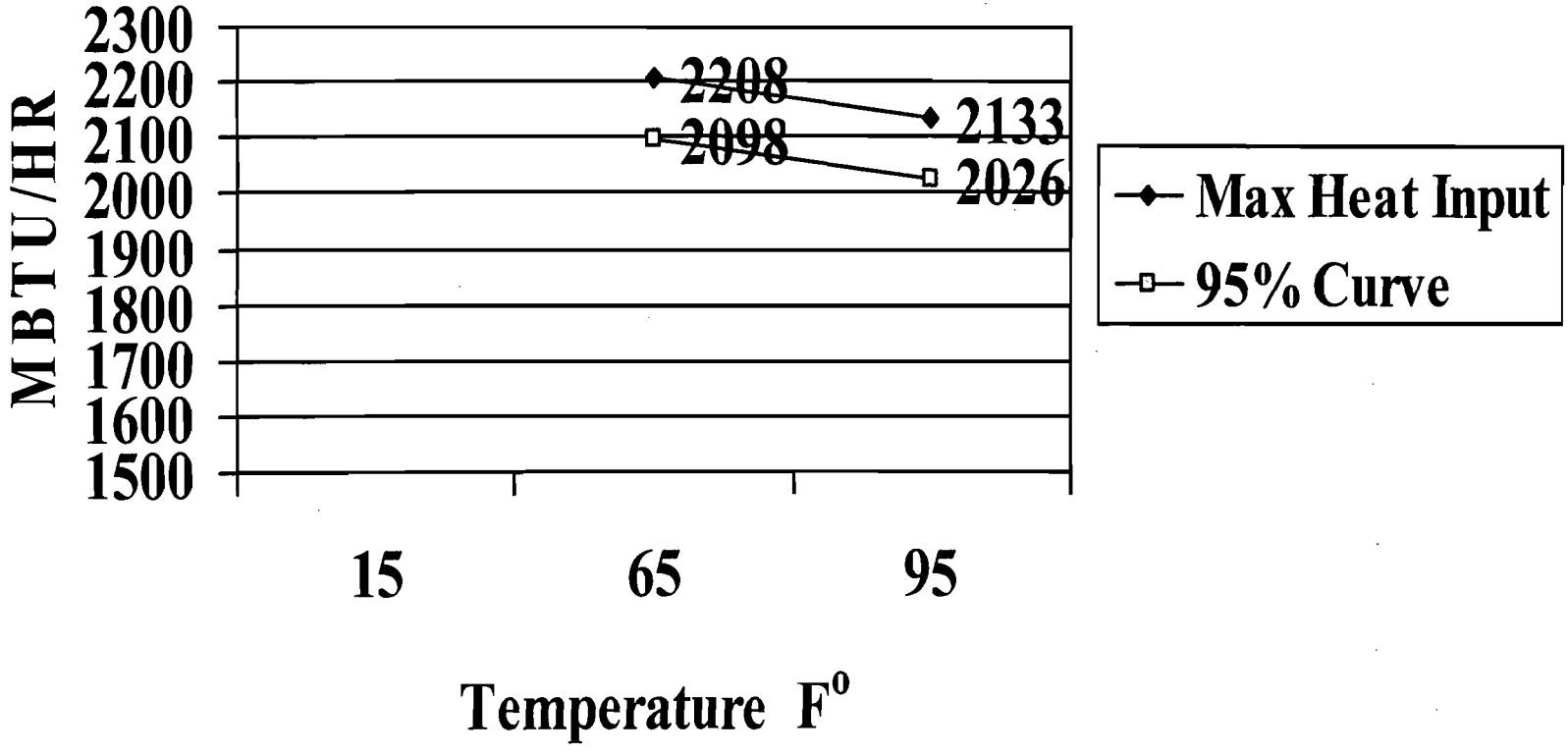
Smith Unit 4 & 5 Heat Input
Normal Mode (CT+DB)
100-95% Testing Curve



Smith Unit 4 & 5 Heat Input

PA Mode

100-95% Testing Curve



Appendix F

Field Notes and Raw Data

Unit 4

(Turbine/Duct Mode)

Plant Smith

Unit 4

Turbine and Duct Burner

Date of Test: March 21, 2002

Run #	Heat Input MMBTU/Hour	NOx (lb/Hour)	NOx Standard (lb/hour)	VOC (ppm)	VOC Standard (ppm)	CO (ppm)	CO Standard (ppm)
1	2056.499	69.6	82.9	0.16	4.00	0.98	16.00
2	2079.813	66.9	82.9	0.15	4.00	1.31	16.00
3	2082.882	67.0	82.9	0.15	4.00	1.34	16.00
Average:	**2073.065**	**67.8**	**82.9**	**0.15**	**4.00**	**1.21**	**16.00**

*Note: The VOC and CO concentrations have been corrected to 15% O_2.

Smith Unit 4
Heat Rate Spreadsheet
(Turbine and Duct Burner)

Run Number	1	2	3	4	5	6	7	8	9
Run Date	3/21/2002	3/21/2002	3/21/2002	N/A	N/A	N/A	N/A	N/A	N/A
Run Time	16:38	19:30	21:05	N/A	N/A	N/A	N/A	N/A	N/A
Heat Value (btu/cf)	1033	1033	1033	N/A	N/A	N/A	N/A	N/A	N/A
Ambient Temerature (F)	72	69	64	N/A	N/A	N/A	N/A	N/A	N/A
Average Generation (MW)	174	175	176	N/A	N/A	N/A	N/A	N/A	N/A
CT Fuel Flow (scfh)	20187.279	20350.720	20392.689	N/A	N/A	N/A	N/A	N/A	N/A
Duct Burner Flow (scfh)	23388.770	24127.140	24076.328	N/A	N/A	N/A	N/A	N/A	N/A
Corrected CT Flow (scfh)	1715919	1729811	1733379	N/A	N/A	N/A	N/A	N/A	N/A
Corrected DB Flow (scfh)	274884	283561	282964	N/A	N/A	N/A	N/A	N/A	N/A
Heat Rate (mmbtu/hr)	2056.4987	2079.8139	2082.8821	N/A	N/A	N/A	N/A	N/A	N/A

Average Heat Rate **2073.0649 mmbtu/hr**

Smith 4
Turbine +
Duct Burne

	Date/Time	Cylinder	AnalogInp	Gas	Type	Value	Expected	Pass
	21-Feb-2002 14:10	ALM 047716 C	CO2/A	CO2	High	9.065	9.050	Pass
	21-Feb-2002 14:19	ALM042254 C	NOx/A	NOx	Zero	0.01	0.00	Pass
	21-Feb-2002 14:19	ALM042254 C	CO2/A	CO2	Mid	5.543	5.560	Pass
	21-Feb-2002 14:24	ALM 003653 N	NOx/A	NOx	High	18.17	18.10	Pass
	21-Feb-2002 14:31	AAL 13953 NO	NOx/A	NOx	Mid	11.03	11.10	Pass
	[redacted]-Feb-2002 14:31	AAL 13953 NO	CO2/A	CO2	Zero	0.024	0.000	Pass
	[redacted]Feb-2002 14:52	AAL 13953 NO	NOx/A	NOx	Mid	11.07	11.10	Pass
8	21-Feb-2002 14:52	AAL 13953 NO	CO2/A	CO2	Zero	0.081	0.000	Pass
9	21-Feb-2002 14:56	ALM042254 C	NOx/A	NOx	Zero	0.03	0.00	Pass
10	21-Feb-2002 14:56	ALM042254 C	CO2/A	CO2	Mid	5.560	5.560	Pass
11	21-Feb-2002 16:20	AAL 13953 NO	NOx/A	NOx	Mid	10.91	11.10	Pass
12	21-Feb-2002 16:20	AAL 13953 NO	CO2/A	CO2	Zero	0.127	0.000	Pass
13	21-Feb-2002 16:26	ALM042254 C	NOx/A	NOx	Zero	0.01	0.00	Pass
14	21-Feb-2002 16:26	ALM042254 C	CO2/A	CO2	Mid	5.604	5.560	Pass
15	21-Feb-2002 17:44	AAL 13953 NO	NOx/A	NOx	Mid	10.94	11.10	Pass
16	21-Feb-2002 17:44	AAL 13953 NO	CO2/A	CO2	Zero	0.093	0.000	Pass
17	21-Feb-2002 17:49	ALM042254 C	NOx/A	NOx	Zero	0.03	0.00	Pass
18	21-Feb-2002 17:49	ALM042254 C	CO2/A	CO2	Mid	5.578	5.560	Pass
19	21-Feb-2002 17:59	AAL9742 CO/O	CO/Xirect	CO	Zero	-0.04	0.00	Pass
20	21-Feb-2002 17:59	AAL9742 CO/O	O2/Xirect	O2	Low	0.037	0.000	Pass
21	21-Feb-2002 18:11	CC19112 O2-M	O2/Xct	O2	Mid	10.067	10.100	Pass
22	21-Feb-2002 18:19	T-007920 O2-H	O2/Xct	O2	High	20.818	20.900	Pass
23	21-Feb-2002 18:34	CC7076 CO-M	CO/X	CO	Mid	25.42	25.41	Pass
24	21-Feb-2002 18:37	XCO13169B C	CO/Xirect	CO	High	48.59	48.10	Pass
25	21-Feb-2002 18:53	AAL003653 C	CO/Xero	CO	Zero	1.56	0.00	Pass
26	21-Feb-2002 18:57	AAL003653 C	CO/Xero	CO	Zero	0.02	0.00	Pass
27	21-Feb-2002 18:57	AAL003653 C	O2/Xero	O2	Low	0.061	0.000	Pass
28	21-Feb-2002 19:04	CC7076 CO-M	CO/X	CO	Mid	25.32	25.41	Pass
29	21-Feb-2002 19:08	CC19112 O2-M	O2/X	O2	Mid	10.092	10.100	Pass
30	21-Feb-2002 20:36	AAL 13953 NO	NOx/A	NOx	Mid	11.01	11.10	Pass
31	[redacted]-Feb-2002 20:36	AAL 13953 NO	CO2/A	CO2	Zero	0.090	0.000	Pass
[redacted]	[redacted]-Feb-2002 20:42	ALM042254 C	NOx/A	NOx	Zero	0.07	0.00	Pass
33	[redacted]-Feb-2002 20:42	ALM042254 C	CO2/A	CO2	Mid	5.573	5.560	Pass
34	21-Feb-2002 20:48	AAL003653 C	CO/Xero	CO	Zero	0.04	0.00	Pass
35	21-Feb-2002 20:48	AAL003653 C	O2/Xero	O2	Low	0.043	0.000	Pass
36	21-Feb-2002 20:52	CC7076 CO-M	CO/X	CO	Mid	25.30	25.41	Pass
37	21-Feb-2002 20:54	CC19112 O2-M	O2/X	O2	Mid	10.067	10.100	Pass
38	21-Feb-2002 22:11	AAL 13953 NO	NOx/A	NOx	Mid	10.97	11.10	Pass
39	21-Feb-2002 22:11	AAL 13953 NO	CO2/A	CO2	Zero	0.056	0.000	Pass
40	21-Feb-2002 22:17	ALM042254 C	NOx/A	NOx	Zero	0.02	0.00	Pass
41	21-Feb-2002 22:17	ALM042254 C	CO2/A	CO2	Mid	5.546	5.560	Pass
42	21-Feb-2002 22:21	AAL003653 C	CO/Xero	CO	Zero	0.04	0.00	Pass
43	21-Feb-2002 22:21	AAL003653 C	O2/Xero	O2	Low	0.043	0.000	Pass
44	21-Feb-2002 22:23	CC7076 CO-M	CO/X	CO	Mid	25.30	25.41	Pass
45	21-Feb-2002 22:25	CC19112 O2-M	O2/X	O2	Mid	10.098	10.100	Pass
46	21-Feb-2002 23:08	AAL 13953 NO	NOx/A	NOx	Mid	10.99	11.10	Pass
47	21-Feb-2002 23:08	AAL 13953 NO	CO2/A	CO2	Zero	0.051	0.000	Pass
48	21-Feb-2002 23:14	ALM042254 C	NOx/A	NOx	Zero	0.03	0.00	Pass
49	21-Feb-2002 23:14	ALM042254 C	CO2/A	CO2	Mid	5.531	5.560	Pass
50	21-Feb-2002 23:55	AAL 13953 NO	NOx/A	NOx	Mid	11.02	11.10	Pass
51	21-Feb-2002 23:55	AAL 13953 NO	CO2/A	CO2	Zero	0.039	0.000	Pass
52	22-Feb-2002 00:01	ALM042254 C	NOx/A	NOx	Zero	0.01	0.00	Pass
53	22-Feb-2002 00:01	ALM042254 C	CO2/A	CO2	Mid	5.524	5.560	Pass
54	22-Feb-2002 08:52	AAL 13953 NO	NOx/A	NOx	Mid	10.95	11.10	Pass
55	22-Feb-2002 08:52	AAL 13953 NO	CO2/A	CO2	Zero	0.071	0.000	Pass
56	22-Feb-2002 08:59	ALM042254 C	NOx/A	NOx	Zero	0.05	0.00	Pass
[redacted]	[redacted]-Feb-2002 08:59	ALM042254 C	CO2/A	CO2	Mid	5.592	5.560	Pass
[redacted]	[redacted]-Feb-2002 09:37	AAL 13953 NO	NOx/A	NOx	Mid	11.02	11.10	Pass
59	22-Feb-2002 09:37	AAL 13953 NO	CO2/A	CO2	Zero	0.034	0.000	Pass
60	22-Feb-2002 09:43	ALM042254 C	NOx/A	NOx	Zero	0.04	0.00	Pass
61	22-Feb-2002 09:43	ALM042254 C	CO2/A	CO2	Mid	5.546	5.560	Pass

62	22-Feb-2002	10:21	AAL 13953	NOxNOx/A	NOx	Mid	11.07	11.10 Pass
63	22-Feb-2002	10:21	AAL 13953	NOxCO2/A	CO2	Zero	0.007	0.000 Pass
64	22-Feb-2002	10:27	ALM042254	CCNOx/A	NOx	Zero	0.08	0.00 Pass
65	22-Feb-2002	10:27	ALM042254	CCCO2/A	CO2	Mid	5.578	5.560 Pass
66	22-Feb-2002	11:11	AAL 13953	NOxNOx/A	NOx	Mid	11.09	11.10 Pass
67	22-Feb-2002	11:11	AAL 13953	NOxCO2/A	CO2	Zero	0.046	0.000 Pass
[redacted]	-Feb-2002	11:17	ALM042254	CCNOx/A	NOx	Zero	0.04	0.00 Pass
[redacted]	-Feb-2002	11:17	ALM042254	CCCO2/A	CO2	Mid	5.526	5.560 Pass

Smith 4 - Turbine + Duct Burner - Gas Rata (Run 1)

Record#	DATE	TIME	GEN31	NOXH32	NOXRT33	CO234
1	03/21/2002	161400	167.850	11.100	0.036	3.890
2	03/21/2002	161500	167.810	11.000	0.035	3.930
3	03/21/2002	161600	168.430	11.200	0.036	3.920
4	03/21/2002	161700	168.790	11.200	0.037	3.910
5	03/21/2002	161800	167.850	11.100	0.036	3.880
6	03/21/2002	161900	168.480	11.300	0.036	3.980
7	03/21/2002	162000	168.240	11.400	0.036	3.940
8	03/21/2002	162100	168.300	11.300	0.036	3.910
9	03/21/2002	162200	167.670	11.000	0.036	3.880
10	03/21/2002	162300	167.850	11.400	0.036	3.890
11	03/21/2002	162400	168.390	11.100	0.036	3.950
12	03/21/2002	162500	168.050	10.500	0.035	3.820
13	03/21/2002	162600	168.750	10.500	0.035	3.790
14	03/21/2002	162700	168.010	10.800	0.036	3.810
15	03/21/2002	162800	168.670	10.600	0.035	3.810
16	03/21/2002	162900	168.510	10.700	0.035	3.800
17	03/21/2002	163000	168.820	10.200	0.034	3.760
18	03/21/2002	163100	170.260	9.400	0.034	3.730
19	03/21/2002	163200	172.510	10.000	0.034	3.700
20	03/21/2002	163300	172.950	10.000	0.034	3.720
21	03/21/2002	163400	173.400	10.100	0.034	3.790
22	03/21/2002	163500	172.850	10.200	0.034	3.760
23	03/21/2002	163600	173.290	10.200	0.034	3.800
24	03/21/2002	163700	173.390	10.400	0.035	3.870
25	03/21/2002	163800	173.500	11.100	0.035	3.910
26	03/21/2002	163900	173.480	11.200	0.035	3.980
27	03/21/2002	164000	173.670	11.300	0.036	3.980
28	03/21/2002	164100	174.490	11.300	0.036	4.010
29	03/21/2002	164200	173.670	11.300	0.035	4.070
30	03/21/2002	164300	173.570	11.300	0.035	4.010
31	03/21/2002	164400	173.740	11.400	0.036	4.010
32	03/21/2002	164500	173.510	11.400	0.035	4.030
33	03/21/2002	164600	173.750	11.100	0.035	4.050
34	03/21/2002	164700	173.700	11.200	0.035	3.990
35	03/21/2002	164800	174.150	11.100	0.036	3.950
36	03/21/2002	164900	173.620	11.100	0.036	3.930
37	03/21/2002	165000	173.720	10.900	0.035	4.020
38	03/21/2002	165100	174.320	11.200	0.035	4.010
39	03/21/2002	165200	173.000	10.400	0.035	3.830
40	03/21/2002	165300	173.280	9.800	0.033	3.700
41	03/21/2002	165400	173.400	9.600	0.033	3.660
42	03/21/2002	165500	173.660	9.400	0.033	3.650
43	03/21/2002	165600	173.080	9.400	0.033	3.630
44	03/21/2002	165700	173.630	9.500	0.034	3.570
45	03/21/2002	165800	173.490	9.500	0.032	3.670
46	03/21/2002	165900	173.720	9.400	0.033	3.650
47	03/21/2002	170000	173.860	9.200	0.033	3.650
48	03/21/2002	170100	173.810	9.700	0.033	3.680
49	03/21/2002	170200	174.110	9.500	0.032	3.690
50	03/21/2002	170300	173.320	9.300	0.033	3.630
51	03/21/2002	170400	173.520	9.200	0.032	3.630
52	03/21/2002	170500	173.880	9.100	0.033	3.610
53	03/21/2002	170600	173.520	9.500	0.032	3.640
54	03/21/2002	170700	174.020	9.500	0.034	3.640
55	03/21/2002	170800	173.440	9.500	0.033	3.630
56	03/21/2002	170900	173.890	9.100	0.034	3.560
57	03/21/2002	171000	173.640	9.000	0.033	3.700
58	03/21/2002	171100	173.650	9.100	0.032	3.660

59	03/21/2002	171200	173.890	9.600	0.033	3.640
60	03/21/2002	171300	173.190	9.600	0.032	3.710
61	/ /					
62	/ /	AVE	172.017	10.358	0.034	3.810

Fuel Flow - 20039 SCFH

Smith 4 - Turbine + Duct Burner - Gas RATA (Run 2)

Record#	DATE	TIME	GEN31	NOXH32	NOXRT33	CO234
1	03/21/2002	173800	174.230	9.500	0.033	3.620
2	03/21/2002	173900	174.440	9.300	0.033	3.670
3	03/21/2002	174000	173.800	9.800	0.033	3.650
4	03/21/2002	174100	174.430	9.500	0.032	3.680
5	03/21/2002	174200	173.630	9.400	0.032	3.690
6	03/21/2002	174300	173.960	9.600	0.033	3.630
7	03/21/2002	174400	174.020	9.500	0.033	3.640
8	03/21/2002	174500	174.250	9.100	0.033	3.650
9	03/21/2002	174600	174.290	9.200	0.033	3.630
10	03/21/2002	174700	174.660	9.700	0.033	3.700
11	03/21/2002	174800	174.230	9.600	0.033	3.670
12	03/21/2002	174900	174.790	9.600	0.033	3.700
13	03/21/2002	175000	174.500	9.600	0.033	3.660
14	03/21/2002	175100	174.650	9.600	0.034	3.670
15	03/21/2002	175200	174.070	9.600	0.034	3.650
16	03/21/2002	175300	174.310	10.000	0.034	3.750
17	03/21/2002	175400	174.300	10.600	0.034	3.830
18	03/21/2002	175500	173.830	10.900	0.035	3.860
19	03/21/2002	175600	174.240	10.900	0.035	3.920
20	03/21/2002	175700	174.100	10.500	0.035	3.930
21	03/21/2002	175800	174.100	10.500	0.035	3.920
22	03/21/2002	175900	174.590	10.800	0.036	3.890
23	03/21/2002	180000	174.410	10.900	0.035	3.950
24	03/21/2002	180100	174.380	11.100	0.035	4.030
25	03/21/2002	180200	174.410	11.400	0.036	4.060
26	03/21/2002	180300	174.420	11.500	0.035	4.050
27	03/21/2002	180400	174.210	11.100	0.035	4.010
28	03/21/2002	180500	173.830	11.500	0.036	4.020
29	03/21/2002	180600	174.120	11.100	0.035	4.010
30	03/21/2002	180700	173.950	11.000	0.036	4.010
31	03/21/2002	180800	174.300	11.400	0.035	4.030
32	03/21/2002	180900	174.680	11.200	0.036	4.030
33	03/21/2002	181000	173.850	11.500	0.036	4.040
34	03/21/2002	181100	174.970	11.300	0.036	3.980
35	03/21/2002	181200	174.240	11.300	0.036	4.010
36	03/21/2002	181300	173.750	11.200	0.035	4.040
37	03/21/2002	181400	174.600	11.200	0.035	4.040
38	03/21/2002	181500	174.220	11.300	0.036	4.030
39	03/21/2002	181600	174.130	11.200	0.036	4.070
40	03/21/2002	181700	173.850	11.400	0.035	4.050
41	03/21/2002	181800	174.000	11.500	0.036	4.020
42	03/21/2002	181900	174.610	11.400	0.036	4.010
43	03/21/2002	182000	174.810	11.600	0.036	4.050
44	03/21/2002	182100	174.130	11.500	0.036	4.010
45	03/21/2002	182200	173.730	11.500	0.036	3.990
46	03/21/2002	182300	174.280	11.000	0.036	4.000
47	03/21/2002	182400	174.340	11.600	0.036	4.020
48	03/21/2002	182500	174.280	11.200	0.035	4.030
49	03/21/2002	182600	174.640	11.700	0.035	4.070
50	03/21/2002	182700	173.850	11.200	0.036	4.000
51	03/21/2002	182800	174.150	11.100	0.035	4.020
52	03/21/2002	182900	174.250	11.400	0.035	4.050
53	03/21/2002	183000	174.240	11.700	0.036	4.020
54	03/21/2002	183100	174.830	11.500	0.036	3.990
55	03/21/2002	183200	174.490	11.600	0.036	4.060
56	03/21/2002	183300	174.980	11.500	0.035	4.060
57	03/21/2002	183400	174.520	11.400	0.036	4.020
58	03/21/2002	183500	175.110	11.300	0.036	3.970

59	03/21/2002	183600	174.630	11.600	0.035	4.120
60	03/21/2002	183700	174.010	11.300	0.036	4.040
61	/ /					
62	/ /	AVE	174.294	10.800	0.035	3.917

Fuel Flow - ~~200~~ 20207 SCFH

Smith 4 - Turbine & Duct Burner - Gas RATA (Run 3)

Record#	DATE	TIME	GEN31	NOXH32	NOXRT33	CO234
1	03/21/2002	203000	174.320	11.600	0.037	4.010
2	03/21/2002	203100	173.320	12.000	0.038	4.020
3	03/21/2002	203200	173.950	11.600	0.037	4.010
4	03/21/2002	203300	174.290	11.700	0.036	3.990
5	03/21/2002	203400	173.680	11.700	0.038	3.920
6	03/21/2002	203500	174.270	11.600	0.037	3.980
7	03/21/2002	203600	174.380	11.900	0.037	4.010
8	03/21/2002	203700	173.560	12.100	0.037	3.960
9	03/21/2002	203800	174.480	12.100	0.038	3.990
10	03/21/2002	203900	174.340	11.400	0.037	4.010
11	03/21/2002	204000	174.240	11.600	0.037	3.950
12	03/21/2002	204100	174.240	11.700	0.036	4.040
13	03/21/2002	204200	174.290	11.400	0.037	4.000
14	03/21/2002	204300	174.070	11.600	0.038	3.940
15	03/21/2002	204400	174.190	11.700	0.037	3.980
16	03/21/2002	204500	174.270	11.800	0.036	4.090
17	03/21/2002	204600	174.360	11.800	0.037	4.040
18	03/21/2002	204700	174.390	12.100	0.037	4.000
19	03/21/2002	204800	173.790	11.800	0.037	4.020
20	03/21/2002	204900	173.710	12.200	0.037	4.030
21	03/21/2002	205000	174.250	12.100	0.038	4.020
22	03/21/2002	205100	174.460	12.000	0.038	4.020
23	03/21/2002	205200	174.050	11.900	0.036	4.050
24	03/21/2002	205300	173.880	11.800	0.037	3.950
25	03/21/2002	205400	174.770	11.900	0.037	4.030
26	03/21/2002	205500	174.330	11.800	0.037	4.050
27	03/21/2002	205600	175.020	12.200	0.037	4.010
28	03/21/2002	205700	174.900	11.800	0.037	4.060
29	03/21/2002	205800	174.970	11.800	0.037	3.990
30	03/21/2002	205900	174.710	11.800	0.036	4.090
31	03/21/2002	210000	175.430	11.900	0.037	4.010
32	03/21/2002	210100	174.980	11.700	0.037	4.030
33	03/21/2002	210200	174.790	11.700	0.037	3.980
34	03/21/2002	210300	174.790	11.800	0.038	3.950
35	03/21/2002	210400	174.330	11.500	0.037	4.090
36	03/21/2002	210500	174.620	11.700	0.037	4.000
37	03/21/2002	210600	175.220	12.100	0.037	4.010
38	03/21/2002	210700	175.450	11.600	0.036	4.070
39	03/21/2002	210800	175.400	12.400	0.038	4.010
40	03/21/2002	210900	175.070	12.100	0.037	4.100
41	03/21/2002	211000	175.130	12.300	0.037	4.070
42	03/21/2002	211100	175.190	12.300	0.037	4.040
43	03/21/2002	211200	174.450	11.700	0.037	3.990
44	03/21/2002	211300	174.740	12.200	0.037	4.030
45	03/21/2002	211400	175.450	11.600	0.037	4.040
46	03/21/2002	211500	175.060	12.000	0.037	3.980
47	03/21/2002	211600	175.000	11.600	0.037	4.010
48	03/21/2002	211700	175.270	12.100	0.037	4.040
49	03/21/2002	211800	175.520	12.100	0.038	4.010
50	03/21/2002	211900	175.930	11.900	0.037	4.030
51	03/21/2002	212000	175.110	11.900	0.037	3.970
52	03/21/2002	212100	175.380	11.300	0.038	3.950
53	03/21/2002	212200	175.970	11.700	0.037	3.980
54	03/21/2002	212300	175.590	11.800	0.037	4.000
55	03/21/2002	212400	176.420	11.400	0.037	4.020
56	03/21/2002	212500	175.730	11.700	0.037	3.980
57	03/21/2002	212600	175.000	11.700	0.037	4.000
58	03/21/2002	212700	175.530	11.500	0.037	4.060

59	03/21/2002	212800	175.970	12.000	0.038	4.010
60	03/21/2002	212900	176.160	11.900	0.036	4.090
61	/ /					
62	/ /	AVE	174.769	11.828	0.037	4.014

Fuel Flow - 20266 SCFH

Unit 4

(Power Augmentation Mode)

Plant Smith

Unit 4

Power Augmentation

Date of Test: April 5, 2002

Run #	Heat Input MMBTU/Hour	NOx (lb/Hour)	NOx Standard (lb/hour)	VOC (ppm)	VOC Standard (ppm)	CO (ppm)	CO Standard (ppm)
1	2106.136	58.5	113.2	1.11	6.00	4.62	23.00
2	1981.548	55.6	113.2	0.22	6.00	4.67	23.00
3	2003.594	55.7	113.2	0.5	6.00	5.05	23.00
Average:	**2030.426**	**56.6**	**113.2**	**0.61**	**6.00**	**4.78**	**23.00**

*Note: The VOC and CO concentrations have been corrected to 15% O_2.

Smith Unit 4
Heat Rate
Power Augmentation

Run Number	1	2	3	4	5	6	7	8	9
Run Date	4/5/2002	4/5/2002	4/5/2002	N/A	N/A	N/A	N/A	N/A	N/A
Run Time	13:20	16:27	18:03	N/A	N/A	N/A	N/A	N/A	N/A
Heat Value (btu/cf)	1034	1034	1034	N/A	N/A	N/A	N/A	N/A	N/A
Ambient Temperature (F)	72	71	66	N/A	N/A	N/A	N/A	N/A	N/A
Average Generation (MW)	184	184	188	N/A	N/A	N/A	N/A	N/A	N/A
CT Fuel Flow (scfh)	20684.902	19256.066	19516.738	N/A	N/A	N/A	N/A	N/A	N/A
Duct Burner Flow (scfh)	23710.492	23792.164	23721.066	N/A	N/A	N/A	N/A	N/A	N/A
Corrected CT Flow (scfh)	1758217	1636766	1658923	N/A	N/A	N/A	N/A	N/A	N/A
Corrected DB Flow (scfh)	278665	279625	278789	N/A	N/A	N/A	N/A	N/A	N/A
Heat Rate (mmbtu/hr)	2106.1353	1981.5474	2003.5939	N/A	N/A	N/A	N/A	N/A	N/A

Average Heat Rate **2030.4255 mmbtu/hr**

Smith 4
Power Aug.

	Date/Time	Cylinder	AnalogInp	Gas	Type	Value	Expected	Pass
	02-Apr-2002 16:54	T-007920	O2-H	O2/X	ct	20.855	20.900	Pass
	02-Apr-2002 16:56	CC19112	O2-M	O2/X	ct	10.067	10.100	Pass
	02-Apr-2002 16:59	AAL003653	CO	O2/X	ero	0.049	0.000	Pass
	02-Apr-2002 17:03	AAL9742	CO/OCO/X		irect	0.12	0.00	Pass
	02-Apr-2002 17:03	AAL9742	CO/O	O2/X	irect	0.031	0.000	Pass
	[illegible]-Apr-2002 17:07	XCO13169B	C	CO/X	irect	48.86	48.10	Pass
	[illegible]-Apr-2002 17:11	CC7076	CO-M	CO/X		25.63	25.41	Pass
8	02-Apr-2002 17:14	CC19112	O2-M	O2/X		10.049	10.100	Pass
9	02-Apr-2002 17:18	CC7076	CO-M	CO/X		25.61	25.41	Pass
10	02-Apr-2002 17:26	AAL003653	CO	CO/X	ero	0.12	0.00	Pass
11	02-Apr-2002 17:26	AAL003653	CO	O2/X	ero	0.012	0.000	Pass
12	02-Apr-2002 17:55	ALM 003653	N	NOx/A		18.11	18.10	Pass
13	02-Apr-2002 18:00	ALM 047716	C	CO2/A		9.084	9.050	Pass
14	02-Apr-2002 18:04	AAL 13953	NO	NOx/A		11.22	11.10	Pass
15	02-Apr-2002 18:04	AAL 13953	NO	CO2/A		0.042	0.000	Pass
16	02-Apr-2002 18:11	ALM042254	CC	NOx/A		0.01	0.00	Pass
17	02-Apr-2002 18:11	ALM042254	CC	CO2/A		5.648	5.560	Pass
18	04-Apr-2002 06:38	T-007920	O2-H	O2/X	ct	20.885	20.900	Pass
19	04-Apr-2002 06:43	CC19112	O2-M	O2/X	ct	10.159	10.100	Pass
20	04-Apr-2002 06:47	AAL003653	CO	O2/X	ero	0.031	0.000	Pass
21	04-Apr-2002 06:51	XCO13169B	C	CO/X	irect	48.76	48.10	Pass
22	04-Apr-2002 07:00	CC7076	CO-M	CO/X		25.51	25.41	Pass
23	04-Apr-2002 07:03	AAL9742	CO/OCO/X		irect	0.04	0.00	Pass
24	04-Apr-2002 07:03	AAL9742	CO/O	O2/X	irect	0.012	0.000	Pass
25	04-Apr-2002 07:07	CC19112	O2-M	O2/X		10.128	10.100	Pass
26	04-Apr-2002 07:13	CC7076	CO-M	CO/X		25.49	25.41	Pass
27	04-Apr-2002 07:16	AAL003653	CO	CO/X	ero	0.06	0.00	Pass
28	04-Apr-2002 07:16	AAL003653	CO	O2/X	ero	0.012	0.000	Pass
29	04-Apr-2002 07:21	ALM 047716	C	CO2/A		9.070	9.050	Pass
30	05-Apr-2002 08:11	T-007920	O2-H	O2/X	ct	20.965	20.900	Pass
31	[illegible]5-Apr-2002 08:14	CC19112	O2-M	O2/X	ct	10.189	10.100	Pass
32	[illegible]-Apr-2002 08:16	AAL003653	CO	O2/X	ero	0.067	0.000	Pass
33	[illegible]5-Apr-2002 08:17	XCO13169B	C	CO/X	irect	48.31	48.10	Pass
34	05-Apr-2002 08:19	CC7076	CO-M	CO/X		25.53	25.41	Pass
35	05-Apr-2002 08:23	AAL9742	CO/OCO/X		irect	0.06	0.00	Pass
36	05-Apr-2002 08:23	AAL9742	CO/O	O2/X	irect	0.031	0.000	Pass
37	05-Apr-2002 08:27	CC19112	O2-M	O2/X		10.147	10.100	Pass
38	05-Apr-2002 08:29	CC7076	CO-M	CO/X		25.47	25.41	Pass
39	05-Apr-2002 08:31	AAL003653	CO	CO/X	ero	0.10	0.00	Pass
40	05-Apr-2002 08:31	AAL003653	CO	O2/X	ero	0.018	0.000	Pass
41	05-Apr-2002 08:38	ALM042254	CC	NOx/A		0.03	0.00	Pass
42	05-Apr-2002 08:38	ALM042254	CC	CO2/A		5.592	5.560	Pass
43	05-Apr-2002 08:44	ALM 047716	C	CO2/A		8.921	9.050	Pass
44	05-Apr-2002 08:50	ALM 003653	N	NOx/A		17.89	18.10	Pass
45	05-Apr-2002 08:54	AAL 13953	NO	NOx/A		10.95	11.10	Pass
46	05-Apr-2002 08:54	AAL 13953	NO	CO2/A		-0.059	0.000	Pass
47	05-Apr-2002 11:40	CC19112	O2-M	O2/X		10.147	10.100	Pass
48	05-Apr-2002 11:42	CC7076	CO-M	CO/X		25.77	25.41	Pass
49	05-Apr-2002 11:47	AAL003653	CO	CO/X	ero	0.20	0.00	Pass
50	05-Apr-2002 11:47	AAL003653	CO	O2/X	ero	0.031	0.000	Pass
51	05-Apr-2002 11:51	AAL 13953	NO	NOx/A		11.11	11.10	Pass
52	05-Apr-2002 11:51	AAL 13953	NO	CO2/A		0.002	0.000	Pass
53	05-Apr-2002 11:58	ALM042254	CC	NOx/A		0.07	0.00	Pass
54	05-Apr-2002 11:58	ALM042254	CC	CO2/A		5.448	5.560	Pass
55	05-Apr-2002 14:25	CC19112	O2-M	O2/X		9.585	10.100	Pass
56	05-Apr-2002 14:29	CC7076	CO-M	CO/X		25.36	25.41	Pass
57	[illegible]5-Apr-2002 14:44	AAL 13953	NO	NOx/A		11.00	11.10	Pass
58	[illegible]5-Apr-2002 14:44	AAL 13953	NO	CO2/A		0.005	0.000	Pass
59	05-Apr-2002 14:46	AAL003653	CO	CO/X	ero	0.04	0.00	Pass
60	05-Apr-2002 14:46	AAL003653	CO	O2/X	ero	0.031	0.000	Pass
61	05-Apr-2002 14:50	ALM042254	CC	NOx/A		0.07	0.00	Pass

32	05-Apr-2002 14:50	ALM042254 CCCO2/A	CO2	Mid	5.580	5.560	Pass
33	05-Apr-2002 15:25	CC19112 O2-MO2/X	O2	Mid	10.018	10.100	Pass
34	05-Apr-2002 15:27	CC7076 CO-M CO/X	CO	Mid	25.36	25.41	Pass
35	05-Apr-2002 15:30	AAL003653 COCO/Xero	CO	Zero	0.04	0.00	Pass
36	05-Apr-2002 15:30	AAL003653 COO2/Xero	O2	Low	0.018	0.000	Pass
37	05-Apr-2002 15:35	AAL 13953 NO›NOx/A	NOx	Mid	10.93	11.10	Pass
38	05-Apr-2002 15:35	AAL 13953 NO›CO2/A	CO2	Zero	0.007	0.000	Pass
39	05-Apr-2002 15:39	ALM042254 CCNOx/A	NOx	Zero	0.08	0.00	Pass
70	05-Apr-2002 15:39	ALM042254 CCCO2/A	CO2	Mid	5.580	5.560	Pass
71	05-Apr-2002 17:36	CC7076 CO-M CO/X	CO	Mid	25.61	25.41	Pass
72	05-Apr-2002 17:40	AAL003653 COCO/Xero	CO	Zero	0.12	0.00	Pass
73	05-Apr-2002 17:40	AAL003653 COO2/Xero	O2	Low	0.006	0.000	Pass
74	05-Apr-2002 17:46	AAL 13953 NO›NOx/A	NOx	Mid	11.05	11.10	Pass
75	05-Apr-2002 17:46	AAL 13953 NO›CO2/A	CO2	Zero	-0.005	0.000	Pass
76	05-Apr-2002 17:51	ALM042254 CCNOx/A	NOx	Zero	0.04	0.00	Pass
77	05-Apr-2002 17:51	ALM042254 CCCO2/A	CO2	Mid	5.504	5.560	Pass
78	05-Apr-2002 17:54	CC19112 O2-MO2/X	O2	Mid	10.012	10.100	Pass
79	05-Apr-2002 19:06	CC19112 O2-MO2/X	O2	Mid	10.049	10.100	Pass
80	05-Apr-2002 19:08	CC7076 CO-M CO/X	CO	Mid	25.57	25.41	Pass
81	05-Apr-2002 19:10	AAL003653 COCO/Xero	CO	Zero	0.12	0.00	Pass
82	05-Apr-2002 19:10	AAL003653 COO2/Xero	O2	Low	0.031	0.000	Pass
83	05-Apr-2002 19:15	AAL 13953 NO›NOx/A	NOx	Mid	11.08	11.10	Pass
84	05-Apr-2002 19:15	AAL 13953 NO›CO2/A	CO2	Zero	0.024	0.000	Pass
85	05-Apr-2002 19:19	ALM042254 CCNOx/A	NOx	Zero	0.03	0.00	Pass
86	05-Apr-2002 19:19	ALM042254 CCCO2/A	CO2	Mid	5.490	5.560	Pass

Smith 3A PowAug Run 1 (4)

Record#	DATE	TIME	GAS31	GEN32	CTGAS33	STEAM34
1	04/05/2002	132000	23703.000	184.690	20647.000	80.620
2	04/05/2002	132100	23699.000	184.490	20656.000	80.960
3	04/05/2002	132200	23674.000	184.240	20683.000	81.040
4	04/05/2002	132300	23749.000	184.550	20611.000	80.980
5	04/05/2002	132400	23638.000	184.030	20711.000	80.710
6	04/05/2002	132500	23707.000	184.500	20627.000	80.800
7	04/05/2002	132600	23680.000	184.850	20688.000	81.110
8	04/05/2002	132700	23695.000	184.520	20752.000	80.990
9	04/05/2002	132800	23656.000	184.560	20747.000	80.880
10	04/05/2002	132900	23666.000	185.290	20658.000	80.720
11	04/05/2002	133000	23674.000	184.680	20692.000	81.000
12	04/05/2002	133100	23688.000	184.420	20676.000	80.740
13	04/05/2002	133200	23688.000	184.430	20769.000	80.920
14	04/05/2002	133300	23705.000	184.900	20739.000	81.020
15	04/05/2002	133400	23680.000	184.460	20604.000	80.890
16	04/05/2002	133500	23681.000	183.670	20606.000	80.840
17	04/05/2002	133600	23714.000	183.290	20552.000	80.620
18	04/05/2002	133700	23732.000	184.380	20633.000	81.010
19	04/05/2002	133800	23718.000	184.270	20706.000	80.960
20	04/05/2002	133900	23755.000	185.270	20819.000	80.890
21	04/05/2002	134000	23740.000	184.620	20740.000	80.680
22	04/05/2002	134100	23736.000	184.360	20642.000	80.850
23	04/05/2002	134200	23705.000	184.420	20741.000	80.890
24	04/05/2002	134300	23655.000	184.300	20676.000	80.920
25	04/05/2002	134400	23762.000	184.350	20652.000	80.900
26	04/05/2002	134500	23772.000	184.270	20680.000	80.720
27	04/05/2002	134600	23747.000	183.970	20715.000	80.940
28	04/05/2002	134700	23689.000	184.210	20706.000	80.930
29	04/05/2002	134800	23649.000	183.540	20734.000	80.760
30	04/05/2002	134900	23715.000	184.460	20649.000	80.970
31	04/05/2002	135000	23699.000	184.340	20758.000	80.790
32	04/05/2002	135100	23692.000	184.340	20639.000	80.780
33	04/05/2002	135200	23649.000	183.960	20619.000	80.930
34	04/05/2002	135300	23770.000	184.200	20754.000	80.760
35	04/05/2002	135400	23672.000	184.650	20701.000	81.120
36	04/05/2002	135500	23767.000	185.740	20809.000	80.850
37	04/05/2002	135600	23717.000	184.500	20685.000	80.940
38	04/05/2002	135700	23740.000	184.840	20751.000	80.750
39	04/05/2002	135800	23742.000	184.150	20622.000	80.690
40	04/05/2002	135900	23653.000	184.900	20700.000	80.820
41	04/05/2002	140000	23662.000	184.580	20666.000	80.850
42	04/05/2002	140100	23770.000	184.770	20719.000	80.750
43	04/05/2002	140200	23702.000	184.040	20645.000	80.600
44	04/05/2002	140300	23759.000	184.320	20566.000	80.760
45	04/05/2002	140400	23705.000	184.330	20729.000	80.670
46	04/05/2002	140500	23758.000	184.130	20713.000	80.770
47	04/05/2002	140600	23726.000	184.740	20774.000	80.940
48	04/05/2002	140700	23710.000	184.440	20563.000	80.710
49	04/05/2002	140800	23709.000	184.810	20703.000	81.020
50	04/05/2002	140900	23674.000	184.460	20589.000	80.580
51	04/05/2002	141000	23724.000	184.170	20668.000	80.770
52	04/05/2002	141100	23687.000	183.830	20714.000	80.700
53	04/05/2002	141200	23739.000	184.060	20699.000	80.840
54	04/05/2002	141300	23700.000	183.640	20756.000	80.750
55	04/05/2002	141400	23759.000	184.290	20695.000	80.990
56	04/05/2002	141500	23758.000	184.150	20631.000	80.850
57	04/05/2002	141600	23678.000	184.460	20724.000	80.660
58	04/05/2002	141700	23676.000	183.480	20612.000	80.900

59	04/05/2002	141800	23757.000	183.620	20666.000	80.720
60	04/05/2002	141900	23716.000	184.240	20758.000	80.770
61	04/05/2002	142000	23798.000	183.280	20640.000	80.720
62	/ /					
63	/ /	AVE	23710.492	184.352	20684.902	80.836

Smith 3A (4) Power Avg Run 2

Record#	DATE	TIME	GAS31	GEN32	CTGAS33	STEAM34
1	04/05/2002	162700	23802.000	183.290	19076.000	80.280
2	04/05/2002	162800	23825.000	183.890	19146.000	80.530
3	04/05/2002	162900	23771.000	183.640	19295.000	80.620
4	04/05/2002	163000	23803.000	183.860	19254.000	80.480
5	04/05/2002	163100	23808.000	184.080	19126.000	80.630
6	04/05/2002	163200	23835.000	184.680	19202.000	80.510
7	04/05/2002	163300	23781.000	184.340	19136.000	80.680
8	04/05/2002	163400	23816.000	183.950	19229.000	80.800
9	04/05/2002	163500	23842.000	184.270	19175.000	80.740
10	04/05/2002	163600	23785.000	184.090	19261.000	80.570
11	04/05/2002	163700	23786.000	183.990	19195.000	80.510
12	04/05/2002	163800	23798.000	183.820	19068.000	80.700
13	04/05/2002	163900	23848.000	183.470	19188.000	80.650
14	04/05/2002	164000	23786.000	184.260	19268.000	80.400
15	04/05/2002	164100	23740.000	183.200	19192.000	80.390
16	04/05/2002	164200	23780.000	183.800	19177.000	80.470
17	04/05/2002	164300	23778.000	184.330	19255.000	80.670
18	04/05/2002	164400	23782.000	183.920	19250.000	80.400
19	04/05/2002	164500	23749.000	184.130	19072.000	80.760
20	04/05/2002	164600	23813.000	184.290	19245.000	80.280
21	04/05/2002	164700	23774.000	184.250	19115.000	80.590
22	04/05/2002	164800	23828.000	184.190	19202.000	80.640
23	04/05/2002	164900	23819.000	184.460	19248.000	80.610
24	04/05/2002	165000	23794.000	184.820	19290.000	80.610
25	04/05/2002	165100	23824.000	184.840	19291.000	80.560
26	04/05/2002	165200	23777.000	184.860	19287.000	80.790
27	04/05/2002	165300	23772.000	183.850	19169.000	80.600
28	04/05/2002	165400	23776.000	183.970	19312.000	80.480
29	04/05/2002	165500	23773.000	183.650	19220.000	80.440
30	04/05/2002	165600	23812.000	183.730	19264.000	80.450
31	04/05/2002	165700	23825.000	183.080	19122.000	80.390
32	04/05/2002	165800	23842.000	183.820	19260.000	80.580
33	04/05/2002	165900	23818.000	184.590	19325.000	80.550
34	04/05/2002	170000	23824.000	184.100	19202.000	80.600
35	04/05/2002	170100	23794.000	185.100	19241.000	80.310
36	04/05/2002	170200	23753.000	184.310	19237.000	80.570
37	04/05/2002	170300	23821.000	184.210	19329.000	80.650
38	04/05/2002	170400	23804.000	184.340	19377.000	80.460
39	04/05/2002	170500	23833.000	184.750	19340.000	80.830
40	04/05/2002	170600	23778.000	184.240	19294.000	80.480
41	04/05/2002	170700	23808.000	184.770	19232.000	80.410
42	04/05/2002	170800	23771.000	184.850	19270.000	80.650
43	04/05/2002	170900	23771.000	184.510	19455.000	80.400
44	04/05/2002	171000	23817.000	184.570	19333.000	80.410
45	04/05/2002	171100	23823.000	184.330	19320.000	80.390
46	04/05/2002	171200	23827.000	185.070	19340.000	80.710
47	04/05/2002	171300	23757.000	184.440	19386.000	80.360
48	04/05/2002	171400	23740.000	184.920	19230.000	80.730
49	04/05/2002	171500	23748.000	184.640	19247.000	80.650
50	04/05/2002	171600	23754.000	184.950	19332.000	80.590
51	04/05/2002	171700	23754.000	185.090	19310.000	80.380
52	04/05/2002	171800	23793.000	184.410	19407.000	80.720
53	04/05/2002	171900	23765.000	184.420	19356.000	80.570
54	04/05/2002	172000	23770.000	185.710	19298.000	80.570
55	04/05/2002	172100	23762.000	184.810	19260.000	80.730
56	04/05/2002	172200	23776.000	184.770	19342.000	80.650
57	04/05/2002	172300	23700.000	184.970	19336.000	80.680
58	04/05/2002	172400	23777.000	185.490	19395.000	80.610

59	04/05/2002	172500	23780.000	184.660	19302.000	80.560
60	04/05/2002	172600	23818.000	185.140	19280.000	80.720
61	04/05/2002	172700	23842.000	184.800	19254.000	80.580
62	/ /					
63	/ /	AVE	23792.164	184.357	19256.066	80.563

Smith 3A (4) Power Aug Run 3

ecord#	DATE	TIME	GAS31	GEN32	CTGAS33	STEAM34
1	04/05/2002	180300	23743.000	186.920	19497.000	80.590
2	04/05/2002	180400	23734.000	186.290	19389.000	80.600
3	04/05/2002	180500	23758.000	186.640	19461.000	80.540
4	04/05/2002	180600	23748.000	186.700	19436.000	80.720
5	04/05/2002	180700	23705.000	186.480	19430.000	80.570
6	04/05/2002	180800	23777.000	186.840	19452.000	80.560
7	04/05/2002	180900	23705.000	187.300	19478.000	80.740
8	04/05/2002	181000	23813.000	186.660	19525.000	80.480
9	04/05/2002	181100	23734.000	187.480	19450.000	80.520
10	04/05/2002	181200	23726.000	187.240	19580.000	80.490
11	04/05/2002	181300	23687.000	187.590	19492.000	80.580
12	04/05/2002	181400	23738.000	186.500	19410.000	80.240
13	04/05/2002	181500	23711.000	187.000	19484.000	80.510
14	04/05/2002	181600	23760.000	187.650	19516.000	80.510
15	04/05/2002	181700	23717.000	187.200	19529.000	80.470
16	04/05/2002	181800	23752.000	188.040	19476.000	80.790
17	04/05/2002	181900	23734.000	187.260	19569.000	80.470
18	04/05/2002	182000	23707.000	187.090	19498.000	80.260
19	04/05/2002	182100	23720.000	187.550	19490.000	80.610
20	04/05/2002	182200	23720.000	187.360	19534.000	80.570
21	04/05/2002	182300	23688.000	187.860	19478.000	80.760
22	04/05/2002	182400	23744.000	187.690	19441.000	80.340
23	04/05/2002	182500	23760.000	187.730	19426.000	80.510
24	04/05/2002	182600	23730.000	187.360	19523.000	80.480
25	04/05/2002	182700	23771.000	188.370	19549.000	80.570
26	04/05/2002	182800	23722.000	187.750	19522.000	80.660
27	04/05/2002	182900	23703.000	187.990	19506.000	80.760
28	04/05/2002	183000	23717.000	188.360	19512.000	80.820
29	04/05/2002	183100	23766.000	187.470	19458.000	80.680
30	04/05/2002	183200	23723.000	188.420	19376.000	80.760
31	04/05/2002	183300	23792.000	188.150	19490.000	80.790
32	04/05/2002	183400	23652.000	188.020	19510.000	80.590
33	04/05/2002	183500	23713.000	187.410	19458.000	80.680
34	04/05/2002	183600	23684.000	188.360	19432.000	80.850
35	04/05/2002	183700	23712.000	188.750	19494.000	80.830
36	04/05/2002	183800	23709.000	188.320	19540.000	80.990
37	04/05/2002	183900	23742.000	187.920	19550.000	80.820
38	04/05/2002	184000	23778.000	188.710	19563.000	80.660
39	04/05/2002	184100	23728.000	188.270	19542.000	80.660
40	04/05/2002	184200	23714.000	188.770	19577.000	80.600
41	04/05/2002	184300	23652.000	188.990	19624.000	80.850
42	04/05/2002	184400	23666.000	188.690	19488.000	80.760
43	04/05/2002	184500	23723.000	188.700	19541.000	80.680
44	04/05/2002	184600	23759.000	188.430	19608.000	80.460
45	04/05/2002	184700	23699.000	188.630	19561.000	80.680
46	04/05/2002	184800	23665.000	189.060	19587.000	80.590
47	04/05/2002	184900	23684.000	188.360	19606.000	80.640
48	04/05/2002	185000	23718.000	189.260	19521.000	80.930
49	04/05/2002	185100	23714.000	188.490	19441.000	80.510
50	04/05/2002	185200	23738.000	189.060	19596.000	80.500
51	04/05/2002	185300	23678.000	189.260	19560.000	80.600
52	04/05/2002	185400	23711.000	189.280	19571.000	80.470
53	04/05/2002	185500	23706.000	189.510	19574.000	80.460
54	04/05/2002	185600	23710.000	188.540	19596.000	80.940
55	04/05/2002	185700	23760.000	189.020	19532.000	80.700
56	04/05/2002	185800	23727.000	189.080	19633.000	80.790
57	04/05/2002	185900	23709.000	188.780	19524.000	80.510
58	04/05/2002	190000	23675.000	189.680	19606.000	80.780

59	04/05/2002	190100	23664.000	188.220	19591.000	80.610
60	04/05/2002	190200	23687.000	187.650	19541.000	80.560
61	04/05/2002	190300	23703.000	186.710	19577.000	80.720
62	/ /					
63	/ /	AVE	23721.066	187.981	19516.738	80.629

Unit 5

(Turbine/Duct Mode)

Plant Smith

Unit 5

Turbine and Duct Burner

Date of Test: March 27, 2002

Run #	Heat Input MMBTU/Hour	NOx (lb/Hour)	NOx Standard (lb/hour)	VOC (ppm)	VOC Standard (ppm)	CO (ppm)	CO Standard (ppm)
1	2048.608	64.4	82.9	0.54	4.00	1.30	16.00
2	2080.659	65.0	82.9	0.23	4.00	1.25	16.00
3	2094.599	64.0	82.9	0.15	4.00	1.21	16.00
Average:	**2074.622**	**64.5**	**82.9**	**0.31**	**4.00**	**1.26**	**16.00**

*Note: The VOC and CO concentrations have been corrected to 15% O_2.

Smith Unit 5
Heat Rate
Turbine and Duct Burner

Run #	1	2	3	4	5	6	7	8	9
Date	3/27/2002	3/27/2002	3/27/2002	N/A	N/A	N/A	N/A	N/A	N/A
Time	18:37	20:12	21:45	N/A	N/A	N/A	N/A	N/A	N/A
Heat Value (btu/cf)	1037	1037	1037	N/A	N/A	N/A	N/A	N/A	N/A
CT Fuel Flow (scfh)	20183.426	20548.410	20706.787	N/A	N/A	N/A	N/A	N/A	N/A
Duct Burner Flow (scfh)	24691.803	24728.508	24747.016	N/A	N/A	N/A	N/A	N/A	N/A
Corrected CT Flow (scfh)	1685316	1715792	1729017	N/A	N/A	N/A	N/A	N/A	N/A
Corrected DB Flow (scfh)	290198	290629	290847	N/A	N/A	N/A	N/A	N/A	N/A
Heat Rate (mmbtu/hr)	2048.6079	2080.659	2094.5984	N/A	N/A	N/A	N/A	N/A	N/A

Average Heat Rate **2074.6218 mmbtu/hr**

Smith 5
Turbine +
Duct Burner

	Date/Time	Cylinder	AnalogInp	Gas	Type	Value	Expected	Pass
	27-Mar-2002	16:49 ALM 003653 N	NOx/A	NOx	High	17.99	18.10	Pass
	27-Mar-2002	16:55 AAL 13953 NO	NOx/A	NOx	Mid	11.12	11.10	Pass
	27-Mar-2002	16:55 AAL 13953 NO	CO2/A	CO2	Zero	0.002	0.000	Pass
	27-Mar-2002	17:09 ALM 047716 C	CO2/A	CO2	High	9.035	9.050	Pass
	27-Mar-2002	17:17 ALM042254 C	NOx/A	NOx	Zero	0.05	0.00	Pass
	[redacted]-Mar-2002	17:17 ALM042254 C	CO2/A	CO2	Mid	5.565	5.560	Pass
	[redacted]-Mar-2002	17:21 XCO13169B C	CO/Xirect	CO	High	48.27	48.10	Pass
	27-Mar-2002	17:27 CC7076 CO-M	CO/X	CO	Mid	25.36	25.41	Pass
	27-Mar-2002	17:32 T-007920 O2-H	O2/Xct	O2	High	20.879	20.900	Pass
10	27-Mar-2002	17:37 CC19112 O2-M	O2/Xct	O2	Mid	10.153	10.100	Pass
11	27-Mar-2002	17:42 XCO13169B C	CO/X	CO	High	48.49	48.10	Pass
12	27-Mar-2002	17:44 CC7076 CO-M	CO/X	CO	Mid	24.17	25.41	Pass
13	27-Mar-2002	17:46 CC19112 O2-M	O2/X	O2	Mid	9.847	10.100	Pass
14	27-Mar-2002	17:51 AAL9742 CO/O	CO/Xirect	CO	Zero	0.04	0.00	Pass
15	27-Mar-2002	17:51 AAL9742 CO/O	O2/Xirect	O2	Low	0.067	0.000	Pass
16	27-Mar-2002	17:52 AAL003653 CO	CO/Xero	CO	Zero	0.04	0.00	Pass
17	27-Mar-2002	17:52 AAL003653 CO	O2/Xero	O2	Low	0.085	0.000	Pass
18	27-Mar-2002	17:54 AAL9742 CO/O	CO/Xirect	CO	Zero	0.04	0.00	Pass
19	27-Mar-2002	17:54 AAL9742 CO/O	O2/Xirect	O2	Low	0.061	0.000	Pass
20	27-Mar-2002	19:43 AAL 13953 NO	NOx/A	NOx	Mid	10.93	11.10	Pass
21	27-Mar-2002	19:43 AAL 13953 NO	CO2/A	CO2	Zero	0.083	0.000	Pass
22	27-Mar-2002	19:49 ALM042254 C	NOx/A	NOx	Zero	0.10	0.00	Pass
23	27-Mar-2002	19:49 ALM042254 C	CO2/A	CO2	Mid	5.531	5.560	Pass
24	27-Mar-2002	19:55 AAL003653 CO	CO/Xero	CO	Zero	-0.02	0.00	Pass
25	27-Mar-2002	19:55 AAL003653 CO	O2/Xero	O2	Low	0.049	0.000	Pass
26	27-Mar-2002	20:01 CC7076 CO-M	CO/X	CO	Mid	25.24	25.41	Pass
27	27-Mar-2002	20:08 CC19112 O2-M	O2/X	O2	Mid	10.104	10.100	Pass
28	27-Mar-2002	21:18 AAL 13953 NO	NOx/A	NOx	Mid	10.69	11.10	Pass
29	27-Mar-2002	21:18 AAL 13953 NO	CO2/A	CO2	Zero	0.095	0.000	Pass
30	27-Mar-2002	21:22 ALM042254 C	NOx/A	NOx	Zero	0.12	0.00	Pass
3[redacted]	[redacted]-Mar-2002	21:22 ALM042254 C	CO2/A	CO2	Mid	5.546	5.560	Pass
3[redacted]	[redacted]-Mar-2002	21:26 AAL003653 CO	CO/Xero	CO	Zero	-0.10	0.00	Pass
33	[redacted]-Mar-2002	21:26 AAL003653 CO	O2/Xero	O2	Low	0.049	0.000	Pass
34	27-Mar-2002	21:32 CC7076 CO-M	CO/X	CO	Mid	24.97	25.41	Pass
35	27-Mar-2002	21:36 CC19112 O2-M	O2/X	O2	Mid	10.116	10.100	Pass
36	27-Mar-2002	22:51 AAL 13953 NO	NOx/A	NOx	Mid	10.53	11.10	Pass
37	27-Mar-2002	22:51 AAL 13953 NO	CO2/A	CO2	Zero	0.090	0.000	Pass
38	27-Mar-2002	22:55 ALM042254 C	NOx/A	NOx	Zero	0.09	0.00	Pass
39	27-Mar-2002	22:55 ALM042254 C	CO2/A	CO2	Mid	5.573	5.560	Pass
40	27-Mar-2002	22:59 AAL003653 CO	CO/Xero	CO	Zero	-0.12	0.00	Pass
41	27-Mar-2002	22:59 AAL003653 CO	O2/Xero	O2	Low	0.061	0.000	Pass
42	27-Mar-2002	23:05 CC7076 CO-M	CO/X	CO	Mid	24.97	25.41	Pass
43	27-Mar-2002	23:09 CC19112 O2-M	O2/X	O2	Mid	10.116	10.100	Pass

Run 1 Unit 5 Turbine + Duct Burner

Record#	DATE	TIME	GAS31	CTGAS32	STEAM33
1	03/27/2002	193700	24698.000	20271.000	90.490
2	03/27/2002	193800	24714.000	20312.000	90.470
3	03/27/2002	193900	24713.000	20285.000	90.520
4	03/27/2002	194000	24729.000	20282.000	90.580
5	03/27/2002	194100	24726.000	20251.000	90.600
6	03/27/2002	194200	24708.000	20233.000	90.560
7	03/27/2002	194300	24701.000	20236.000	90.470
8	03/27/2002	194400	24708.000	20294.000	90.530
9	03/27/2002	194500	24707.000	20289.000	90.570
10	03/27/2002	194600	24707.000	20332.000	90.560
11	03/27/2002	194700	24717.000	20327.000	90.620
12	03/27/2002	194800	24732.000	20336.000	90.540
13	03/27/2002	194900	24702.000	20329.000	90.670
14	03/27/2002	195000	24709.000	20336.000	90.780
15	03/27/2002	195100	24738.000	20330.000	90.790
16	03/27/2002	195200	24732.000	20370.000	90.800
17	03/27/2002	195300	24723.000	20385.000	90.770
18	03/27/2002	195400	24708.000	20333.000	90.700
19	03/27/2002	195500	24710.000	20327.000	90.660
20	03/27/2002	195600	24711.000	20343.000	90.650
21	03/27/2002	195700	24745.000	20340.000	90.730
22	03/27/2002	195800	24694.000	20329.000	90.640
23	03/27/2002	195900	24721.000	20345.000	90.680
24	03/27/2002	200000	24714.000	20345.000	90.680
25	03/27/2002	200100	24736.000	20356.000	90.840
26	03/27/2002	200200	24732.000	20323.000	90.830
27	03/27/2002	200300	24716.000	20345.000	90.850
28	03/27/2002	200400	24714.000	20352.000	90.800
29	03/27/2002	200500	24738.000	20330.000	90.800
30	03/27/2002	200600	24724.000	20338.000	90.820
31	03/27/2002	200700	24706.000	20322.000	90.620
32	03/27/2002	200800	24691.000	20341.000	90.720
33	03/27/2002	200900	24693.000	20315.000	90.640
34	03/27/2002	201000	24740.000	20339.000	90.660
35	03/27/2002	201100	24734.000	20326.000	90.720
36	03/27/2002	201200	24706.000	20341.000	90.730
37	03/27/2002	201300	24726.000	20332.000	90.720
38	03/27/2002	201400	24742.000	20334.000	90.750
39	03/27/2002	201500	24715.000	20394.000	90.770
40	03/27/2002	201600	24713.000	20460.000	90.800
41	03/27/2002	201700	24718.000	20524.000	90.940
42	03/27/2002	201800	24720.000	20545.000	90.970
43	03/27/2002	201900	24704.000	20563.000	90.900
44	03/27/2002	202000	24758.000	20565.000	91.010
45	03/27/2002	202100	24731.000	20573.000	90.930
46	03/27/2002	202200	24710.000	20560.000	90.940
47	03/27/2002	202300	24714.000	20569.000	90.930
48	03/27/2002	202400	24713.000	20581.000	90.920
49	03/27/2002	202500	24714.000	20559.000	91.030
50	03/27/2002	202600	24724.000	20553.000	90.950
51	03/27/2002	202700	24706.000	20558.000	90.930
52	03/27/2002	202800	24691.000	20577.000	91.050
53	03/27/2002	202900	24729.000	20558.000	90.960
54	03/27/2002	203000	24757.000	20561.000	91.100
55	03/27/2002	203100	24728.000	20564.000	91.090
56	03/27/2002	203200	24732.000	20561.000	91.090
57	03/27/2002	203300	24726.000	20558.000	91.050
58	03/27/2002	203400	24739.000	20531.000	91.070

RUN 1 Unit 5 Turbine + Duct 15.

59	03/27/2002	203500	24709.000	20558.000	90.980
60	03/27/2002	203600	24712.000	20566.000	90.900
61	/ /				
62	/ /	AVE	24718.800	20404.867	90.781

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Run 2 Unit 5 Turbine + Duct Burner

Record#	DATE	TIME	GEN31	NOXRT32	CO233	NOX34
1	03/27/2002	211200	176.340	0.035	4.030	11.310
2	03/27/2002	211300	176.340	0.035	4.050	11.380
3	03/27/2002	211400	176.270	0.035	4.060	11.400
4	03/27/2002	211500	176.130	0.035	4.040	11.430
5	03/27/2002	211600	176.100	0.035	4.040	11.360
6	03/27/2002	211700	176.240	0.035	4.040	11.390
7	03/27/2002	211800	176.190	0.035	4.030	11.370
8	03/27/2002	211900	176.060	0.035	4.040	11.380
9	03/27/2002	212000	176.020	0.035	4.030	11.360
10	03/27/2002	212100	176.050	0.035	4.030	11.290
11	03/27/2002	212200	176.100	0.035	4.050	11.360
12	03/27/2002	212300	176.320	0.035	4.060	11.400
13	03/27/2002	212400	176.660	0.035	4.050	11.360
14	03/27/2002	212500	176.870	0.035	4.040	11.310
15	03/27/2002	212600	176.940	0.035	4.040	11.320
16	03/27/2002	212700	177.020	0.035	4.040	11.290
17	03/27/2002	212800	177.080	0.035	4.040	11.300
18	03/27/2002	212900	177.300	0.035	4.030	11.300
19	03/27/2002	213000	177.160	0.035	4.040	11.330
20	03/27/2002	213100	177.440	0.035	4.040	11.330
21	03/27/2002	213200	177.140	0.035	4.060	11.400
22	03/27/2002	213300	176.990	0.035	4.040	11.370
23	03/27/2002	213400	176.890	0.035	4.010	11.360
24	03/27/2002	213500	176.970	0.035	4.040	11.350
25	03/27/2002	213600	177.010	0.035	4.040	11.330
26	03/27/2002	213700	177.110	0.035	4.050	11.330
27	03/27/2002	213800	177.290	0.035	4.030	11.280
28	03/27/2002	213900	177.290	0.035	4.050	11.270
29	03/27/2002	214000	177.200	0.035	4.020	11.270
30	03/27/2002	214100	177.270	0.035	4.030	11.230
31	03/27/2002	214200	177.270	0.035	4.030	11.280
32	03/27/2002	214300	177.190	0.035	4.020	11.270
33	03/27/2002	214400	177.080	0.035	4.030	11.270
34	03/27/2002	214500	177.220	0.035	4.030	11.260
35	03/27/2002	214600	177.210	0.035	4.040	11.280
36	03/27/2002	214700	177.210	0.035	4.040	11.320
37	03/27/2002	214800	177.300	0.035	4.030	11.260
38	03/27/2002	214900	177.300	0.035	4.030	11.280
39	03/27/2002	215000	177.330	0.035	4.020	11.220
40	03/27/2002	215100	177.380	0.035	4.020	11.220
41	03/27/2002	215200	177.300	0.035	4.020	11.240
42	03/27/2002	215300	177.390	0.035	4.010	11.240
43	03/27/2002	215400	141.530	0.035	4.030	11.300
44	03/27/2002	215500	177.370	0.035	4.030	11.250
45	03/27/2002	215600	177.380	0.035	4.020	11.250
46	03/27/2002	215700	177.190	0.034	4.030	11.230
47	03/27/2002	215800	177.440	0.035	4.020	11.240
48	03/27/2002	215900	177.550	0.035	3.990	11.230
49	03/27/2002	220000	177.500	0.035	4.010	11.250
50	03/27/2002	220100	177.490	0.035	4.010	11.290
51	03/27/2002	220200	177.380	0.035	4.030	11.280
52	03/27/2002	220300	177.220	0.035	4.030	11.280
53	03/27/2002	220400	177.080	0.035	4.020	11.110
54	03/27/2002	220500	177.240	0.034	4.010	11.060
55	03/27/2002	220600	176.970	0.034	4.000	11.020
56	03/27/2002	220700	176.970	0.034	4.020	11.070
57	03/27/2002	220800	176.980	0.034	4.000	11.040
58	03/27/2002	220900	177.010	0.034	4.000	11.050

Run 2 Unit 3 Internet Data

59	03/27/2002	221000	176.970	0.034	4.040	11.060
60	03/27/2002	221100	177.110	0.034	4.030	11.110
61	/ /					
62	/ /	AVE	176.389	0.035	4.031	11.274

RUN 3 - Unit 5 Turbine + Duct B.

Record#	DATE	TIME	GAS31	CTGAS32	STEAM33
1	03/27/2002	224500	24736.000	20682.000	91.530
2	03/27/2002	224600	24771.000	20722.000	91.530
3	03/27/2002	224700	24726.000	20716.000	91.410
4	03/27/2002	224800	24745.000	20742.000	91.320
5	03/27/2002	224900	24747.000	20713.000	91.410
6	03/27/2002	225000	24752.000	20722.000	91.450
7	03/27/2002	225100	24765.000	20707.000	91.480
8	03/27/2002	225200	24738.000	20733.000	91.400
9	03/27/2002	225300	24760.000	20726.000	91.360
10	03/27/2002	225400	24788.000	20722.000	91.410
11	03/27/2002	225500	24752.000	20729.000	91.430
12	03/27/2002	225600	24772.000	20739.000	91.450
13	03/27/2002	225700	24740.000	20732.000	91.560
14	03/27/2002	225800	24762.000	20724.000	91.570
15	03/27/2002	225900	24758.000	20717.000	91.650
16	03/27/2002	230000	24736.000	20722.000	91.530
17	03/27/2002	230100	24728.000	20737.000	91.380
18	03/27/2002	230200	24761.000	20748.000	91.310
19	03/27/2002	230300	24750.000	20722.000	91.440
20	03/27/2002	230400	24746.000	20740.000	91.410
21	03/27/2002	230500	24764.000	20750.000	91.490
22	03/27/2002	230600	24765.000	20730.000	91.600
23	03/27/2002	230700	24740.000	20751.000	91.580
24	03/27/2002	230800	24764.000	20718.000	91.400
25	03/27/2002	230900	24737.000	20724.000	91.360
26	03/27/2002	231000	24786.000	20736.000	91.430
27	03/27/2002	231100	24755.000	20755.000	91.600
28	03/27/2002	231200	24767.000	20743.000	91.610
29	03/27/2002	231300	24766.000	20744.000	91.740
30	03/27/2002	231400	24768.000	20728.000	92.720
31	03/27/2002	231500	24773.000	20720.000	92.440
32	03/27/2002	231600	24732.000	20744.000	91.340
33	03/27/2002	231700	24774.000	20747.000	90.570
34	03/27/2002	231800	24751.000	20736.000	90.760
35	03/27/2002	231900	24774.000	20764.000	91.190
36	03/27/2002	232000	24768.000	20773.000	91.440
37	03/27/2002	232100	24751.000	20753.000	91.530
38	03/27/2002	232200	24754.000	20748.000	91.670
39	03/27/2002	232300	24741.000	20739.000	92.000
40	03/27/2002	232400	24782.000	20742.000	92.140
41	03/27/2002	232500	24790.000	20789.000	92.120
42	03/27/2002	232600	24776.000	20771.000	91.680
43	03/27/2002	232700	24768.000	20776.000	91.050
44	03/27/2002	232800	24740.000	20727.000	90.810
45	03/27/2002	232900	24729.000	20774.000	90.830
46	03/27/2002	233000	24794.000	20732.000	91.110
47	03/27/2002	233100	24776.000	20768.000	91.260
48	03/27/2002	233200	24772.000	20759.000	91.360
49	03/27/2002	233300	24761.000	20770.000	91.480
50	03/27/2002	233400	24765.000	20758.000	91.470
51	03/27/2002	233500	24760.000	20762.000	91.410
52	03/27/2002	233600	24774.000	20751.000	91.540
53	03/27/2002	233700	24779.000	20763.000	91.640
54	03/27/2002	233800	24772.000	20740.000	91.910
55	03/27/2002	233900	24792.000	20776.000	91.630
56	03/27/2002	234000	24752.000	20764.000	91.300
57	03/27/2002	234100	24758.000	20763.000	90.890
58	03/27/2002	234200	24763.000	20774.000	90.780

Rum3 - Unit5 - Turbine + Duct Burner

59	03/27/2002	234300	24769.000	20752.000	91.060
60	03/27/2002	234400	24731.000	20775.000	91.290
61	/ /				
62	/ /	AVE	24759.433	20743.067	91.454

Unit 5

(Power Augmentation Mode)

Plant Smith
Unit 5
Power Augmentation

Date of Test: April 12, 2002

Run #	Heat Input MMBTU/Hour	NOx (lb/Hour)	NOx Standard (lb/hour)	VOC (ppm)	VOC Standard (ppm)	CO (ppm)	CO Standard (ppm)
1	1949.635	56.5	113.2	0.34	6.00	8.97	23.00
2	1949.085	59.5	113.2	0.38	6.00	8.12	23.00
3	1952.644	58.5	113.2	0.42	6.00	8.76	23.00
Average:	**1950.455**	**58.2**	**113.2**	**0.38**	**6.00**	**8.61**	**23.00**

*Note: The VOC and CO concentrations have been corrected to 15% O_2.

Smith Unit 5
Heat Rate
Power Augmentation

Run Number	1	2	3	4	5	6	7	8	9
Run Date	4/12/2002	4/12/2002	4/12/2002	N/A	N/A	N/A	N/A	N/A	N/A
Run Time	10:49	12:29	14:04	N/A	N/A	N/A	N/A	N/A	N/A
Heat Value (btu/cf)	1033	1033	1033	N/A	N/A	N/A	N/A	N/A	N/A
Ambient Temperature (F)	73	72	72	N/A	N/A	N/A	N/A	N/A	N/A
Average Generation (MW)	183	183	183	N/A	N/A	N/A	N/A	N/A	N/A
CT Fuel Flow (scfh)	19331.016	19320.951	19359.492	N/A	N/A	N/A	N/A	N/A	N/A
Duct Burner Flow (scfh)	23246.607	23272.836	23292.213	N/A	N/A	N/A	N/A	N/A	N/A
Corrected CT Flow (scfh)	1614140	1613299	1616518	N/A	N/A	N/A	N/A	N/A	N/A
Corrected DB Flow (scfh)	273213	273521	273749	N/A	N/A	N/A	N/A	N/A	N/A
Heat Rate (mmbtu/hr)	1949.635193	1949.085468	1952.645091	N/A	N/A	N/A	N/A	N/A	N/A

Average Heat Rate **1950.455251 mmbtu/hr**

Fuel Flow from CE after applying Accuracy corrections

Unit A
POWER AUG MODE
(4/5/02)

* Corr factor = .85

Run #	CT Raw (SCFH)	CT Corr* (SCFH)	CT Corr (SCFM)	Duct Burner (SCFM) (From Plant Database) ~~Assur~~
(1)	2068490	1758216	29304	4500
(2)	1925606	1636765	27279	4500
(3)	1951674	1658923	27649	4500

BTU analysis of Fuel = 1034 BTU/CF

Avg Total Fuel (mmBtu/hour) (for all 3 runs) ⟹ 2021

#	Date/Time	Cylinder	AnalogInp	Gas	Type	Value	Expected	Pass
1	01-Apr-2002 10:00	T-007920 O2-HO2/Xct		O2	High	20.830	20.900	Pass
2	01-Apr-2002 10:06	CC19112 O2-MO2/Xct		O2	Mid	10.140	10.100	Pass
3	01-Apr-2002 10:09	XCO13169B CCCO/Xirect		CO	High	48.23	48.10	Pass
4	01-Apr-2002 10:17	AAL003653 COO2/Xero		O2	Low	0.049	0.000	Pass
5	01-Apr-2002 10:19	CC7076 CO-M CO/X		CO	Mid	25.22	25.41	Pass
6	[redacted]-Apr-2002 10:23	AAL9742 CO/OCO/Xirect		CO	Zero	0.04	0.00	Pass
7	[redacted]Apr-2002 10:23	AAL9742 CO/OO2/Xirect		O2	Low	0.043	0.000	Pass
8	[redacted]-Apr-2002 10:26	CC19112 O2-MO2/X		O2	Mid	10.098	10.100	Pass
9	01-Apr-2002 10:29	CC7076 CO-M CO/X		CO	Mid	25.22	25.41	Pass
10	01-Apr-2002 10:32	AAL003653 COCO/Xero		CO	Zero	0.00	0.00	Pass
11	01-Apr-2002 10:32	AAL003653 COO2/Xero		O2	Low	0.061	0.000	Pass
12	01-Apr-2002 10:39	ALM 047716 CCCO2/A		CO2	High	9.167	9.050	Pass
13	01-Apr-2002 10:47	ALM 003653 NCNOx/A		NOx	High	18.20	18.10	Pass
14	01-Apr-2002 10:53	ALM042254 CCNOx/A		NOx	Zero	0.05	0.00	Pass
15	01-Apr-2002 10:53	ALM042254 CCCO2/A		CO2	Mid	5.568	5.560	Pass
16	01-Apr-2002 10:59	AAL 13953 NO>NOx/A		NOx	Mid	11.14	11.10	Pass
17	01-Apr-2002 10:59	AAL 13953 NO>CO2/A		CO2	Zero	0.005	0.000	Pass
18	02-Apr-2002 09:13	T-007920 O2-HO2/Xct		O2	High	20.855	20.900	Pass
19	02-Apr-2002 09:15	T-007920 O2-HO2/Xct		O2	High	20.897	20.900	Pass
20	02-Apr-2002 09:18	CC19112 O2-MO2/Xct		O2	Mid	10.153	10.100	Pass
21	02-Apr-2002 09:21	AAL003653 COO2/Xero		O2	Low	0.037	0.000	Pass
22	02-Apr-2002 09:25	XCO13169B CCCO/Xirect		CO	High	47.96	48.10	Pass
23	02-Apr-2002 09:29	CC7076 CO-M CO/X		CO	Mid	25.14	25.41	Pass
24	02-Apr-2002 09:33	AAL9742 CO/OCO/Xirect		CO	Zero	-0.12	0.00	Pass
25	02-Apr-2002 09:33	AAL9742 CO/OO2/Xirect		O2	Low	0.006	0.000	Pass
26	02-Apr-2002 09:39	CC19112 O2-MO2/X		O2	Mid	10.067	10.100	Pass
27	02-Apr-2002 09:42	CC7076 CO-M CO/X		CO	Mid	25.12	25.41	Pass
28	02-Apr-2002 09:47	AAL003653 COCO/Xero		CO	Zero	0.04	0.00	Pass
29	02-Apr-2002 09:47	AAL003653 COO2/Xero		O2	Low	0.018	0.000	Pass
30	02-Apr-2002 09:53	ALM 047716 CCCO2/A		CO2	High	8.891	9.050	Pass
31	02-Apr-2002 09:59	ALM 003653 NCNOx/A		NOx	High	18.02	18.10	Pass
[redacted]	[redacted]-Apr-2002 10:07	AAL 13953 NO>NOx/A		NOx	Mid	11.11	11.10	Pass
[redacted]	[redacted]2-Apr-2002 10:07	AAL 13953 NO>CO2/A		CO2	Zero	-0.007	0.000	Pass
34	02-Apr-2002 10:14	ALM042254 CCNOx/A		NOx	Zero	0.07	0.00	Pass
35	02-Apr-2002 10:14	ALM042254 CCCO2/A		CO2	Mid	5.514	5.560	Pass
36	02-Apr-2002 11:33	AAL 13953 NO>NOx/A		NOx	Mid	11.08	11.10	Pass
37	02-Apr-2002 11:33	AAL 13953 NO>CO2/A		CO2	Zero	0.042	0.000	Pass
38	02-Apr-2002 11:39	ALM042254 CCNOx/A		NOx	Zero	0.06	0.00	Pass
39	02-Apr-2002 11:39	ALM042254 CCCO2/A		CO2	Mid	5.492	5.560	Pass
40	02-Apr-2002 11:43	AAL003653 COCO/Xero		CO	Zero	0.00	0.00	Pass
41	02-Apr-2002 11:43	AAL003653 COO2/Xero		O2	Low	0.037	0.000	Pass
42	02-Apr-2002 11:51	CC19112 O2-MO2/X		O2	Mid	10.073	10.100	Pass
43	02-Apr-2002 11:55	CC7076 CO-M CO/X		CO	Mid	25.36	25.41	Pass
44	02-Apr-2002 13:14	AAL 13953 NO>NOx/A		NOx	Mid	11.09	11.10	Pass
45	02-Apr-2002 13:14	AAL 13953 NO>CO2/A		CO2	Zero	0.037	0.000	Pass
46	02-Apr-2002 13:20	ALM042254 CCNOx/A		NOx	Zero	0.05	0.00	Pass
47	02-Apr-2002 13:20	ALM042254 CCCO2/A		CO2	Mid	5.470	5.560	Pass
48	02-Apr-2002 13:24	AAL003653 COCO/Xero		CO	Zero	0.06	0.00	Pass
49	02-Apr-2002 13:24	AAL003653 COO2/Xero		O2	Low	0.031	0.000	Pass
50	02-Apr-2002 13:28	CC7076 CO-M CO/X		CO	Mid	25.47	25.41	Pass
51	02-Apr-2002 13:32	CC19112 O2-MO2/X		O2	Mid	10.061	10.100	Pass
52	02-Apr-2002 14:58	AAL 13953 NO>NOx/A		NOx	Mid	11.05	11.10	Pass
53	02-Apr-2002 14:58	AAL 13953 NO>CO2/A		CO2	Zero	0.081	0.000	Pass
54	02-Apr-2002 15:04	ALM042254 CCNOx/A		NOx	Zero	0.05	0.00	Pass
55	02-Apr-2002 15:04	ALM042254 CCCO2/A		CO2	Mid	5.387	5.560	Pass
56	02-Apr-2002 15:08	AAL003653 COCO/Xero		CO	Zero	0.02	0.00	Pass
[redacted]	[redacted]2-Apr-2002 15:08	AAL003653 COO2/Xero		O2	Low	0.037	0.000	Pass
[redacted]	[redacted]-Apr-2002 15:12	CC7076 CO-M CO/X		CO	Mid	25.53	25.41	Pass
59	02-Apr-2002 15:16	CC19112 O2-MO2/X		O2	Mid	10.061	10.100	Pass

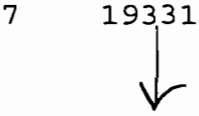
Unit 5
Power Aug

	RunDate/Time	#	NOX/A	CO2/A	CO/X	O2/X
1	02-Apr-2002 10:26	366	7.23	4.386	8.87	14.027
2	02-Apr-2002 12:07	366	7.22	4.381	9.09	14.000
3	02-Apr-2002 13:51	366	7.18	4.346	9.28	13.994

Unit 5
Power Aug

Record#	DATE	TIME	GEN31	GAS32	CTGAS33
1	04/12/2002	104900	182.520	23229.000	19333.000
2	04/12/2002	105000	182.540	23239.000	19284.000
3	04/12/2002	105100	182.440	23244.000	19315.000
4	04/12/2002	105200	182.520	23232.000	19285.000
5	04/12/2002	105300	182.530	23218.000	19308.000
6	04/12/2002	105400	182.490	23235.000	19308.000
7	04/12/2002	105500	182.360	23217.000	19312.000
8	04/12/2002	105600	182.390	23227.000	19321.000
9	04/12/2002	105700	182.460	23228.000	19298.000
10	04/12/2002	105800	182.390	23224.000	19310.000
11	04/12/2002	105900	182.400	23227.000	19322.000
12	04/12/2002	110000	182.460	23246.000	19307.000
13	04/12/2002	110100	182.270	23241.000	19302.000
14	04/12/2002	110200	182.410	23224.000	19310.000
15	04/12/2002	110300	182.290	23252.000	19300.000
16	04/12/2002	110400	182.290	23233.000	19279.000
17	04/12/2002	110500	182.390	23215.000	19280.000
18	04/12/2002	110600	182.430	23224.000	19274.000
19	04/12/2002	110700	182.350	23210.000	19291.000
20	04/12/2002	110800	182.530	23243.000	19319.000
21	04/12/2002	110900	182.510	23227.000	19298.000
22	04/12/2002	111000	182.670	23250.000	19302.000
23	04/12/2002	111100	182.570	23226.000	19306.000
24	04/12/2002	111200	182.330	23250.000	19295.000
25	04/12/2002	111300	182.450	23249.000	19311.000
26	04/12/2002	111400	182.420	23214.000	19277.000
27	04/12/2002	111500	182.250	23260.000	19306.000
28	04/12/2002	111600	182.370	23234.000	19286.000
29	04/12/2002	111700	182.320	23225.000	19299.000
30	04/12/2002	111800	182.490	23213.000	19337.000
31	04/12/2002	111900	182.540	23237.000	19325.000
32	04/12/2002	112000	182.620	23246.000	19296.000
33	04/12/2002	112100	182.640	23234.000	19295.000
34	04/12/2002	112200	182.610	23225.000	19318.000
35	04/12/2002	112300	182.400	23210.000	19312.000
36	04/12/2002	112400	182.630	23232.000	19304.000
37	04/12/2002	112500	182.750	23235.000	19355.000
38	04/12/2002	112600	182.800	23233.000	19348.000
39	04/12/2002	112700	182.730	23245.000	19324.000
40	04/12/2002	112800	183.150	23253.000	19375.000
41	04/12/2002	112900	183.190	23220.000	19379.000
42	04/12/2002	113000	183.220	23230.000	19378.000
43	04/12/2002	113100	183.120	23241.000	19362.000
44	04/12/2002	113200	183.330	23260.000	19368.000
45	04/12/2002	113300	183.560	23264.000	19405.000
46	04/12/2002	113400	183.450	23264.000	19425.000
47	04/12/2002	113500	183.520	23260.000	19397.000
48	04/12/2002	113600	183.510	23260.000	19387.000
49	04/12/2002	113700	183.290	23262.000	19380.000
50	04/12/2002	113800	183.350	23297.000	19380.000
51	04/12/2002	113900	183.330	23267.000	19394.000
52	04/12/2002	114000	183.260	23277.000	19390.000
53	04/12/2002	114100	183.110	23301.000	19372.000
54	04/12/2002	114200	183.160	23281.000	19362.000
55	04/12/2002	114300	183.140	23293.000	19358.000
56	04/12/2002	114400	183.150	23291.000	19370.000
57	04/12/2002	114500	183.200	23300.000	19364.000
58	04/12/2002	114600	183.200	23287.000	19362.000

59	04/12/2002	114700	183.120	23312.000	19346.000
60	04/12/2002	114800	183.060	23287.000	19340.000
61	04/12/2002	114900	183.000	23283.000	19346.000
62	/ /				
63	/ /	AVE	182.754	23246.607	19331.016



apply 83.6 correction factor and ÷ by 60 = 26934.5 SCFM

Record#	DATE	TIME	GEN31	GAS32	CTGAS33
1	04/12/2002	122900	182.880	23248.000	19317.000
2	04/12/2002	123000	182.820	23266.000	19331.000
3	04/12/2002	123100	182.860	23285.000	19332.000
4	04/12/2002	123200	183.070	23273.000	19317.000
5	04/12/2002	123300	182.890	23276.000	19348.000
6	04/12/2002	123400	182.930	23266.000	19336.000
7	04/12/2002	123500	182.760	23272.000	19320.000
8	04/12/2002	123600	182.810	23286.000	19336.000
9	04/12/2002	123700	182.900	23277.000	19334.000
10	04/12/2002	123800	182.750	23283.000	19327.000
11	04/12/2002	123900	182.830	23303.000	19329.000
12	04/12/2002	124000	182.620	23270.000	19329.000
13	04/12/2002	124100	182.620	23266.000	19312.000
14	04/12/2002	124200	182.680	23283.000	19326.000
15	04/12/2002	124300	182.750	23244.000	19327.000
16	04/12/2002	124400	182.690	23284.000	19326.000
17	04/12/2002	124500	182.670	23273.000	19332.000
18	04/12/2002	124600	182.610	23265.000	19307.000
19	04/12/2002	124700	182.580	23247.000	19331.000
20	04/12/2002	124800	182.480	23269.000	19310.000
21	04/12/2002	124900	182.670	23277.000	19343.000
22	04/12/2002	125000	182.560	23262.000	19295.000
23	04/12/2002	125100	182.390	23294.000	19297.000
24	04/12/2002	125200	182.520	23251.000	19292.000
25	04/12/2002	125300	182.470	23287.000	19293.000
26	04/12/2002	125400	182.330	23258.000	19300.000
27	04/12/2002	125500	182.440	23296.000	19295.000
28	04/12/2002	125600	182.340	23260.000	19286.000
29	04/12/2002	125700	182.450	23268.000	19293.000
30	04/12/2002	125800	182.560	23245.000	19296.000
31	04/12/2002	125900	182.460	23269.000	19298.000
32	04/12/2002	130000	182.610	23270.000	19281.000
33	04/12/2002	130100	182.480	23246.000	19321.000
34	04/12/2002	130200	182.680	23256.000	19316.000
35	04/12/2002	130300	182.650	23258.000	19318.000
36	04/12/2002	130400	182.910	23278.000	19360.000
37	04/12/2002	130500	182.920	23285.000	19328.000
38	04/12/2002	130600	182.700	23290.000	19324.000
39	04/12/2002	130700	182.750	23277.000	19331.000
40	04/12/2002	130800	182.790	23262.000	19323.000
41	04/12/2002	130900	182.780	23281.000	19321.000
42	04/12/2002	131000	182.820	23280.000	19310.000
43	04/12/2002	131100	182.880	23275.000	19338.000
44	04/12/2002	131200	182.720	23287.000	19303.000
45	04/12/2002	131300	182.710	23288.000	19303.000
46	04/12/2002	131400	182.790	23297.000	19316.000
47	04/12/2002	131500	182.770	23259.000	19323.000
48	04/12/2002	131600	182.950	23276.000	19333.000
49	04/12/2002	131700	182.950	23254.000	19345.000
50	04/12/2002	131800	182.900	23264.000	19346.000
51	04/12/2002	131900	183.060	23303.000	19344.000
52	04/12/2002	132000	182.940	23278.000	19339.000
53	04/12/2002	132100	182.720	23256.000	19325.000
54	04/12/2002	132200	182.790	23287.000	19344.000
55	04/12/2002	132300	182.890	23268.000	19314.000
56	04/12/2002	132400	182.770	23284.000	19336.000
57	04/12/2002	132500	182.690	23273.000	19309.000
58	04/12/2002	132600	182.890	23294.000	19308.000

59	04/12/2002	132700	182.970	23288.000	19325.000
60	04/12/2002	132800	183.010	23281.000	19356.000
61	04/12/2002	132900	183.040	23245.000	19323.000
62	/ /				
63	/ /	AVE	182.736	23272.836	19320.951

↓

Apply correction Factor of 83.6 and ÷ by 60 = 26920.5 SCFM

Record#	DATE	TIME	GEN31	GAS32	CTGAS33
1	04/12/2002	140400	183.320	23303.000	19357.000
2	04/12/2002	140500	183.230	23301.000	19356.000
3	04/12/2002	140600	183.240	23295.000	19352.000
4	04/12/2002	140700	183.200	23286.000	19350.000
5	04/12/2002	140800	183.120	23283.000	19352.000
6	04/12/2002	140900	183.180	23278.000	19365.000
7	04/12/2002	141000	183.110	23292.000	19350.000
8	04/12/2002	141100	183.100	23299.000	19349.000
9	04/12/2002	141200	183.140	23291.000	19361.000
10	04/12/2002	141300	182.990	23294.000	19367.000
11	04/12/2002	141400	182.960	23261.000	19368.000
12	04/12/2002	141500	182.900	23287.000	19346.000
13	04/12/2002	141600	182.950	23288.000	19349.000
14	04/12/2002	141700	183.040	23277.000	19346.000
15	04/12/2002	141800	182.990	23279.000	19336.000
16	04/12/2002	141900	183.030	23285.000	19331.000
17	04/12/2002	142000	183.080	23290.000	19379.000
18	04/12/2002	142100	183.140	23287.000	19359.000
19	04/12/2002	142200	183.180	23266.000	19374.000
20	04/12/2002	142300	182.930	23300.000	19388.000
21	04/12/2002	142400	182.880	23312.000	19332.000
22	04/12/2002	142500	182.990	23304.000	19351.000
23	04/12/2002	142600	182.930	23286.000	19349.000
24	04/12/2002	142700	182.940	23300.000	19348.000
25	04/12/2002	142800	182.960	23287.000	19361.000
26	04/12/2002	142900	183.050	23278.000	19362.000
27	04/12/2002	143000	183.130	23305.000	19344.000
28	04/12/2002	143100	183.060	23310.000	19360.000
29	04/12/2002	143200	183.070	23276.000	19348.000
30	04/12/2002	143300	182.990	23291.000	19374.000
31	04/12/2002	143400	183.150	23292.000	19350.000
32	04/12/2002	143500	183.130	23298.000	19357.000
33	04/12/2002	143600	183.100	23281.000	19350.000
34	04/12/2002	143700	183.050	23306.000	19347.000
35	04/12/2002	143800	183.300	23266.000	19360.000
36	04/12/2002	143900	183.020	23297.000	19341.000
37	04/12/2002	144000	183.110	23320.000	19381.000
38	04/12/2002	144100	183.050	23318.000	19343.000
39	04/12/2002	144200	183.020	23289.000	19352.000
40	04/12/2002	144300	183.230	23316.000	19339.000
41	04/12/2002	144400	183.140	23314.000	19342.000
42	04/12/2002	144500	183.250	23283.000	19376.000
43	04/12/2002	144600	183.200	23283.000	19372.000
44	04/12/2002	144700	183.110	23290.000	19376.000
45	04/12/2002	144800	183.060	23278.000	19351.000
46	04/12/2002	144900	183.200	23299.000	19356.000
47	04/12/2002	145000	183.120	23299.000	19364.000
48	04/12/2002	145100	183.020	23291.000	19352.000
49	04/12/2002	145200	182.940	23293.000	19370.000
50	04/12/2002	145300	183.210	23277.000	19359.000
51	04/12/2002	145400	183.180	23301.000	19387.000
52	04/12/2002	145500	183.270	23308.000	19380.000
53	04/12/2002	145600	183.240	23290.000	19351.000
54	04/12/2002	145700	183.280	23263.000	19365.000
55	04/12/2002	145800	183.400	23286.000	19368.000
56	04/12/2002	145900	183.170	23323.000	19372.000
57	04/12/2002	150000	183.310	23303.000	19380.000
58	04/12/2002	150100	183.480	23308.000	19380.000

59	04/12/2002	150200	183.440	23284.000	19386.000
60	04/12/2002	150300	183.370	23293.000	19380.000
61	04/12/2002	150400	183.380	23285.000	19378.000
62	/ /				
63	/ /	AVE	183.127	23292.213	19359.492

↓

Apply an correction factor of 83.6 and ÷ by 60 = 26974.2 SCFM

Appendix G

Protocol 1 Calibration Gas Certificates

Scott Specialty Gases

RATA CLASS

Dual-Analyzed Calibration Standard

6141 EASTON ROAD, BLDG 1,PLUMSTEADVILLE,PA 18949-0310 Phone: 800-331-4953 Fax: 21

_CERTIFICATE_OF_ACCURACY:_EPA_Protocol_Gas_____

Assay_Laboratory
SCOTT SPECIALTY GASES
6141 EASTON ROAD, BLDG 1
PLUMSTEADVILLE,PA 18949-0310

P.O. No.: 4801419
Project No.: 01-67815-005

Customer_
GULF POWER COMPANY

55 NORTH "Q" STREET
PENSACOLA FL 32520-0310

_ANALYTICAL_INFORMATION_____

This certification was performed according to EPA Traceability Protocol For Assay & Certificati of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: AAL13953 Certification Date: 2/18/02 Exp. Date: 2/18/2004
Cylinder Pressure***: 2000 PSIG Batch No:0166901

COMPONENT___	CERTIFIED_CONCENTRATION_(Moles)		ANALYTICAL_ACCURACY**_	TRACEABILITY__
NITRIC OXIDE	11.1	PPM	+/- 1%	Direct NIST and NMi
NITROGEN - OXYGEN FREE		BALANCE		
TOTAL OXIDES OF NITROGEN	11.1	PPM		Reference Value Only

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997
__Product_certified_as_+/-_1%_analytical_accuracy_is_directly_traceable_to_NIST_or_NMI_standards

REFERENCE_STANDARD_____

TYPE/SRM_NO._EXPIRATION_DATE	CYLINDER_NUMBER__	CONCENTRATION____	COMPONENT____
NTRM 1684 5/01/05	ALM044908	100.7PM	NITRIC OXIDE

INSTRUMENTATION____

INSTRUMENT/MODEL/SERIAL#_____	DATE_LAST_CALIBRATED____	ANALYTICAL_PRINCIPLE___
HORIBA/CLA220/5708850810	01/21/02	CHEMILUMINESCENCE

_ANALYZER_READINGS_____

(Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

First Triad Analysis	Second Triad Analysis	Calibration Curve
NITRIC OXIDE		
Date:02/11/02 Resp Unit:VOLTS	Date: 02/18/02esp Unit: VOLTS	Concentration=A+Bx+Cx2+Dx3+Ex4
Z1=0.004501=4.84390T1=0.52920	Z1=0.006301=4.780001=0.52830	r=.999998 1684
R2=4.838702=0.00550T2=0.52690	R2=4.787802=0.005702=0.52800	Constants: A=-0.028361
Z3=0.004503=0.52790R3=4.83590	Z3=0.006603=0.527603=4.79720	B=21.014707 C=
Avg. Conc: 11.10 PPM	Avg. Conc: 11.10 PPM	D= E=

APPROVED BY: _____
COLIN MCCARTY

Scott Specialty Gases

RATA CLASS

Dual-Analyzed Calibration Standard

6141 EASTON ROAD, BLDG 1,PLUMSTEADVILLE,PA 18949-0310 Phone: 800-331-4953 Fax: 21

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory
SCOTT SPECIALTY GASES
6141 EASTON ROAD, BLDG 1
PLUMSTEADVILLE,PA 18949-0310

P.O. No.: 4801419
Project No.: 01-66217-003

Customer
GULF POWER COMPANY
J.MCPHERSON/PO#4801419
55 NORTH "Q" STREET
PENSACOLA FL 32520-0310

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certificati of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: ALM003653 Certification Date: 1/24/02 Exp. Date: 1/24/2004
Cylinder Pressure***: 2000 PSIG Batch No:0165741

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
NITRIC OXIDE	18.0	PPM	+/- 1%	Direct NIST and NMi
NITROGEN - OXYGEN FREE		BALANCE		
TOTAL OXIDES OF NITROGEN	18.1	PPM		Reference Value Only

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997

Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1684	5/01/05	ALM044908	100.7PM	NITRIC OXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
HORIBA/CLA220/5708850810	01/21/02	CHEMILUMINESCENCE

ANALYZER READINGS

(Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

First Triad Analysis | Second Triad Analysis | Calibration Curve

NITRIC OXIDE
Date:01/17/02 Resp Unit:VOLTS Date: 01/24/02esp Unit: VOLTS Concentration=A+Bx+C

Scott Specialty Gases

RATA CLASS

Dual-Analyzed Calibration Standard

6141 EASTON ROAD, BLDG 1,PLUMSTEADVILLE,PA 18949-0310 Phone: 800-331-4953 Fax: 21

TM

_CERTIFICATE_OF_ACCURACY:_Interference_Free__EPA_Protocol_Gas_____

Assay_Laboratory
SCOTT SPECIALTY GASES
6141 EASTON ROAD, BLDG 1
PLUMSTEADVILLE,PA 18949-0310

P.O. No.: 4801419
Project No.: 01-66217-002

Customer_
GULF POWER COMPANY
J.MCPHERSON/PO#4801419
55 NORTH "Q" STREET
PENSACOLA FL 32520-0310

_ANALYTICAL_INFORMATION_____

This certification was performed according to EPA Traceability Protocol For Assay & Certificati of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: ALM042254 Certification Date: 2/04/02 Exp. Date: 2/03/2005
Cylinder Pressure***: 1982 PSIA

COMPONENT___	CERTIFIED_CONCENTRATION_(Moles)		ANALYTICAL ACCURACY**_	TRACEABILITY__
CARBON DIOXIDE	5.56	%	+/- 1%	Direct NIST and NMi
NITROGEN	BALANCE			

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997
__Product_certified_as_+/-_1%_analytical_accuracy_is_directly_traceable_to_NIST_or_NMI_standards

REFERENCE_STANDARD_____

TYPE/SRM_NO._	EXPIRATION_DATE	CYLINDER_NUMBER__	CONCENTRATION____	COMPONENT____
NTRM 2000	8/01/05	ALM048927	5.032	CARBON DIOXIDE

INSTRUMENTATION____

INSTRUMENT/MODEL/SERIAL#_____	DATE_LAST_CALIBRATED____	ANALYTICAL_PRINCIPLE___
FTIR System/8220/AAB9300174	01/24/02	Scott Enhanced FTIR

_ANALYZER_READINGS_____

(Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

First Triad Analysis | Second Triad Analysis | Calibration Curve

CARBON DIOXIDE
Date:02/04/02 Resp Unit:%
Z1=0.006301=5.03285T1=5.56372
R2=5.025432=0.00560T2=5.55561
Z3=0.007703=5.55521R3=5.03770
Avg. Conc: 5.558 %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=0.999990
Constants: A=0.000000
B=1.000000 C=0.000000
D=0.000000 E=0.000000

APPROVED BY: _____
Michael A. Kuhns

Scott Specialty Gases

RATA CLASS

Dual-Analyzed Calibration Standard

6141 EASTON ROAD, BLDG 1,PLUMSTEADVILLE,PA 18949-0310 Phone: 800-331-4953 Fax: 21

TM

_CERTIFICATE_OF_ACCURACY:_Interference_Free__EPA_Protocol_Gas_____

Assay_Laboratory

SCOTT SPECIALTY GASES
6141 EASTON ROAD, BLDG 1
PLUMSTEADVILLE,PA 18949-0310

P.O. No.: 4801419
Project No.: 01-66217-001

Customer_
GULF POWER COMPANY
J.MCPHERSON/PO#4801419
55 NORTH "Q" STREET
PENSACOLA FL 32520-0310

_ANALYTICAL_INFORMATION_____

This certification was performed according to EPA Traceability Protocol For Assay & Certificati of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: ALM047716 Certification Date: 1/27/02 Exp. Date: 1/26/2005
Cylinder Pressure***: 1988 PSIA

COMPONENT___	CERTIFIED_CONCENTRATION_(Moles)		ANALYTICAL_ACCURACY**_	TRACEABILITY__
CARBON DIOXIDE	9.05	%	+/- 1%	Direct NIST and NMi
NITROGEN	BALANCE			

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997
__Product_certified_as_+/-_1%_analytical_accuracy_is_directly_traceable_to_NIST_or_NMI_standards

REFERENCE_STANDARD_____

TYPE/SRM_NO._EXPIRATION_DATE	CYLINDER_NUMBER__	CONCENTRATION____	COMPONENT____
NTRM 1675 6/01/04	K011028	13.93	CO2/N2

INSTRUMENTATION____

INSTRUMENT/MODEL/SERIAL#_____	DATE_LAST_CALIBRATED____	ANALYTICAL_PRINCIPLE___
FTIR System/8220/AAB9300174	12/27/01	Scott Enhanced FTIR

_ANALYZER_READINGS_____

(Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

First Triad Analysis | Second Triad Analysis | Calibration Curve

CARBON DIOXIDE
Date:01/27/02 Resp Unit:%
Z1=0.003201=13.922831=9.05192
R2=13.93153=0.00160T2=9.05242
Z3=0.004903=9.05222R3=13.93563
Avg. Conc: 9.052 %

Concentration=A+Bx+Cx2+Dx3+Ex4
r=0.999990
Constants: A=0.000000
B=1.000000 C=0.000000
D=0.000000 E=0.000000

APPROVED BY: _____
Michael A. Kuhns

Appendix H

Reference Method Analyzer Performance Results

Section 1

Analyzer Interference Response Checks

Interference Test Results For Gulf Powers Relative Accuracy Test Audit Trailer

On 8/11/93 Gulf Power Company conducted Reference Method Testing to determine the amount of interference induced in a dilution Continuous Emission Monitoring Systems used for performing Relative Accuracy Test Audits. The Test was conducted using EPA Reference method 6, and was compared to the SO2 analyzers of the gulf power continuous emission monitor Audit trailer.

The testing was conducted by Jack Covington of Sanders Engineering and Stan Houston & John Mcpherson of Gulf Power Company. The average percent difference for instrument bay No, 1 was 4.8%, and 4.9% for instrument bay No. 2. These results do meet the Performance Specifications listed in Pt. 60 Appendix A for Method 6C. Actual run data is listed in the following tables.

GULF POWER COMPANY
CEM AUDIT TRAILER
INTERFERENCE TEST RESULTS

ANALYZER DATA
INSTRUMENT BAY NO. 1
MODEL NO. 43H
SERIAL NO. 43H-42920-268
DATE OF TEST **8/11/93**

RUN 1		
METHOD 6	ANALYZER	% DIFF.
1669.4	1766.6	-5.8
RUN 2		
METHOD 6	ANALYZER	% DIFF.
1709.3	1786.9	-4.5
RUN 3		
METHOD 6	ANALYZER	% DIFF.
1722.0	1793.9	-4.2

RUN NO. 1

INSTRUMENT BAY NO. ONE

TIME	SO2
132259	1762.3
132359	1762.4
132459	1765.4
132559	1764.5
132659	1763.7
132759	1761.2
132859	1759.8
132959	1759.9
133059	1762.0
133159	1764.9
133259	1761.4
133359	1760.2
133459	1763.4
133559	1760.2
133659	1760.0
133759	1772.8
133859	1780.0
133959	1777.7
134059	1778.4
134159	1778.8
134259	1779.3

# OF MINUTES IN THE RUN	21.0
AVERAGE SO2 READING (ppm)	1766.6

RUN NO. 2
INSTRUMENT BAY NO. ONE

TIME	SO2
145459	1760.4
145559	1759.3
145659	1763.1
145759	1766.8
145859	1773.0
145959	1775.0
150059	1784.9
150159	1802.0
150259	1804.9
150359	1800.6
150459	1796.7
150559	1793.0
150659	1789.6
150759	1792.0
150859	1792.3
150959	1796.7
151059	1797.3
151159	1794.3
151259	1795.7
151359	1794.9
151459	1793.3

# OF MINUTES IN THE RUN	21.0
AVERAGE SO2 READING (ppm)	1786.9

RUN NO. 3
INSTRUMENT BAY NO. ONE

TIME	SO2
153659	1800.9
153759	1799.1
153859	1791.1
153959	1786.7
154059	1785.2
154159	1791.5
154259	1801.0
154359	1806.8
154459	1799.9
154559	1790.1
154659	1785.8
154759	1785.8
154859	1783.2
154959	1786.4
155059	1791.9
155159	1799.3
155259	1796.5
155359	1797.0
155459	1799.5
155559	1801.0
155659	1798.5

# OF MINUTES IN THE RUN	21.0
AVERAGE SO2 READING (ppm)	1794.2

GULF POWER COMPANY
CEM AUDIT TRAILER
INTERFERENCE TEST RESULTS

ANALYZER DATA

INSTRUMENT BAY NO. 2
MODEL NO. 43H
SERIAL NO. 43H-42918-268

DATE OF TEST **8/11/93**

RUN 1		
METHOD 6	ANALYZER	% DIFF.
1669.4	1766.8	-5.8
RUN 2		
METHOD 6	ANALYZER	% DIFF.
1709.3	1786.0	-4.5
RUN 3		
METHOD 6	ANALYZER	% DIFF.
1722.0	1793.9	-4.2

RUN NO. 1

INSTRUMENT BAY NO. TWO

TIME	SO2
132200	1765.4
132300	1764.4
132400	1764.8
132500	1767.8
132601	1765.7
132700	1764.9
132800	1762.4
132901	1761.4
133000	1760.8
133100	1761.4
133201	1764.4
133300	1762.2
133400	1761.9
133501	1764.0
133600	1759.9
133700	1762.8
133800	1774.7
133900	1780.5
134000	1776.9
134100	1777.7
134201	1777.9

# OF MINUTES IN THE RUN	21.0
AVERAGE SO2 READING (ppm)	1766.8

RUN NO. 2
INSTRUMENT BAY NO. TWO

TIME	SO2
145400	1758.7
145500	1761.5
145600	1761.0
145700	1764.5
145801	1766.5
145900	1773.0
150001	1775.3
150100	1787.1
150200	1802.1
150300	1804.5
150400	1800.7
150500	1797.4
150600	1793.5
150701	1791.5
150800	1793.7
150900	1793.4
151000	1799.2
151100	1797.3
151200	1794.0
151300	1795.6
151401	1794.9

# OF MINUTES IN THE RUN	21.0
AVERAGE SO2 READING (ppm)	1786.0

RUN NO. 3
INSTRUMENT BAY NO. TWO

TIME	SO2
153600	1808.5
153700	1802.5
153800	1798.5
153900	1790.4
154000	1785.2
154100	1784.5
154200	1790.4
154301	1798.8
154400	1804.7
154500	1796.9
154601	1789.4
154700	1786.5
154800	1786.6
154900	1783.2
155000	1786.8
155100	1793.3
155200	1797.2
155300	1795.0
155400	1796.1
155500	1799.2
155600	1798.2

# OE MINUTES IN THE RUN	21.0
AVERAGE SO2 READING (ppm)	1793.9

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LIST OF TABLES

1. INTRODUCTION

Sanders Engineering & Analytical Services, Inc. (SEAS) performed a sulfur dioxide interference test for Gulf Power Company's mobile laboratory trailer. The testing was performed on August 11, 1993, at Gulf Power Company's Plant Crist, Unit 6. The testing was performed in accordance with the applicable U.S. EPA procedures specified at 40 CFR, Part 60, Appendix A, Method 6.

The purpose of the test was to determine whether Gulf Power's mobile laboratory instruments were consistent with the EPA Reference Method 6 for sulfur dioxide.

The test was conducted by Mr. Jack Covington and Mr. Tim Kray of Sanders Engineering & Analytical Services, Inc., and was coordinated with Mr. Stan Houston of Gulf Power Company.

2. SUMMARY AND DISCUSSION OF RESULTS

In the performance of the sampling all runs of the reference method and the mobile laboratory were performed simultaneously. The sampling point for both of these methods were identical and were at least one meter inside the duct work.

In order to correct the reference method test to a wet basis, a separate moisture determination test was performed. The results of this moisture test is used for the correction of all the reference method results to a wet basis.

The results of the reference method test for sulfur dioxide on both the wet and dry basis are presented in Table I. The correction from a wet to dry basis is performed using the following equation:

$$\text{Concentration (Dry)} = \frac{\text{Concentration (Wet)}}{1 - \%\,\text{Water} / 100}$$

The field data sheets and the laboratory titration data are presented in Appendix A. The sampling procedures for the reference method are presented in Appendix B.

SULFUR DIOXIDE EMISSIONS TEST RESULTS
GULF POWER COMPANY
PLANT CRIST-TRAILER
06-11-93

INPUT DATA

		RUN 1	RUN 2	RUN 3	AVERAGE
STACK STATIC PRESSURE	IN. H2O	0.2000	0.2000	0.2000	
BAROMETRIC PRESSURE	IN. Hg	30.0300	30.0300	30.0300	
PRESSURE DROP ACROSS ORIFICE	IN. H2O	1.0000	1.0000	1.0000	
METER CORRECTION FACTOR	DIMENSIONLESS	1.0040	1.0040	1.0040	
AVERAGE DRY GAS METER TEMPERATURE	DEG. F	92.0000	93.1250	94.5000	
PERCENTAGE OF O2 IN STACK GAS		6.0000	6.0000	6.0000	
PERCENTAGE OF CO2 IN STACK GAS		15.0000	15.0000	15.0000	
GAS VOLUME METERED	ACF	10.9200	11.0150	10.7000	
NORMALITY OF TITRANT	MEQ/ml	0.0079	0.0079	0.0079	
VOLUME OF ALIQUOT TITRATED	ml	3.0000	3.0000	3.0000	
TOTAL VOLUME OF SOLUTION	ml	500.0000	500.0000	500.0000	
VOLUME OF TITRANT USED FOR THE SAMPLE	ml	34.5000	35.7000	34.8500	
VOLUME OF TITRANT USED FOR THE BLANK	ml	0.0200	0.0200	0.0200	

RESULTS

VOLUME OF GAS SAMPLED	SDCF	10.55	10.62	10.26	10.48
WATER VAPOR IN GAS STREAM	PERCENT	0.4000	0.4000	0.4000	0.40
SO2 CONCENTRATION	LBS/SDCF	3.0639E-04	3.1370E-04	3.1603E-04	3.12E-04
SO2 EMISSIONS	PPM - WET	1669.2522	1709.1048	1721.7779	1700.04
SO2 EMISSIONS	PPM - DRY	1842.44	1886.43	1900.42	1876.43

APPENDIX A FIELD DATA SHEETS AND LABORATORY TITRATION DATA

BEST AVAILABLE COPY

SANDERS ENGINEERING & ANALYTICAL SERVICES, Inc.
1568 Leroy Stevens Rd.
Mobile, AL 36695
Office: (205) 633-4120
FAXs: (205) 633-2285

FIELD DATA SHEET

COMPANY Gulf Power Co DATE 8-24-93 DGM# S-150
PLANT Crist OPERATOR [illegible] ΔH@ .75
UNIT 6 METHOD 6 PROBE SS liner 10' length

	RUN 1	RUN 2	RUN 3
NOZZLE CALIBRATION PRE	NA		
NOZZLE CALIBRATION POST			
FILTER NUMBER	NA		
METER READING FINAL	65.120 / 654.350	84.715	104.450
METER READING INITIAL	54.250 / 615.150	73.700	93.750
METER READING NET	10.92 / 39.150	11.015	10.750
LEAK CHECK SYSTEM Pre	0	.01	✓
LEAK CHECK SYSTEM Post	25 in. Hg, .010	20 in. Hg, .003	20 in. Hg, .006
VOLUME OF LIQUID WATER COLLECTED IMP.1 FINAL / INITIAL / NET	127 / 100 / 27		
IMP.2 FINAL / INITIAL / NET	130 / 100 / 30		
IMP.3 FINAL / INITIAL / NET	0 / 0 /		
IMP.4 FINAL / INITIAL / NET	1446.5 / 1420.0 / 26.5		
TOTAL	83.5		
GAS ANALYSIS O_2	6	6.0	6.0
CO_2	15.0	15.0	15.0
CO	NA	NA	
STATIC (in. H_2O)	-4.20	-4.20	-4
BAROMETRIC (in. Hg)	30.03	30.03	30.03

PORT # / POINT #	TIME	GAS METER VOL. (cu.ft.)	VEL. HEAD ΔP in. H_2O	ORIFICE HEAD ΔH in. H_2O	TEMPERATURE °F STACK	PROBE	HOT BOX	IMP.	GAS METER IN	GAS METER OUT	VAC. in. H_g
	1:19	54200		1.0				✓	91	91	8
	24	56.550		1.0				✓	92	91	8
	29	59.800		1.0				✓	94	91	8
	34	62.465		1.0				✓	95	91	8
	39	65.120		✓							
									92		
		10.92									

CHECK INDICATES TEMPERATURES MEET REQUIRED LIMITS.

COMPANY GIF Ann DATE 8-16-93

SITE Cist #6 RUN # 1 PAGE ____ OF ____

PORT # / POINT #	TIME	GAS METER VOL. (cu.ft.)	VEL. HEAD ΔP in.H_2O	ORIFICE HEAD Δ# in. H_2O	TEMPERATURE °F						VAC in H
					STACK	PROBE	HOT BOX	IMP.	GAS METER IN	GAS METER OUT	
	14:50	73.705		1.0				✓	93	92	8
	:55	76.605		1.0				✓	93	92	8
	15:01	79.505		1.0				✓	95	92	8
	:05	82.005		1.0				✓	96	94	8
	15:10	84.715									
		11.015							93.185		
		11.015									
		leak 0.617									

CHECK INDICATES TEMPERATURES MEET REQUIRED LIMITS.

COMPANY Gulf Power Co DATE 4-1-93

SITE Crist #6 RUN # 2 PAGE ___ OF ___

BEST AVAILABLE COPY

PORT # / POINT #	TIME	GAS METER VOL. (cu. ft.)	VEL. HEAD ΔP in. H_2O	ORIFICE HEAD Δh in. H_2O	TEMPERATURE °F: STACK	PROBE	HOT BOX	IMP.	GAS METER IN	GAS METER OUT	VAC. in. H_g
	15:33	93.700		1.0				✓	98	93	16
	38	98.380		1.0				✓	96	93	16
	43	98.020		1.0				✓	96	93	16
	48	101.750		1.0				✓	96	93	16
	53	104.400									
									94.4		
		10.7									
		91.46									
	11:10	615.350		1.5				✓	91	88	
	:40	633.450		1.5				✓	91	89	
	12:15	654.250		1.5				✓	92	90	
		38.50									

CHECK INDICATES TEMPERATURES MEET REQUIRED LIMITS.

COMPANY G.K. Run Co DATE 8-1-93

SITE Cell 6 RUN # 3 PAGE ____ OF ____

SO_2 Titration Lab Sheet

Standardization

Date Analyzed: 8-11-93

Analyst: [illegible]

	1	2	3	4
Final	37.8	37.8	37.8	
Initial	0	0	0	
Difference	37.8	37.8	37.0	

Aliquat Titrated ml	Normality of Standard meq/ml
3	.1079

Normality BaCl2 = .00754

Sample Analysis

Company Name: Gulf Power Co

Analyst: [illegible]

Unit: Unit 6 / mobil Lab Tanker

Date of Test: 8-11-93

Date Analyzed: 8-11-93

Run # 1

Total Volume of Solution ml	Volume of Aliquot Titrated ml	Normality of Titrant meq/ml	Volume of Titrant Used for Sample ml	Volume of Titrant Used for Blank ml
502	3	.00754	34.5	.02

	1	2	3	4	Average
Final	34.5	34.5	34.5		
Initial	0	0	0		
ml Titrant	34.5	34.5	34.5		34.5

SO_2 Titration Lab Sheet

Sample Analysis

Company Name: Gulf Power Company

Analyst: [illegible]

Unit: Crist 6 / Mobile Lab Trailer

Date of Test: 8-11-93

Date Analyzed: 8-11-93

Run # 2

Total Volume of Solution ml	Volume of Aliquot Titrated ml	Normality of Titrant meq/ml	Volume of Titrant Used for Sample ml	Volume of Titrant Used for Blank ml
500	3	.00794	35.7	.02

	1	2	3	4	Average
Final	35.7	35.7			
Initial	0	0			
ml Titrant	35.7	35.7			35.7

Run # 3

Total Volume of Solution ml	Volume of Aliquot Titrated ml	Normality of Titrant meq/ml	Volume of Titrant Used for Sample ml	Volume of Titrant Used for Blank ml
500	3	.00794	34.85	.02

	1	2	3	4	Average
Final	34.8	34.9			
Initial	0	0			
ml Titrant	34.8	34.9			34.85

APPENDIX B SAMPLING PROCEDURES

SULFUR DIOXIDE SAMPLING PROCEDURE (EPA Method 6)

The sampling procedure utilized is the procedure found in 40 CFR, Part 60, Appendix A, Method 6. A brief description of the sampling procedure is as follows:

The sample train was prepared in the following manner: 100 ml of 80 percent isopropanol was added to the first impinger. To the second and third impingers, 100 ml of 3 percent hydrogen peroxide was added, and preweighed silica gel was added to the fourth impinger. The train, as shown in the attached drawing, was leak checked by plugging the inlet and pulling a 15 inch Hg vacuum. A leakage rate not in excess of 0.02 cfm was considered acceptable.

Crushed ice was placed around the impingers. The tip of the probe was placed at the sampling site. The pump was started immediately and the flow was adjusted to a rate less than one cubic foot per minute. During sampling, readings were taken at five minute intervals. After the required sampling time had elapsed, the pump was turned off, the final readings recorded, the probe removed from the stack, and a final leak rate was determined. The impingers were flushed with clean ambient air at the sampling rate for 15 minutes.

Sample Recovery

After the completion of each run, the collection train was moved to the sample recovery area. The contents of the first impinger were discarded. The contents of the second and third impingers were emptied into a leak-free polyethylene bottle. The impingers and connecting tubes were rinsed with distilled water and these washings were added to the storage container.

Analytical Procedures

The contents of the storage container for each run were transferred to a volumetric flask and diluted with deionized distilled water. An aliquot of this solution was pipetted into a 250 ml Erlenmeyer flask, four times the aliquot volume of 100 percent isopropanol, and 2 to 4 drops of Thorin indicator were added. This was titrated to a pink end point using 0.01 normal barium perchlorate. Replicate titrations on each run were repeated until they agreed within one percent, or 0.2 ml., whichever was larger.

Subsection (c)

Miscellaneous

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

JUL 30 1993

4APT-AEB

Mr. John M. Hay
Alabama Power Company
P.O. Box 2641
Birmingham, Alabama 35291

RE: Dilution Extractive SO_2 Monitors Used for EPA Method 6C Sampling

Dear Mr. Hay:

This letter is in response to your June 30, 1993, request for clarification regarding the use of dilution extractive systems for Method 6C sampling. Your letter requested approval of two modifications to standard Method 6C procedures, and we have determined that both of proposed modifications are acceptable.

The first modification proposed in your letter was to combine calibration error checks and sample system bias checks for the SO_2 analyzer. EPA has determined previously that combining these checks is acceptable for dilution extractive systems since calibration gases cannot be introduced directly into an analyzer that uses a dilution system to obtain samples. The SO_2 monitor and dilution system should be calibrated by introducing zero, mid-range, and high-range gases through the dilution probe to the monitor, and the calibration error for all three gases should be less than ±2 percent of span.

The second modification proposed in your letter involved procedures for the interference check required in Section 7.2 of Method 6C. Specifically, you requested that you be allowed to collect modified Method 6 samples from the duct rather than from the Method 6C bypass line. We have determined that this modification is acceptable because comparing results from samples collected in the duct to those from the SO_2 monitor should be sufficient for detecting any interference caused by the Method 6C sampling system.

If you have any questions about the determination provided in this letter please contact Mr. David McNeal of my staff at 404/347-5014.

Sincerely yours,

Mr. Brian L. Beals, Chief
Source Evaluation Unit
Air Enforcement Branch
Air, Pesticides, and Toxics
Management Division

cc: Mr. Nathan Hartman, ADEM

INTERFERENCE RESPONSE CHECKS

Interference response tests were performed of all of the audit trailer analyzers as per 40 CFR Part 60, Appendix A, Method 20, under section 5, "Measurement System Performance Test Procedures and specifically under section 5.4, "Interference Response". Initially all instruments were subjected to an initial calibration to confirm that all zero baselines and span responses were correct. The various gases outlined in Table 20-1 of Part 60, Appendix A, Method 20 were then injected into the analyzers through the complete sampling train which is used both for calibration and effluent gas measurement. All analyzers had virtually no response to any of the possible interferent gases.

The following pages contain tables of the specific results and the test documentation (data printouts).

INTERFERENCE RESPONSE TEST

Audit Trailer Instrument Bay #1

Date of Test: 09/20/93
Parameter: SO2
Analyzer Ser. Number: 43H-42920-268
Performed by: John McPherson

Type Gas	Gas Concentration	Gas Cylinder Certification #	Analyzer Response	Percent of Span
CO	517 ppm	ALM026339	0.0 ppm	0.0 %
CO2	18.02 %	ALM017936	0.0 ppm	0.0 %
NOx	251 ppm	ALM005249	2.2 ppm	.07 %
O2	20.09 %	N/A	0.0 ppm	0.0 %

Audit Trailer Instrument Bay #2

Date of Test: 09/20/93
Parameter: SO2
Analyzer Ser. Number: 43H-42918-268
Performed by: John McPherson

Type Gas	Gas Concentration	Gas Cylinder Certification #	Analyzer Response	Percent of Span
CO	517 ppm	ALM026339	0.2 ppm	0.0 %
CO2	18.02 %	ALM017936	0.0 ppm	0.0 %
NOx	251 ppm	ALM005249	2.9 ppm	.1 %
O2	20.09 %	N/A	0.0 ppm	0.0 %

Signature:

INTERFERENCE RESPONSE TEST

Audit Trailer Instrument Bay #1

Date of Test: 09/20/93
Parameter: NOx
Analyzer Ser. Number: 42D-42544-267
Performed by: John McPherson

Type Gas	Gas Concentration	Gas Cylinder Certification #	Analyzer Response	Percent of Span
CO	517 ppm	ALM026339	0.0 ppm	0.0 %
CO2	18.02 %	ALM017936	0.0 ppm	0.0 %
SO2	173 ppm	AAL9562	0.7 ppm	0.7 %
O2	20.09 %	N/A	0.0 ppm	0.0 %

Audit Trailer Instrument Bay #2

Date of Test: 09/20/93
Parameter: NOx
Analyzer Ser. Number: 42D-42655-267
Performed by: John McPherson

Type Gas	Gas Concentration	Gas Cylinder Certification #	Analyzer Response	Percent of Span
CO	517 ppm	ALM026339	0.2 ppm	0.0 %
CO2	18.02 %	ALM017936	0.0 ppm	0.0 %
SO2	173 ppm	AAL9562	0.2 ppm	0.0 %
O2	20.09 %	N/A	0.0 ppm	0.0 %

Signature: John M. Reis

INTERFERENCE RESPONSE TEST

Audit Trailer Instrument Bay #1

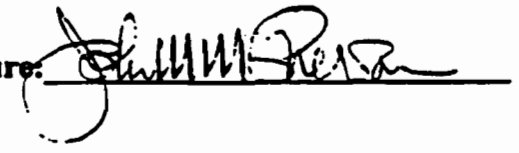
Date of Test: 09/20/93
Parameter: CO2
Analyzer Ser. Number: 43H-42920-268
Performed by: John McPherson

Type Gas	Gas Concentration	Gas Cylinder Certification #	Analyzer Response	Percent of Span
CO	517 ppm	ALM026339	0.0 ppm	0.0%
SO2	173 ppm	AAL9562	0.0 ppm	0.0%
NOx	251 ppm	ALM005249	0.1 ppm	0.5%
O2	20.09 %	N/A	0.0 ppm	0.0%

Audit Trailer Instrument Bay #2

Date of Test: 09/20/93
Parameter: CO2
Analyzer Ser. Number: 43H-42918-268
Performed by: John McPherson

Type Gas	Gas Concentration	Gas Cylinder Certification #	Analyzer Response	Percent of Span
CO	517 ppm	ALM026339	0.0 ppm	0.0%
SO2	173 ppm	AAL9562	0.0 ppm	0.0%
NOx	251 ppm	ALM005249	0.0 ppm	0.0%
O2	20.09 %	N/A	0.0 ppm	0.0%

Signature: 

BAY #1 Initial Cal

```
07:29:44 09-20-1994 End Cal Gas #9 flow.
         Aborted:     0.0PPM SO2      0.0PPM NOx    17.9% CO2
07:29:51 09-20-1994 Begin Cal Gas #9 flow.
         Type: CO2  Value: 0   Cyl.
07:29:59 09-20-1994 End Cal Gas #9 flow.
         Accepted:      0.0PPM SO2      0.0PPM NOx    18.0% CO2
07:32:06 09-20-1994 Begin Cal Gas #9 flow.
         Type: CO2  Value: 0   Cyl.
07:42:13 09-20-1994 End Cal Gas #9 flow.
         Accepted:      0.0PPM SO2      0.0PPM NOx    17.6% CO2
07:42:20 09-20-1994 Begin Cal Gas #5 flow.
         Type: NOX  Value: 556   Cyl.
08:03:38 09-20-1994 End Cal Gas #5 flow.
         Aborted:     0.0PPM SO2      0.0PPM NOx      .2% CO2
08:03:48 09-20-1994 Begin Cal Gas #2 flow.
         Type: SO2  Value: 1708   Cyl.
08:04:56 09-20-1994 End Cal Gas #2 flow.
         Aborted:     0.0PPM SO2      0.0PPM NOx     8.4% CO2
08:05:03 09-20-1994 Begin Cal Gas #1 flow.
         Type: SO2  Value: 760   Cyl.
08:17:22 09-20-1994 End Cal Gas #1 flow.
         Accepted:  1678.4PPM SO2    549.2PPM NOx     0.0% CO2
```

Inj. 18% CO2

Invalid No gases hook

Inj. 1643 SO2 553 NOx

BAY 1 Interference Checks

Inj. 20.9% O2 (AMBIENT AIR)

```
08:18:46 09-20-1994 Begin Probe Blowback
08:24:44 09-20-1994 Probe Blowback Ended

08:25:05 09-20-1994 Begin Cal Gas #4 flow.
08:25:10 09-20-1994 End Cal Gas #4 flow.
         Accepted:      0.0PPM SO2      0.0PPM NOx     0.0% CO2

08:25:39 09-20-1994 Begin Cal Gas #2 flow.
         Type: SO2  Value: 1708   Cyl.
08:30:21 09-20-1994 End Cal Gas #2 flow.
         Accepted:    174.4PPM SO2       .7PPM NOx     0.0% CO2

:30:48 09-20-1994 Begin Cal Gas #8 flow.
         Type: CO2  Value: 0   Cyl.
08:40:20 09-20-1994 End Cal Gas #8 flow.
         Accepted:      0.0PPM SO2      0.0PPM NOx     0.0% CO2
```

Inj. 173 ppm SO2 through Dil. probe

Inj. 517 ppm CO thru Dil

BAY#2
Initial CAL

INJ, 18.02 CO2

09:46:05 09-20-1994 Begin Cal Gas #9 flow.
Type: Value: 0 Cyl.
10:48:52 09-20-1994 End Cal Gas #9 flow.
Accepted: 0.0PPM SO2 0.0PPM NOx 18.0% CO2 0.0% O2 0.0PPM CO
10:49:49 09-20-1994 Begin Cal Gas #1 flow.
Type: Value: 0 Cyl.
11:04:09 09-20-1994 End Cal Gas #1 flow.
Accepted: 1465.9PPM SO2 546.5PPM NOx 0.0% CO2 0.0% O2 0.0PPM CO

Inj 1647 SO2 553 NOx

Interference checks

Inj. 20.9% O2 (BLOWBACK)

11:04:38 09-20-1994 Begin Probe Blowback

11:16:15 09-20-1994 Begin Cal Gas #5 flow.
Type: Value: 0 Cyl.
11:16:20 09-20-1994 End Cal Gas #5 flow.
Accepted: 0.0PPM SO2 0.0PPM NOx 0.0% CO2 0.0% O2 0.0PPM CO

Inj. 517 ppm CO through DIL PR

11:16:30 09-20-1994 Begin Cal Gas #8 flow.
Type: Value: 0 Cyl.
11:22:07 09-20-1994 End Cal Gas #8 flow.
Accepted: .7PPM SO2 .2PPM NOx 0.0% CO2 0.0% O2 0.0PPM CO

Inj. 173 ppm SO2

11:22:25 09-20-1994 Begin Cal Gas #2 flow.
Type: Value: 0 Cyl.
11:32:17 09-20-1994 End Cal Gas #2 flow.
Accepted: 149.5PPM SO2 .2PPM NOx 0.0% CO2 0.0% O2 0.0PPM CO

08:29 01-19-1994 Begin Cal Gas #1 flow.
: Value: 0 Cyl.
15:26 01-19-1994 End Cal Gas #1 flow.
Accepted: 747.3PPM SO2 0.0PPM NOx 1.0% CO2 0.0% O2 0.0PPM CO
17:15:31 01-19-1994 Begin Cal Gas #8 flow.
Type: Value: 0 Cyl.
17:18:37 01-19-1994 End Cal Gas #8 flow.
Accepted: 150.9PPM SO2 0.0PPM NOx 9.1% CO2 0.0% O2 0.0PPM CO
17:18:51 01-19-1994 Begin Cal Gas #4 flow.
Type: Value: 0 Cyl.

17:23:33 01-19-1994 End Cal Gas #1 flow.
Accepted: 748.7PPM SO2 0.0PPM NOx .1% CO2

17:23:40 01-19-1994 Begin Cal Gas #8 flow.
Type: Value: 0 Cyl.

BAY #2 NOx Injection (251 PPM)

17:23:54 01-19-1994 End Cal Gas #4 flow.
Accepted: 4.4PPM SO2 250.8PPM NOx 0.0% CO2 0.0% O2 0.0PPM CO

26:33 01-19-1994 End Cal Gas #8 flow.
Accepted: 131.1PPM SO2 0.0PPM NOx 9.3% CO2
17:26:40 01-19-1994 Begin Cal Gas #5 flow.
Type: Value: 0 Cyl.
17:26:46 01-19-1994 End Cal Gas #5 flow.
Accepted: 106.2PPM SO2 0.0PPM NOx 9.3% CO2
17:26:53 01-19-1994 Begin Cal Gas #3 flow.
Type: Value: 0 Cyl.
17:27:00 01-19-1994 End Cal Gas #3 fl .
Aborted: 84.2PPM SO2 C PPM NOx 9.3% CO2
17:27:07 01-19-1994 Begin Cal Gas #4 ow.
Type: Value: 0 Cyl.
17:32:14 01-19-1994 End Cal Gas #4 fl .
Accepted: 12.5PPM SO2 255.4PPM NOx .1% CO2

Rust 8

BAY #1 NOx Injection (251 ppm)

Section 2

NOx Converter Efficiency Check

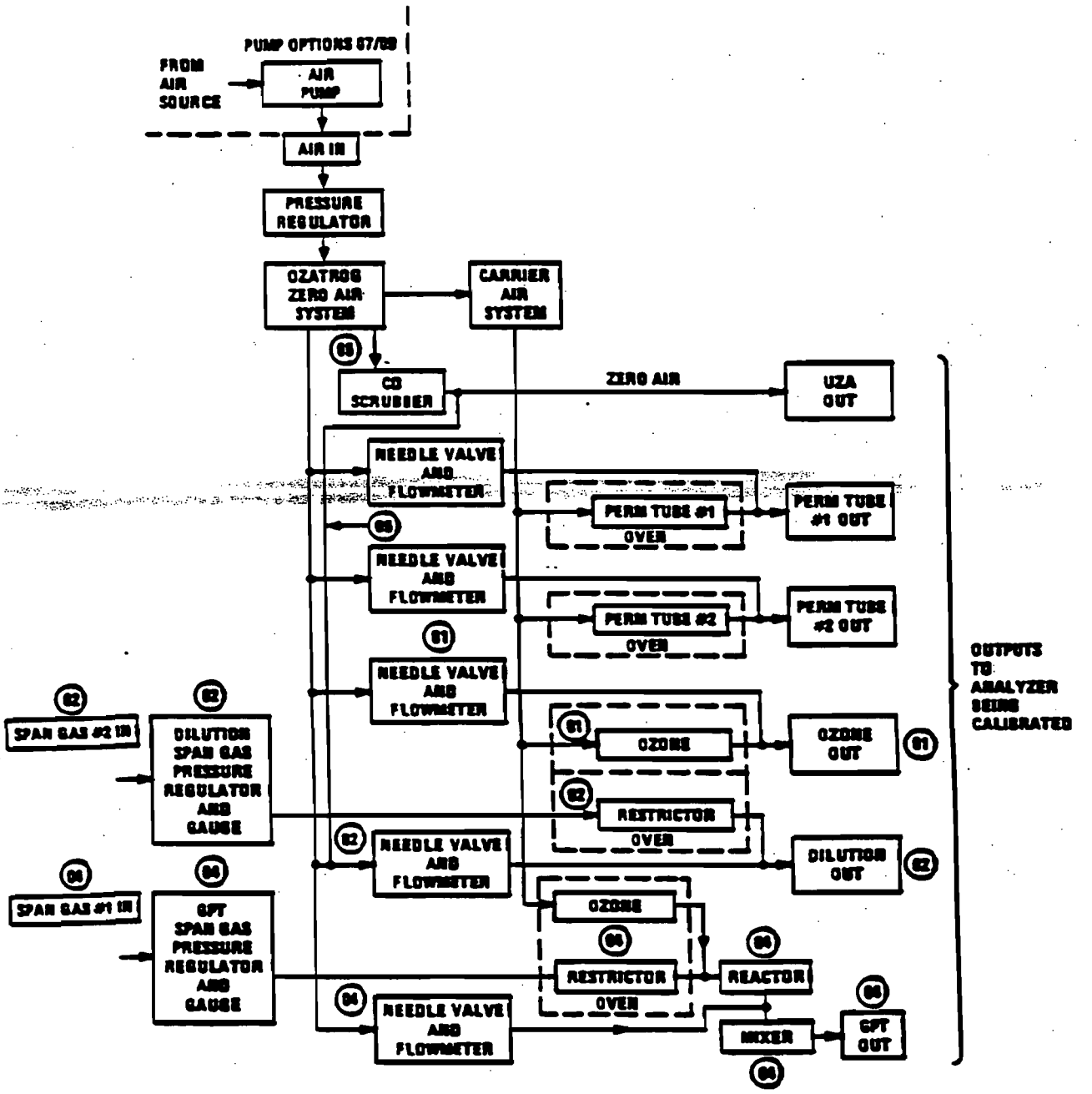
NOX CONVERTER EFFICIENCY TEST

NO2 to NO converter efficiency tests (sometimes referred to NOx converter efficiency tests) were performed on both of the audit trailer NOx analyzers (Bay #1 and Bay #2). These tests are required as part of the "Measurement System Performance Test Procedures" taken from 40 CFR Part 60, Appendix A, Method 20, Section 5.6. The converter efficiency of these analyzers was determined by use of an ambient level, gas phase titration (GPT), multi-gas, dilution type calibrator. This calibrator, Monitor Labs Model 8550 Ser. #788, has an internal precision ozone generator which converts a portion of the undiluted Nitric Oxide gas to Nitrogen Dioxide. This mixture is then diluted with a quantity of clean, dry, scrubbed "zero" air. The diluted concentation is introduced directly into the analyzers. (Note: These analyzers are actually ambient level air monitors.)

The test was conducted as follows. The diluted NO gas at a concentration of approximately 500 ppb was plumbed to the analyzers and a stable response was attained. Then incrementally the NO output was converted to increasingly higher proportions of NO2 to NO as the internal ozone generation was incrementally stepped up. Throughout this procedure the analyzer responses were recorded. The test of a properly operating NOx converter is a virtually constant measurement of NOX while the ratio of NO2 to NO is varied.

Our test revealed that the NOx converters were operating properly. The greatest excursion away from the the stable NOx reading was -3.6% for Bay #1 and -1.4% for Bay #2. This consisted of monitoring the analyzers for more than 2 hours and injecting three different ratios of NO2 to NO during test duration.

The following pages contain a drawing of the calibrator flow schematic, a drawing of the test set-up, and the test documentation (data printouts).



NOTES:
1. OPTIONAL PARTS ARE FLAGGED BY NUMBER TO INDICATE THE OPTION, 1, 2, ETC.
2. OPTIONS 01 AND 04 CANNOT BE INSTALLED IN THE SAME CALIBRATOR.
3. AIR IN AND SPAN GAS #2 IN ETC ARE PLUMBING CONNECTORS, MARKED THE WAY THEY ARE LABELED ON THE CALIBRATOR.

Figure 4-2. Calibrator with Options, Overall Block Diagram

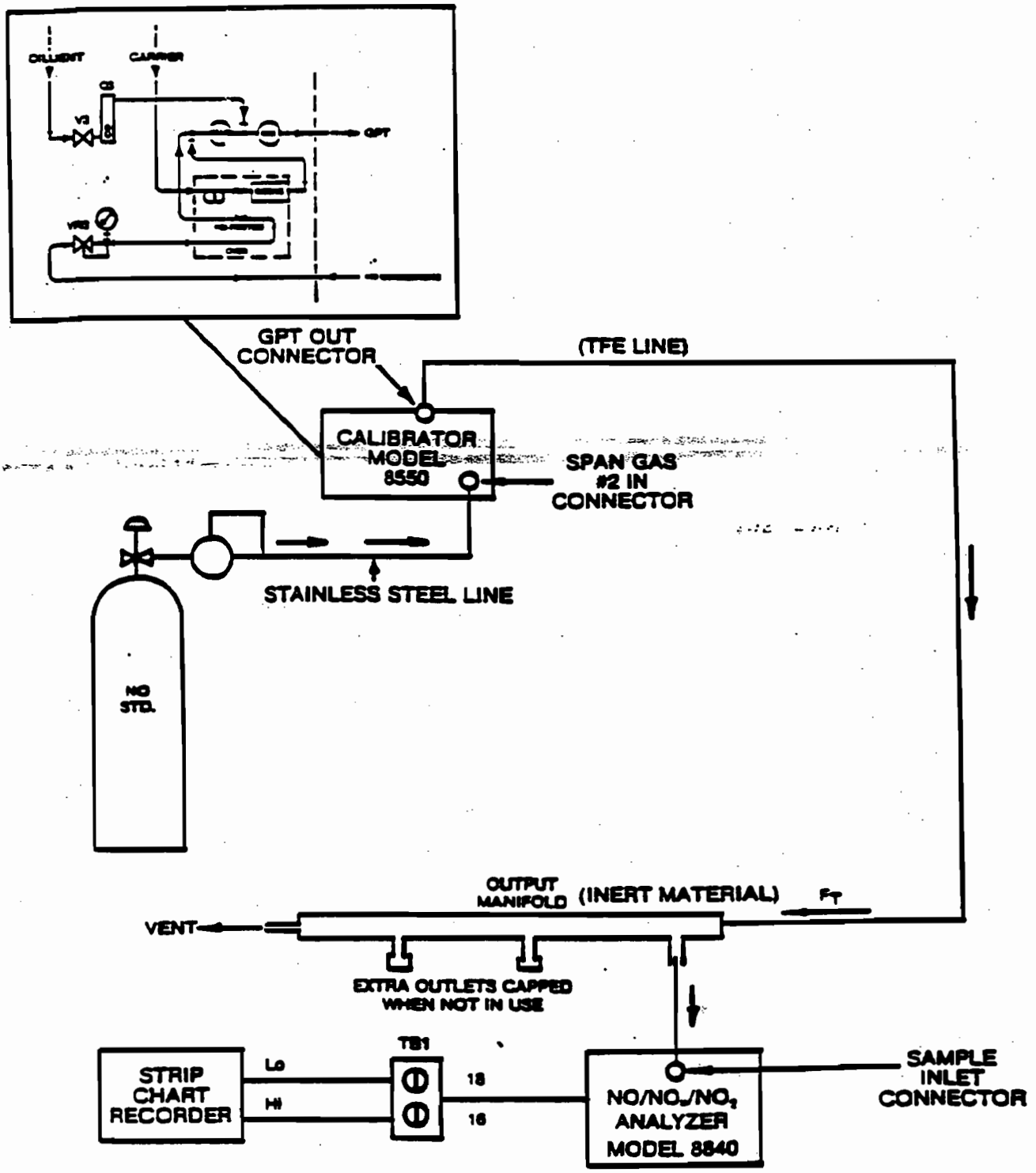


Figure 1. Secondary Calibration Procedure Setup

NOx Converter Efficiency BAY 1

NOx analyz. Zero Check

```
06:13 09-20-1994 Begin Cal Gas #4 flow.
      Type: NOX  Value: 0   Cyl.
06:20 09-20-1994 End Cal Gas #4 flow.
      Accepted:      0.0PPM SO2     1.0PPM NOx    16.2% CO2
```

BAY 1 SPAN set No OZONE

```
12:26:18 09-20-1994 Begin Cal Gas #4 flow.
         Type: NOX  Value: 0   Cyl.
12:26:36 09-20-1994 End Cal Gas #4 flow.
         Accepted:      0.0PPM SO2    567.3PPM NOx    17.5% CO2
```

Note on CST Bay 2 an hour later

Introduced O_3

Note Bay 2 instrument is fullscale = 4ppm Bay 1 fullscale = 1ppm

Bay 2 & BAY 1

```
13:27:22 09-20-1994 Begin Cal Gas #5  flow.
Type:       Value: 0    Cyl.
13:27:34 09-20-1994 End Cal Gas #5  flow.
Accepted:        .7PPM SO2   146.0PPM NOx     0.0% CO2     0.0% O2      0.0PPM CO
12:36:09 09-20-1994 Begin Cal Gas #4 flow.
         Type: NOX  Value: 0    Cyl.
  :36:24 09-20-1994 End Cal Gas #4 flow.
         Accepted:      0.0PPM SO2    570.9PPM NOx    20.0% CO2
  :36:32 09-20-1994 Begin Cal Gas #4  flow.
   e:       Value: 0    Cyl.
  :36:42 09-20-1994 End Cal Gas #4  flow.
Accepted:      0.0PPM SO2    148.0PPM NOx    0.0% CO2     0.0% O2      0.0PPM CO
12:43:30 09-20-1994 Begin Cal Gas #4 flow.
         Type: NOX  Value: 0    Cyl.
12:43:55 09-20-1994 End Cal Gas #4 flow.
         Accepted:      0.0PPM SO2    578.0PPM NOx    20.0% CO2
13:45:11 09-20-1994 End Cal Gas #3  flow.
Aborted:     0.0PPM SO2    148.7PPM NOx    0.0% CO2     0.0% O2      0.0PPM CO
13:45:20 09-20-1994 Begin Cal Gas #4  flow.
Type:       Value: 0    Cyl.
13:45:27 09-20-1994 End Cal Gas #4  flow.
Accepted:      0.0PPM SO2    148.7PPM NOx    0.0% CO2     0.0% O2      0.0PPM CO
12:50:56 09-20-1994 Begin Cal Gas #4 flow.
         Type: NOX  Value: 0    Cyl.
12:51:03 09-20-1994 End Cal Gas #4 flow.
         Accepted:      0.0PPM SO2    577.0PPM NOx    20.0% CO2
13:52:01 09-20-1994 Begin Cal Gas #4  flow.
Type:       Value: 0    Cyl.
13:52:08 09-20-1994 End Cal Gas #4  flow.
Accepted:      0.0PPM SO2    148.0PPM NOx    0.0% CO2     0.0% O2      0.0PPM CO
12:55:56 09-20-1994 Begin Cal Gas #4 flow.
         Type: NOX  Value: 0    Cyl.
  :56:11 09-20-1994 End Cal Gas #4 flow.
         Accepted:      0.0PPM SO2    574.4PPM NOx    20.0% CO2
  56:35 09-20-1994 Begin Cal Gas #4  flow.
  e:        Value: 0    Cyl.
13:56:43 09-20-1994 End Cal Gas #4  flow.
Accepted:      0.0PPM SO2    147.7PPM NOx    0.0% CO2     0.0% O2      0.0PPM CO
13:00:29 09-20-1994 Begin Cal Gas #4 flow.
         Type: NOX  Value: 0    Cyl.
```

Increased O_3 generation

14:00:43 09-20-1994 Begin Cal Gas #4 flow.
Type: Value: 0 Cyl.
14:00:49 09-20-1994 End Cal Gas #4 flow.
Accepted: 0.0PPM SO2 146.8PPM NOx 0.0% CO2 0.0% O2 0.0PPM CO

13:07:33 09-20-1994 Begin Cal Gas #5 flow.
Type: NOX Value: 556 Cyl.
[redacted]7:42 09-20-1994 End Cal Gas #5 flow.
Accepted: 0.0PPM SO2 570.2PPM NOx 20.0% CO2

[redacted] 8:05 09-20-1994 Begin Cal Gas #4 flow.
Type: Value: 0 Cyl.
14:08:09 09-20-1994 End Cal Gas #4 flow.
Accepted: 0.0PPM SO2 145.8PPM NOx 0.0% CO2 0.0% O2 0.0PPM CO

Increased O3 ↑ generat

13:14:21 09-20-1994 Begin Cal Gas #4 flow.
Type: NOX Value: 0 Cyl.
13:14:26 09-20-1994 End Cal Gas #4 flow.
Accepted: 0.0PPM SO2 565.1PPM NOx 20.0% CO2
14:14:31 09-20-1994 Begin Cal Gas #3 flow.
Type: Value: 0 Cyl.
14:14:35 09-20-1994 End Cal Gas #3 flow.
Accepted: 0.0PPM SO2 143.8PPM NOx 0.0% CO2 0.0% O2 0.0PPM CO

13:22:03 09-20-1994 Begin Cal Gas #4 flow.
Type: NOX Value: 0 Cyl.
13:22:10 09-20-1994 End Cal Gas #4 flow.
Accepted: 0.0PPM SO2 559.2PPM NOx 19.3% CO2
14:22:13 09-20-1994 Begin Cal Gas #4 flow.
Type: Value: 0 Cyl.
14:22:19 09-20-1994 End Cal Gas #4 flow.
Accepted: 0.0PPM SO2 142.9PPM NOx 0.0% CO2 0.0% O2 0.0PPM CO

13:34:35 09-20-1994 Begin Cal Gas #4 flow.
Type: NOX Value: 0 Cyl.
[redacted]34:49 09-20-1994 End Cal Gas #4 flow.
Accepted: 0.0PPM SO2 557.3PPM NOx 18.3% CO2

4:50 09-20-1994 Begin Cal Gas #4 flow.
[redacted]e: Value: 0 Cyl.
14:34:55 09-20-1994 End Cal Gas #4 flow.
Accepted: 0.0PPM SO2 140.7PPM NOx 0.0% CO2 0.0% O2 0.0PPM CO

Disabled O3

13:40:59 09-20-1994 Begin Cal Gas #4 flow.
Type: NOX Value: 0 Cyl.
13:41:03 09-20-1994 End Cal Gas #4 flow.
Accepted: 0.0PPM SO2 570.2PPM NOx 18.1% CO2
14:41:04 09-20-1994 Begin Cal Gas #4 flow.
Type: Value: 0 Cyl.
14:41:07 09-20-1994 End Cal Gas #4 flow.
Accepted: 0.0PPM SO2 146.8PPM NOx 0.0% CO2 0.0% O2 0.0PPM CO

NOX CONVERTER EFFICICENCY TEST

Audit Trailer Instrument Bay #2
Replacement NO_x Analyzer

Date of Test: 07/18/2001
Parameter: NO_x
Analyzer Ser. Number: 42C-70201-365
Performed by: John McPherson

NO_x Converter Efficiency of the new replacement NO_x analyzer was determined, as with the initial certification of the audit trailer instruments by the use of the Gas Phase Titration (GPT) procedure. This procedure utilizes am ambient level gas calibrator and is described in the previous section.

The results of this GPT test showed the converter efficiency to be 99.9%. Raw data printout and gas cylinder certification sheet is included.

Type Gas	Gas Concentration	Gas Cylinder Certification	Analyzer Response Prior to GPT	Analyzer Response After GPT	Calculated Converter Efficiency
NO	53.9 ppm	ALM068052	82.29 ppm	82.08 ppm	99.9%

Run #1

#	Date/Time	NOx/B	CO2/B
1	7/18/01 14:01	83.45	7.816
2	7/18/01 14:02	84.44	7.820
3	7/18/01 14:03	91.01	5.207
4	7/18/01 14:04	104.76	0.709
5	7/18/01 14:05	122.28	0.663
6	7/18/01 14:06	140.68	0.737
7	7/18/01 14:07	131.94	12.921
8	7/18/01 14:08	101.41	15.440
9	7/18/01 14:09	84.66	13.024
10	7/18/01 14:10	82.53	9.861
11	7/18/01 14:11	82.19	8.512
12	7/18/01 14:12	82.01	7.866
13	7/18/01 14:13	81.87	7.750
14	7/18/01 14:14	82.04	7.702
15	7/18/01 14:15	82.29	7.695
16	7/18/01 14:16	82.17	7.664
17	7/18/01 14:17	83.84	7.252
18	7/18/01 14:18	94.62	1.213
19	7/18/01 14:19	110.16	0.486
20	7/18/01 14:20	129.00	0.543
21	7/18/01 14:21	129.63	9.165
22	7/18/01 14:22	103.21	15.443
23	7/18/01 14:23	84.92	13.516
24	7/18/01 14:24	82.46	10.592
25	7/18/01 14:25	82.31	9.547
26	7/18/01 14:26	82.22	8.719
27	7/18/01 14:27	82.08	8.332
28	7/18/01 14:28	82.08	8.179
29	7/18/01 14:29	70.43	8.072
30	7/18/01 14:30	1.71	9.570
31	7/18/01 14:31	1.60	15.443
32	7/18/01 14:32	3.17	15.443
33	7/18/01 14:33	101.38	15.443
34	7/18/01 14:34	1.68	15.443
35	7/18/01 14:35	0.43	15.443
36	7/18/01 14:36	0.18	15.443
37	7/18/01 14:37	0.09	15.443
38	7/18/01 14:38	0.07	15.443
39	7/18/01 14:39	0.06	15.443
40	7/18/01 14:40	0.07	15.443
41	7/18/01 14:41	0.11	15.443
42	7/18/01 14:42	0.11	15.443
43	7/18/01 14:43	0.07	15.443
44	7/18/01 14:44	-0.02	15.443
45	7/18/01 14:45	1.71	15.443
46	7/18/01 14:46	65.74	6.195
47	7/18/01 14:47	60.07	0.115
48	7/18/01 14:48	80.33	3.499

Pre-calibration

Stable NO gas response.

NOx Converter Efficiency Test

Titrate w/ O_3 to produce NO_2

Stable NOx response after GPT...

challenge NOx analyzer w/ CO_2 Gas

CO Gas to NOx analyzer

Reference Method
One Minute Averages
Plant Watson, Unit 1

49	7/18/01 14:49	41.91	0.879
50	7/18/01 14:50	40.88	0.571
51	7/18/01 14:51	40.60	0.430
52	7/18/01 14:52	38.61	0.411
53	7/18/01 14:53	165.69	5.349
54	7/18/01 14:54	156.08	6.232
55	7/18/01 14:55	37.37	6.176
56	7/18/01 14:56	30.09	6.357
57	7/18/01 14:57	49.30	1.223
58	7/18/01 14:58	49.26	-0.214
59	7/18/01 14:59	49.17	-0.245
60	7/18/01 15:00	49.17	-0.266
61	7/18/01 15:01	49.09	-0.265
62	7/18/01 15:02	49.09	-0.301
63	7/18/01 15:03	49.10	-0.305
64	7/18/01 15:04	49.12	-0.319
65	7/18/01 15:05	29.81	3.100
66	7/18/01 15:06	1.86	15.443
67	7/18/01 15:07	21.71	11.355
68	7/18/01 15:08	34.58	4.196
69	7/18/01 15:09	23.54	6.432
70	7/18/01 15:10	1.11	15.443
71	7/18/01 15:11	0.94	15.443
72	7/18/01 15:12	0.88	15.443
73	7/18/01 15:13	1.26	15.443
74	7/18/01 15:14	47.07	3.798
75	7/18/01 15:15	46.63	-0.126
76	7/18/01 15:16	46.63	-0.216
77	7/18/01 15:17	46.59	-0.247
78	7/18/01 15:18	46.63	-0.254
79	7/18/01 15:19	46.59	-0.291
80	7/18/01 15:20	30.47	1.949
81	7/18/01 15:21	0.45	7.219
82	7/18/01 15:22	-0.65	0.430
83	7/18/01 15:23	-0.78	0.370
84	7/18/01 15:24	-0.79	0.215
85	7/18/01 15:25	-0.78	0.150
86	7/18/01 15:26	-0.81	0.159
87	7/18/01 15:27	-0.83	0.187
88	7/18/01 15:28	-0.81	0.137
89	7/18/01 15:29	-0.82	0.139
90	7/18/01 15:30	-0.82	0.121
Average		49.10	6.836

CO Gas to CO_2 analyzer

Reset CO_2 Z. BASELINE to .001

SO_2 Gas to CO_2 analyzer

SO_2 gas to NOx analyzer

O_2↑ gas to NOx and CO_2 analyzers Simultaneous

Reference Method
One Minute Averages
Plant Watson, Unit 1

RATA CLASS

Scott Specialty Gases

Dual-Analyzed Calibration Standard

500 WEAVER PARK RD,LONGMONT,CO 80501 Phone: 888-253-1635 Fax: 303-772-7673

CERTIFICATE OF ACCURACY: Interference Free™ EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
500 WEAVER PARK RD
LONGMONT,CO 80501

P.O. No.: JMCPHERSON/MC
Project No.: 08-82842-001

Customer

GULF POWER COMPANY
JMCPHERSON
55 NORTH "Q" STREET
PENSACOLA FL 32520-0310

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol 1 Procedure #G2.

Cylinder Number: ALM068052 **Certification Date:** 5/15/01 **Exp. Date:** 5/15/2003
Cylinder Pressure*:** 1800 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
NITRIC OXIDE	53.9	PPM	+/- 1%	Direct NIST and NMi
NITROGEN - OXYGEN FREE		BALANCE		
TOTAL OXIDES OF NITROGEN	54.1	PPM		Reference Value Only

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocal procedure G1, September 1997.
Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1685	10/01/03	ALM032189	249.0 PPM	NO/N2

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR System/8220/AAB9400251	04/26/01	Scott Enhanced FTIR

ANALYZER READINGS

(Z = Zero Gas R = Reference Gas T = Test Gas r = Correlation Coefficient)

NITRIC OXIDE

First Triad Analysis

Date:05/08/01 Response Unit:PPM
Z1 = -0.12150 R1 = 248.6787 T1 = 53.94716
R2 = 249.1468 Z2 = -0.03190 T2 = 54.01281
Z3 = 0.06790 T3 = 53.88372 R3 = 249.1744
Avg. Concentration: 53.95 PPM

Second Triad Analysis

Date: 05/16/01 Response Unit: PPM
Z1 = 0.03990 R1 = 249.0698 T1 = 54.00477
R2 = 249.1903 Z2 = 0.05200 T2 = 53.78082
Z3 = 0.17370 T3 = 53.79203 R3 = 248.7398
Avg. Concentration: 53.86 PPM

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 0.999990
Constants:
A = 0.000000
B = 1.000000
C = 0.000000
D = 0.000000
E = 0.000000

APPROVED BY: Dale Griffin

Dale Griffin

Section 3

Response Test Time

GULF POWER DILUTION EMISSION [illegible]
RESPONSE TIME TEST

PLANT: GULF POWER PLANT CRIST

DATE: JULY 20, 1993

UPSCALE RESPONSE TIME	DOWNSCALE RESPONSE TIME
210 sec	330 sec
240 sec	300 sec
240 sec	300 sec
AVERAGE UPSCALE RESPONSE TIME: 230 sec	
AVERAGE DOWNSCALE RESPONSE TIME: 310 sec	

SYSTEM RESPONSE TIME (THE SLOWEST OF THE TWO): 310 sec

WHICH INSTRUMENT WAS USED TO DETERMINE THE RESPONSE TIME?

SULFUR DIOXIDE SN# 43H 42920-268

ATTACHMENT A-8

CONTROL EQUIPMENT DESCRIPTION

Attachment A-8
Effects of Plant Operation of Heat Dissipation System

Plant Smith Units 1 and 2 utilize a surface water flow rate of 190,000 gpm (273.6 MGD) for once through cooling. The Smith Combine Cycle Units (4 & 5) re-use the discharge of Units 1 and 2, as well as supplemental water collected from evaporative coolers, the demineralizer, condensate polisher and clean drains from the turbine/boiler building such that the total cooling tower makeup is 5,176 gpm for normal and power augmentation.

Both aquatic and biological effects were evaluated and documented by Environmental Consulting and Technologies, Inc. (ECT) in a document entitled "Gulf Power Smith Unit 3, Site Certification Application" dated June 1999. As a result of the re-use of discharge water from Smith Units 1 & 2 (with subsequent cooling), there will be a heat rejection rate decrease of 1.3%. This will provide a positive effect on the receiving waters of West Bay when operational and no effect on marine aquatic ecology when the cooling tower is offline for maintenance.

The cooling tower will transfer heat from the plant processes to the atmosphere through evaporation and dispersion of cooling water. The drift from the tower was evaluated utilizing a model (Seasonal/Annual Cooling Tower Impact Model) which was developed by Argonne National Laboratory for the Electric Power Research Institute. The results of this model indicate that the cooling tower may have some reductions in visibility, but will not affect County Road 2300 which is adjacent to the site or safe operation of aircraft during take-off or landing. In reference to salt accumulation on the soil, ECT states that no significant soil impacts are expected. In addition, salt deposition will have no adverse effect on natural vegetation off-site.