Florida Power
A Progress Energy Company

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BUREAU OF AIR REGULATION

December 11, 2002

Mr. Scott Sheplak, P.E., Administrator
Florida Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: SUBMITTAL OF TITLE V PERMIT APPLICATION
UNIVERSITY OF FLORIDA COGENERATION PLANT

Dear Mr. Sheplak:

Enclosed for your review is a revised copy, per your request, of the Title V application for Florida Power's University of Florida Cogeneration Plant. A copy has been sent to the FDEP's Northeast District Office as required by the current Title V Permit.

If you have any question regarding any of the infromation contained in this application, please do not hesitate to contact Matthew Lydon at (727) 826-4152, Scott Osbourn (ENSR) at (727) 898-9591, or Mike Kennedy at (727) 826-4334.

Sincerely,

Matthew Lydon
Associate Environmental Specialist

cc. Chris Kirts

Enclosures

ENVIRONMENTAL SERVICES SECTION • MAC BB1A
ONE POWER PLAZA • 263 – 13TH Avenue South • St. Petersburg, FL 33701-5511
P.O. Box 14042 • St. Petersburg • Florida 33733 4042 • (727) 820-5151

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: Florida Power	
2. Site Name: University of Florida Cogeneration Plant	
3. Facility Identification Number: 0010001 [ ] Unknown	
4. Facility Location: Street Address or Other Locator: Mowry Road, Building 82, University of Florida City: Gainesville County: Alachua Zip Code: 32611-2295	
5. Relocatable Facility? [ ] Yes [X] No	6. Existing Permitted Facility? [X] Yes [ ] No

Application Contact

1. Name and Title of Application Contact: J. Michael Kennedy, Permiting and Compliance Manager, Environmental Services Department
2. Application Contact Mailing Address: Organization/Firm: Florida Power Street Address: 100 Central Avenue, Mail Code: BB1A City: St. Petersburg State: FL Zip Code: 33701
3. Application Contact Telephone Numbers: Telephone: (727) 826-4334 Fax: (727) 826-4216

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	12/13/02
2. Permit Number:	0010001-005-AV
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

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: 0010001-003-AC

Operation permit number to be revised:_____

[ ] 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:
Wilson B. Hicks, Jr. , Plant Manager

2. Owner/Authorized Representative or Responsible Official Mailing Address:
Organization/Firm: Florida Power
Street Address: Bldg 82, Mowry Rd., Mail Code: GV44
City: Gainesville State: FL Zip Code: 32611

3. Owner/Authorized Representative or Responsible Official Telephone Numbers:
Telephone: (352) 337-6904 Fax: (352) 337-6920

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.*

Wilson B. Hicks — 12/3/02

Signature Date

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: Scott Osbourn
Registration Number: 57557

2. Professional Engineer Mailing Address:
Organization/Firm: ENSR International
Street Address: 150 Second Ave. N., Suite 700
City: St. Petersburg State: FL Zip Code: 33701-3343

3. Professional Engineer Telephone Numbers:
Telephone: (727) 898-9591 Fax: (727) 898-9582

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 [ ], 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.

Signature

12/2/12
Date

(seal)

* Attach any exception to certification statement.

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type	Processing Fee
001	COGEN PLANT GAS TURBINE		$0.00

Application Processing Fee

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

Construction/Modification Information

1. Description of Proposed Project or Alterations:
2. Projected or Actual Date of Commencement of Construction: May 18, 2001
3. Projected Date of Completion of Construction: June 2, 2001

Application Comment

For clarity, the application forms are divided into:

- Facility information
- Newly modified emission unit (Combustion Turbine)

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: 17 East (km): 369.4 North (km): 3279.3			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): 29° 38' 23" Longitude (DD/MM/SS): 82° 20' 55"			
3. Governmental Facility Code: 0	4. Facility Status Code: A	5. Facility Major Group SIC Code: 49	6. Facility SIC(s):
7. Facility Comment (limit to 500 characters): UF Cogeneration plant consists of a single combustion turbine (CT), heat recovery steam Generator (HRSG), duct burners (DB) located between the CT and the HRSG, and two backup boilers.			

Facility Contact

1. Name and Title of Facility Contact: Wilson B. Hicks, Jr. , Plant Manager
2. Facility Contact Mailing Address: Organization/Firm: Florida Power Street Address: Mowry Road, Building 82, University of Florida City: Gainesville State: FL Zip Code: 32611-2295
3. Facility Contact Telephone Numbers: Telephone: (352) 337-6904 Fax: (352) 337-6920

Facility Regulatory Classifications

Check all that apply:

1. [ ] Small Business Stationary Source?	[ ] Unknown
2. [X] 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. [X] 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): CT – NSPS (40 CFR 60 Subpart GG) DBs – NSPS (40 CFR 60 Subpart Db)	

List of Applicable Regulations

Chapter 62-4	Permits
Rule 62-204.220	Ambient Air Quality Protection
Rule 62-204.240	Ambient Air Quality Standards
Rule 62-204.800	Federal Regulations Adopted by Reference
Rule 62-210.300	Permits Required
Rule 62-210.350	Public Notice and Comments
Rule 62-210.370	Reports
Rule 62-210.550	Stack Height Policy
Rule 62-210.650	Circumvention
Rule 62-210.700	Excess Emissions
Rule 62-210.900	Forms and Instructions
Rule 62-212.300	General Preconstruction Review Requirements
Rule 62-213	Operation Permits for Major Sources of Air Pollution
Rule 62-214	Federal Acid Rain Program
Rule 62-296	General Pollutant Emission Limiting Standards
Rule 62-297.310	General Test Requirements
Rule 62-297.401	Compliance Test Methods
Rule 62-297.520	EPA Continuous Monitor Performance Specifications
40 CFR 60	Applicable sections of Subpart A, General Requirements, NSPS Subparts GG and Db
40 CFR 70	Title V Operating Permits
40 CFR 72	Acid Rain Permits
40 CFR 75	Monitoring
40 CFR 77	Acid Rain Program – Excess Emissions

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		194.3	ESCPSD	Includes 001, 002, 003, 004
NOx	A		141.0	ESCPSD	Includes 001
CO	A				
SO2	B				
PM10	B				

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

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

Additional Supplemental Requirements for Title V Air Operation Permit Applications

8. List of Proposed Insignificant Activities:
   [ ] Attached, Document ID:_____ [X] Not Applicable (List of Insignificant Activities has not changed from initial Title V application)

9. List of Equipment/Activities Regulated under Title VI:
   [ ] Attached, Document ID:_____
   [ ] Equipment/Activities On site but Not Required to be Individually Listed
   [X] Not Applicable

10. Alternative Methods of Operation:
    [X] Attached, Document ID: UF-EU1-L5 [ ] Not Applicable

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

12. Identification of Additional Applicable Requirements:
    [ ] Attached, Document ID:_____ [X] 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:_____)
    [X] Not Applicable

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

15. Compliance Certification (Hard-copy Required):
    [X] Attached, Document ID: UF-FE-4 [ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

LM6000-PC-ESPRINT

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)

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

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

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

2. Regulated or Unregulated Emissions Unit? (Check one)

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

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

2. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
Combustion Turbine (LM6000-PC-ESPRINT)

4. Emissions Unit Identification Number:
ID:
[X] No ID
[ ] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A	June 2, 2001	49	[X]

9. Emissions Unit Comment: (Limit to 500 Characters)
The new CT has replaced the previous CT, which exhausted through a heat recovery steam generator (HRSG) and a single stack. There are no other changes to the process configuration.

Emissions Unit Control Equipment

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

   Steam injection.

2. Control Device or Method Code(s): 28

Emissions Unit Details

1. Package Unit:
   Manufacturer: General Electric Model Number: LM6000-PC-ESPRINT
2. Generator Nameplate Rating: 50 MW @ 59°F 98% RH inlet conditions
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:	392 mmBtu/hr LHV @ 59°F inlet
2. Maximum Incineration Rate:	lb/hr tons/day
3. Maximum Process or Throughput Rate:	
4. Maximum Production Rate:	50 MW @ 59°F inlet temp
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 heat input based on natural gas-firing,

* The permitted NOx cap of 194.3 TPY is based on operation of the CT/DB at maximum firing rates for 7,211 hr/yr and total fuel usage of 3.48 trillion Btu/yr. EU 003 and 004 (Boilers # 4 and 5) shall be allowed to operate as required for backup as long as the facility-.wide NOx cap is not exceeded. The CT may operate for more hours per year (up to 8,760 hr/yr) and at a higher annual fuel consumption provided that the NOx emissions from the CT do not exceed 141 TPY.

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

40 CFR 60, Subpart A (General Provisions for New Source Performance Standards)	
40 CFR 60.332(a)(1)-NO_x standards for Stationary Gas Turbines	
40 CFR 60.333-SO_2 standards for Stationary Gas Turbines	
40 CFR 60.334-Monitoring Provisions for Stationary Gas Turbines	
40 CFR Part 70-Operating Permit Program	
40 CFR Part 72 – Acid Rain Program Requirements	
40 CFR Part 73 – Acid Rain Program SO_2 Allowances System	
40 CFR Part 75 – Acid Rain Program Continuous Emissions Monitoring	
Rule 62-296.320(4)(b)1 – Visible emissions	
40 CFR 52.21 – Prevention of Significant Deterioration	
Rule 62-210-200 –Definitions	
Rule 62-210.900(1)(a) –Forms and Instructions	
Rule 62-212.400 – Prevention of Significant Deterioration	
Rule 62-213.400(3) –Permit and Permit Revisions Required	
Rule 62-213.413 –Fast-Track Revisions of Acid Rain Parts	
Rule 62-213.440(1) (c) –Permit Content	
Rule 62-214.320 –Application	
Rule 62-214.370(4) –Revisions and Administrative Corrections	
Rule 62-214.420(11) –Permit Applications	

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? EU-1	2. Emission Point Type Code: 2	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): Single stack for CT and DB		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: EU-1 Combustion Turbine (LM6000-PC-ESPRINT) EU-2 Duct Burners		
5. Discharge Type Code: V	6. Stack Height: 93 feet	7. Exit Diameter: 9.8 feet
8. Exit Temperature: 257 °F	9. Actual Volumetric Flow Rate: 607,360 acfm	10. Water Vapor: 10-12 vol%
11. Maximum Dry Standard Flow Rate: 216,956 dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates: Zone: 17 East (km): 369.4 North (km): 3,279.3		
14. Emission Point Comment (limit to 200 characters): Items 8, 9, 10, 11 based on the CT only, at 59°F and 60% Relative Humidity at the inlet.		

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): Natural Gas Firing		
2. Source Classification Code (SCC): 2-01-002-01	3. SCC Units: Million Cubic Feet Burned	
4Maximum Hourly Rate: 0.413 (LHV)	5Maximum Annual Rate: 2975 (LHV)	6. Estimated Annual Activity Factor:
7Maximum % Sulfur: 1 grain/ 100 CF	8. Maximum % Ash:	9. Million Btu per SCC Unit: 950 (LHV)
10. Segment Comment (limit to 200 characters): Based on inlet conditions 59°F and 60% relative humidity, LHV.		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters): Distillate oil firing in CT		
3. Source Classification Code (SCC): 2-01-002-01	3. SCC Units: Thousand Gallons Burned	
4. Maximum Hourly Rate: 3.1	5. Maximum Annual Rate: 635	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 0.5	8. Maximum % Ash: 0.1	9. Million Btu per SCC Unit: 132
10. Segment Comment (limit to 200 characters): Million Btu per SCC Unit = 132.48 (rounded to 132). Heat content based on LHV.		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
NOX	**028**		**EL**
CO			**EL**
PM10			**NS**
VOC			**NS**
SO2			**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: 39.6 lb/hour 141 tons/year	4. Synthetically Limited? [X]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: 25 ppmvd @ 15 % O2 Reference: Manufacturer's Data	7. Emissions Method Code: 2
6. Calculation of Emissions (limit to 600 characters): Refer to Appendix B of Construction Permit Application dated January 2001.	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions ___1___ of __1____

1. Basis for Allowable Emissions Code: ESCPSD	2. Future Effective Date of Allowable Emissions:
6. Requested Allowable Emissions and Units: 39.6 lb/hr; 141 tons/yr	4. Equivalent Allowable Emissions: 39.6 lb/hour 141 tons/year
5. Method of Compliance (limit to 60 characters): Annual Compliance Test, EPA Method 20. Fuel Flow Monitoring and CEMS data .	
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: CO	2. Total Percent Efficiency of Control:
3. Potential Emissions: 38.8 lb/hour 158 tons/year	4. Synthetically Limited? [X]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: 36 ppmvd @ 15 % O2 Reference: Manufacturer's Data	7. Emissions Method Code: 2
7. Calculation of Emissions (limit to 600 characters): Refer to Appendix B of Construction Permit Application dated January 2001.	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions ___1___ of __1____

1. Basis for Allowable Emissions Code: ESCPSD	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 38.8 lb/hr 158 tons/year	4. Equivalent Allowable Emissions: 38.8 lb/hour 158 tons/year
5. Method of Compliance (limit to 60 characters): Annual Compliance Test, EPA Method 10.	
6. Allowable Emissions Comment (Desc. Of Operating Method) (limit to 200 characters): Allowable based on 100% load at 59°F inlet conditions.	

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: 1.2 lb/hour 4.3 tons/year	4. Synthetically Limited? [X]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: 150 ppmvd @ 15 % O2 Reference: Manufacturer's Data	7. Emissions Method Code: 2
8. Calculation of Emissions (limit to 600 characters): Refer to Appendix B of Construction Permit Application dated January 2001.	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions ___1___ of ___1___

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 1.2 lb/hr 4.3 tons/year	4. Equivalent Allowable Emissions: 1.2 lb/hour 4.3 tons/year
5. Method of Compliance (limit to 60 characters): Annual Compliance Test, ASTM Methods D4084-82, D3246-81 or more recent versions.	
6. Allowable Emissions Comment (Desc. Of Operating Method) (limit to 200 characters): Rule 40 CFR 60.333(a), Subpart GG states sulfur dioxide emissions shall not be in excess of 0.015 percent by volume at 15 percent oxygen on a dry basis from any combustion turbine subject to this rule. Allowable based on 100% load at 49°F inlet conditions.	

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

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VE10	2. Basis for Allowable Opacity: [ ] Rule [X] Other
3. Requested Allowable Opacity: Normal Conditions: 10% Exceptional Conditions: 27% Maximum Period of Excess Opacity Allowed: 6 min/hour	
4. Method of Compliance: Annual Compliance Test using EPA Method 9	
5. Visible Emissions Comment (limit to 200 characters): VE standard established as part of construction permit. Rule 62-210.700 – Maximum period of excess opacity allowed for startup, shutdown, and malfunction – 2 hrs / 24 hours.	

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

Continuous Monitoring System: Continuous Monitor 1 of 3

1. Parameter Code: EM	2. Pollutant(s): NOx
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information: Manufacturer: Teco / Enviroplan Model Number: 42	Serial Number: 42-45320-273
5. Installation Date: 01 Dec 1995	6. Performance Specification Test Date: 01 Dec 1995
7. Continuous Monitor Comment (limit to 200 characters): Steam-to-fuel ratio is monitored on a continuous basis and a predictive equation, incorporating these parameters, is used to calculate hourly emissions.	

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

Continuous Monitoring System: Continuous Monitor 2 of 3

1. Parameter Code: EM	2. Pollutant(s): EM
3. CMS Requirement:	[ ] Rule [X] Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number: 2342B005-1992 and 93221879
5. Installation Date: 01 Dec 1995	6. Performance Specification Test Date: 01 Dec 1995
7. Continuous Monitor Comment (limit to 200 characters): Fuel flow monitoring.	

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

Continuous Monitoring System: Continuous Monitor 3 of 3

1. Parameter Code: EM	2. Pollutant(s): CO2
3. CMS Requirement:	[ ] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number: 41H-44967-273
5. Installation Date: 01 Dec 1995	6. Performance Specification Test Date: 01 Dec 1995
7. Continuous Monitor Comment (limit to 200 characters):	

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

Supplemental Requirements

1. Process Flow Diagram [X] Attached, Document ID: UF-FE-3 [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [X] Attached, Document ID: UF-EU1-L1 [ ] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____[X] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [ ] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [X] Attached, Document ID: UF-EU1-L3 [ ] 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:_____ [X] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application [ ] Attached, Document ID:_____ [X] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [X] Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[X] Attached, Document ID: UF-EU1-L5 [ ] Not Applicable

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

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

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [X] 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:_____

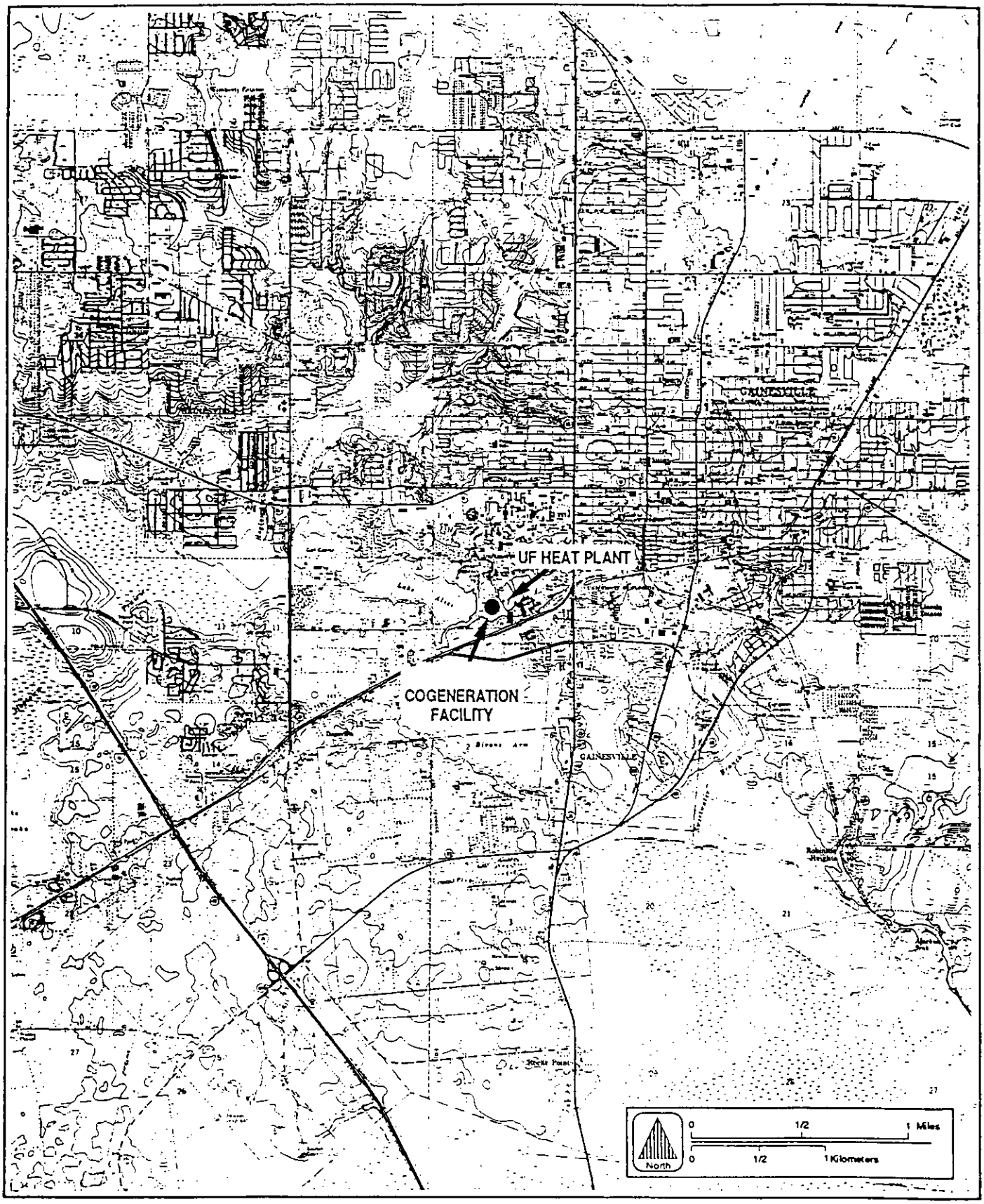
[ ] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID:_____

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

[ ] Not Applicable

ATTACHMENT UF-FE-1

AREA MAP

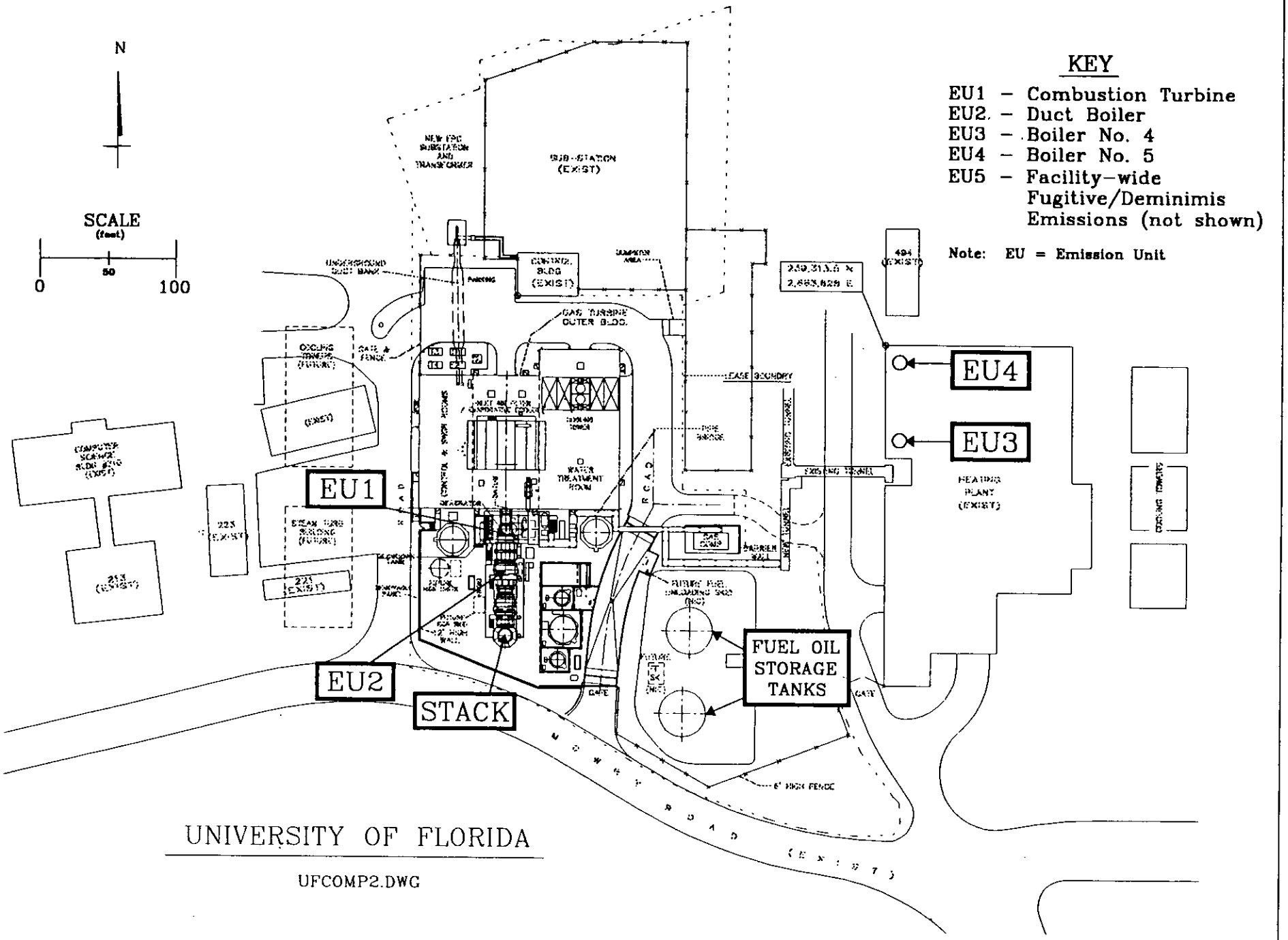


ATTACHMENT UF-FE-1
AREA MAP

KBN

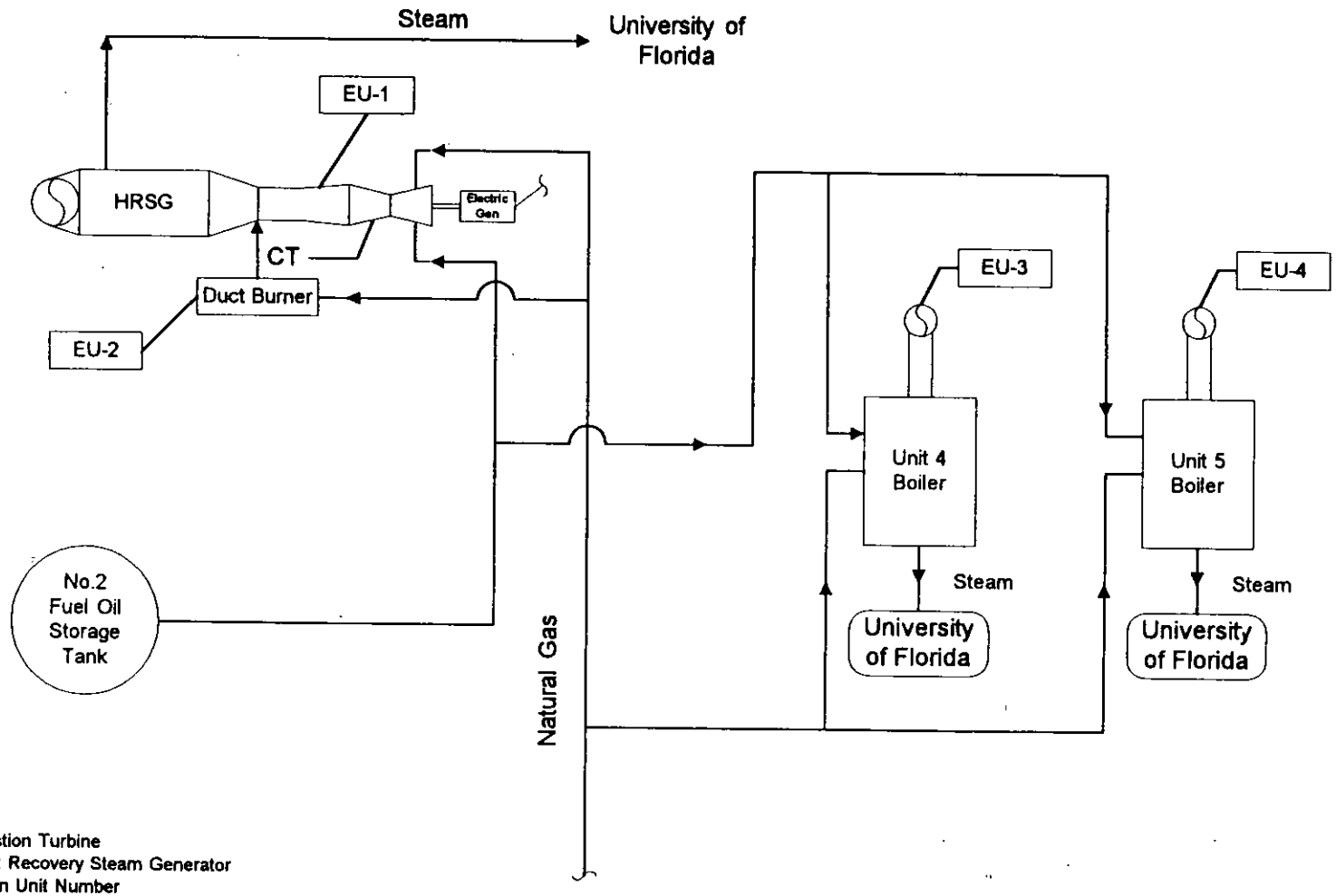
ATTACHMENT UF-FE-2

FACILITY PLOT PLAN


N
SCALE
(feet)
0
50
100
KEY
EU1 – Combustion Turbine
EU2 – Duct Boiler
EU3 – Boiler No. 4
EU4 – Boiler No. 5
EU5 – Facility-wide Fugitive/Deminimis Emissions (not shown)
Note: EU = Emission Unit
EU1
EU2
EU3
EU4
STACK
FUEL OIL STORAGE TANKS
SUB-STATION (EXIST)
CONTROL BLDG (EXIST)
GAS TURBINE OUTER BLDG.
WATER TREATMENT ROOM
HEATING PLANT (EXIST)
LEASE BOUNDRY
6' HIGH FENCE
UNIVERSITY OF FLORIDA
UFCOMP2.DWG

ATTACHMENT UF-FE-3

PROCESS FLOW DIAGRAM



Note:
CT = Combustion Turbine
HRSG = Heat Recovery Steam Generator
EU = Emission Unit Number
See segment section for the operating rate of each emission unit.
EU 5 - Facility-wide Fugitive/Deminimis Emissions not shown.

Florida Power Corporation		*Emission Unit:* Overall Plant
		Process Area: Overall Plant
Emission Units	University of Florida	*Filename:* FPCUF.VSD
		Latest Revision Date: 6/2/96 01:43 PM

KBN Engineering and Applied Sciences, Inc.

ATTACHMENT UF-FE-4

COMPLIANCE CERTIFICATION

Department of Environmental Protection

Division of Air Resources Management

STATEMENT OF COMPLIANCE - TITLE V SOURCE

Facility Owner/Company Name: Florida Power Corporation

Site Name: University of Florida Cogeneration Facility__ County: Alachua

Title V Air Operation Permit No.: 0010001-001-AV

REPORTING PERIOD	REPORT DEADLINE*
January 1 through December 31 of 2001 (year)	March 1, 2002

*See Rule 62-213.440(3)(a)2, F.A.C.

COMPLIANCE STATEMENT (Check only one of the following three options)

_X_ A. This facility was in compliance with all terms and conditions of the Title V Air Operation Permit and, if applicable, the Acid Rain Part, and there were no reportable incidents of deviations from applicable requirements associated with any malfunction or breakdown of process, fuel burning or emission control equipment, or monitoring systems during the reporting period identified above.

____ B. This facility was in compliance with all terms and conditions of the Title V Air Operation Permit and, if applicable, the Acid Rain Part; however, there were one or more reportable incidents of deviations from applicable requirements associated with malfunctions or breakdowns of process, fuel burning or emission control equipment, or monitoring systems during the reporting period identified above, which were reported to the Department. For each incident of deviation, the following information is included:

1. Date of report previously submitted identifying the incident of deviation.
2. Description of the incident.

____ C. This facility was in compliance with all terms and conditions of the Title V Air Operation Permit and, if applicable, the Acid Rain Part, EXCEPT those identified in the pages attached to this report. For each item of noncompliance, the following information is included:

1. Emissions unit identification number.
2. Specific permit condition number.
3. Description of the requirement of the permit condition.
4. Basis for the determination of noncompliance (for monitored parameters, indicate whether monitoring was continuous, i.e., recorded at least every 15 minutes, or intermittent).
5. Beginning and ending dates of periods of noncompliance.
6. Identification of the probable cause of noncompliance and description of corrective action or preventative measures implemented.
7. Dates of any reports previously submitted identifying this incident of noncompliance.

RESPONSIBLE OFFICIAL CERTIFICATION

I, the undersigned, am the responsible official as defined in Chapter 62-210.200, F.A.C., of the Title V source for which this document is being submitted. With respect to all matters other than Acid Rain program requirements, I hereby certify, based on the information and belief formed after reasonable inquiry, that the statements made and data contained in this document are true, accurate, and complete.

(Signature of Title V Source Responsible Official) 2/21/2002 *(Date)*

Name: Kris Edmondson Title: Plant Manager

DESIGNATED REPRESENTATIVE CERTIFICATION (only applicable to Acid Rain source)

I, the undersigned, 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.

(Signature of Acid Rain Source Designated Representative) 2/21/02 *(Date)*

Name: J. Michael Kennedy Title: Air Programs Manager

{Note: Attachments, if required, are created by the responsible official or the designated representative, as appropriate, and should consist of the information specified and any supporting records. Additional information may also be attached by the responsible official or designated representative when elaboration is required for clarity. This report is to be submitted to both the compliance authority (DEP district or local air program) and the U.S. EPA (U.S. EPA Region 4, Air and EPCRA Enforcement Branch, 61 Forsyth Street, Atlanta GA 30303).}

ATTACHMENT UF-EU1-L1

FUEL ANALYSIS OR SPECIFICATION

Attachment UF-EU1-L1
Fuel Analysis

Natural Gas Analysis

Parameter	Typical Value	Max Value
Relative Density	0.58 (compared to air)	
Heat Content	950-1124 Btu/cu ft.	
% Sulfur	0.43 grains/CCF[1]	1 grain/100 CF
% Nitrogen	0.8% by volume	
% Ash	negligible	

Note: The value listed are "typical" values based upon information supplied to Florida Power by Florida Gas Transmission (FGT). However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

[1] Data from laboratory analysis

ATTACHMENT UF-EU1-L3

COMPLIANCE TEST REPORT

TEST REPORT

on
EXHAUST EMISSIONS
from one
GENERAL ELECTRIC COMBUSTION TURBINE
at
Florida Power Corporation

UNIVERSITY OF FLORIDA COGENERATION FACILITY

Gainesville, FL

Prepared by
Florida Power Environmental Test Team
September, 2002

Florida Power
A Progress Energy Company

263 13th Avenue South, MAC BB1A
St. Petersburg, FL 33701-5511
(727) 826-4132 FAX (727) 826-4216

To the best of my knowledge, all applicable field procedures and calculations comply with Florida Department of Environmental Protection requirements, and all test data and plant operating data are true and correct.

Wilson Hicks
Plant Manager

10/11/02
Date

TABLE OF CONTENTS

INTRODUCTION

Exhaust emissions from a co-generation unit, consisting of a General Electric (GE) natural gas-fired combustion turbine (CT) combined with a supplementally fired heat recovery steam generator (HRSG), were tested to determine the quantity of emissions being vented to the atmosphere. The turbine is a General Electric model LM-6000PC-Esprint natural gas-fired combustion turbine. Steam injection is utilized to control NO_x emissions. This co-generation unit is in service at Florida Power Corporation's (FPC) University of Florida Co-generation Facility in Gainesville, Florida. The purpose of the testing was to determine compliance with applicable limits set forth by the Florida Department of Environmental Protection (FDEP), Title V Air Operation Permit 0010001-003-AC and the EPA's Code of Federal Regulations, Title 40, Part 60, Subpart GG. Florida Power Corporation's Environmental Test Team using a mobile emission test trailer conducted the testing.

Quantities of nitrogen oxides (NO_x), carbon monoxide (CO) and other combustion parameters were measured in the exhaust stack of the co-generation unit while firing natural gas. Three test runs at peak load conditions were performed to demonstrate compliance with the applicable NOx emission limit. Emissions of CO were also measured on the turbine. The NO_x steam injection rate, fuel flow, turbine load, and other key operational parameters were monitored and recorded during each test run. The tests followed the procedures set forth in the Code of Federal Regulations, Title 40, Part 60, Appendix A, Methods 1, 3, 3a, 9, 10, 19, and 20.

Table 1

Background Data

Source:	One co-generation unit for the production of power and process steam. The unit consists of a GE Model LM-6000PC-Esprint natural gas-fired combustion turbine with supplementary gas-fired duct burners. The turbine utilizes steam injection for NO_x control.
Location:	Florida Power Corporation UF Co-generation Facility Mowry Road, Building No. 82 Gainesville, FL
Applicable Permits and Regulations:	State of Florida, Department of Environmental Protection (FDEP) Air Operating Permit No. 0010001-003-AC and 40 CFR 60 Subpart GG
Owner/Operator:	Florida Power Corporation UF Co-generation Facility Mowry Road, Building No. 82 Gainesville, FL Attn: Wilson Hicks (352) 337-6904
Emissions Test	Florida Power Corporation 263 13th Avenue South St. Petersburg, FL 33701 Attn: Matthew Lydon (727) 826-4152 (727) 826-4216 FAX
Test Dates:	September 24, 2002
Sampling Locations:	CT/HRSG stack is a circular stack 92' 6" tall with a diameter of 117". Two 3" sample ports were located 90° from each other at 82' AGL. (See Appendix A, EPA Method 1 - Traverse Point Layout).

Test Methods:

- EPA Method 1 to establish O_2 traverse point locations for EPA Method 20
- EPA Method 3a for O_2 and CO_2 concentrations
- EPA Method 3 (Section 4.4) F_o calculation for verification of O_2/CO_2 concentrations
- EPA Method 10 for CO concentrations
- EPA Method 19 for mass emission, and stack flow rate calculations
- EPA Method 20 for NO_x and O_2 concentrations

SUMMARY OF RESULTS

Exhaust emissions from a co-generation unit, consisting of a General Electric (GE) natural gas-fired combustion turbine and heat recovery steam generator (HRSG), were tested to determine the quantity of emissions being vented to the atmosphere. Testing was conducted on the unit while firing natural gas (supplied by Florida Gas Transmission). During all of the test runs, the steam injection curve was maintained. Tests were conducted at full load conditions.

The basic test matrix consisted of first conducting an O_2 traverse. The unit was set to 100% of load with the steam injection on and duct burners firing. O_2 concentrations were measured at 36 traverse points (as determined in EPA Method 1 and 20) within the stack to determine the eight points of lowest O_2 concentration. No stratification was found; therefore, all subsequent tests were conducted at the eight most convenient traverse points.

Following the initial O_2 traverse, the test matrix for the unit consisted of three test runs at full load conditions while measuring NO_x, O_2, and CO. SO_2 emission rates and concentrations were also determined during each test run using the sulfur content of the fuel and the fuel flow rate.

An executive summary of the test results is included as Table 2. This table provides the average emission measurements for the unit. Table 2 also lists the applicable permit limit for each emission measurement. Limits from both the FDEP permit and Subpart GG (as applicable) are provided.

Tables 3 summarizes the results of the peak load test, and contains all pertinent operational parameters, ambient conditions, emission measurements, the calculated emission rates and corrected concentrations. NO_x is reported in ppmvd, ppmvd at 15% O_2, and lbs/hr. SO_2 emissions are reported in lbs/hr and volume percentage at 15% O_2. CO emissions are reported in ppmvd, and lbs/hr.

The mass emission rate measurements for all test runs were based on the stoichiometric F-factor calculations in EPA Method 19. Both O_2 and CO_2 F-factors were utilized and volumetric flow rate was used for the emission rate.

Fuel analysis of the natural gas for composition, specific gravity, heating value and total sulfur content is routinely provided by Florida Gas Transmission (FGT). The results of this analysis are contained in Appendix C.

Appendix A contains the EPA Method 1 & 20 traverse point determinations. Appendix B contains examples of all calculations necessary for the reduction of the data presented in this report. Appendix F contains the operational data during each test run. The operational data was recorded in the unit's control room on computer printouts at approximately 10-minute intervals. The operational data reported is an average of the several readings recorded during each test run. Appendix G contains the entire computer printouts collected from the emission test trailer during the preliminary O_2 traverse and the test runs.

Table 2
Executive Summary

Plant: Florida Power - University of FLorida Cogen. Facility
Location: Gainesville, Florida
Test Dates: Sept. 24, 2002
Test Engineer: JTL
Technician: LRF, DTA
Source: GE Model LM-6000PC- Esprint Turbine

	FDER Permit Limit	Subpart GG Limit	100% Load
NOx (lb/hr)	39.6	n.a.	21.75
NOx (ppmvd @ 15% O2)	25	126	13.70
CO (lb/hr)	35.8	n.a.	19.40
CO (ppmvd @ 15% O2)	36	n.a.	20.08
SO2 (vol % @ 15% O2)	0.015	0.015	4.91E-06

4/8/03

Dear Mike and Matt,

Please look at Specific Conditions D.1. and E.6. for CO (DRAFT Permit attached). With the allowed hours per year at 7211, which is non-fuel specific, you not only would violate the TPY limitation for CO (7.7 TPY), but the allowed change would trip PSD NSR as well for CO (> 200 TPY increase). For reasonable assurance, we can fix the issue by placing an hours/yr limitation at 219 hrs while firing fuel oil, which was the previous limitation on firing fuel oil before the latest AC permitting actions for the new CT. Please advise. Scott's phone number is 850/921-9532 and mine is 850/413-9198. Take care.

Bruce

Table 3
100% Load Emissions Summary

Plant	Florida Power, Univ. FL Cogen. Facility
Location	Gainesville, Florida
Technicians	JTL, LRF, DTA
Source	GE Model LM-6000PC-Esprint Turbine

Test Run Number		1	2	3
Date		09/24/02	09/24/02	09/24/02
Start Time		10:21	11:40	12:57
End Time		11:28	12:46	14:05
Operational Data	**CoGen Name**			
Generator Output (MW)	GEN OUTPUT	46	46	46
Mean Turbine Exhaust Plenum Temperature (°F	GT EXH AVG	877	877	876
Steam Injection (Klbs/hr)	GT NOX STM	33.22	33.31	33.48
Steam/Fuel Ratio (lb/lb)	STM/FUEL	1.775	1.780	1.773
Compressor Inlet Temperature (°F) dry	AMB TEMP AV	86.8	90.0	84.4
Compressor Inlet Temperature (°F) wet, predict	INLET T2	78.0	78.7	77.0
Compressor Inlet Pressure (psia)	INLET P2	14.50	14.50	14.50
Post Cooler Humidity (%RH)	GT HUMID	101.0	101.0	101.0
Compressor Discharge Pressure (psig) Observe	GT P3	420.0	419.0	420.8
Fuel Data				
Turbine NG Fuel Flow (Klbs/hr)	GT FUEL FLW KPPH	18.72	18.66	18.79
Turbine Fuel Flow (SCF/hr)	GT FUEL FLW KSCFH	416930	415720	418500
Duct Burner Fuel Flow	DB Fuel Flow KSCFH	32.90	30.82	31.45
Fuel Heating Value (Btu/SCF)		1035	1035	1035
Published M-19 O2 F-Factor (DSCF/MBtu)		8710	8710	8710
Published M-19 CO2 F-Factor (DSCF/MBtu)		1040	1040	1040
Turbine Heat Input (MBtu/hr)		431.5	430.3	433.1
Duct Burner Heat Input (Mbtu/hr)		31.8	29.8	30.4
Total Heat Input		463.3	460.0	463.5
Total Sulfur (Gr/Ccf)		0.091	0.091	0.091
Total Sulfur in Fuel (wt %)		0.00029	0.00029	0.00029
% of Heat Input Curve		115.8	115.5	116.3
Ambient Conditions				
Barometer (in. Hg)		29.97	29.98	29.95
Temperature (°F dry)		84	80	77
Temperature (°F wet)		80	80	77
Humidity (lbs/lb of dry air)		0.02058	0.02152	0.01952
Environmental Services Measurements				
NOx (ppmvd)		16.72	17.07	14.28
CO (ppmvd)		27.45	26.34	16.66
O2 (%)		14.01	13.98	14.01
CO2 (%)		3.93	3.92	3.90
Environmental Services Calculated Values				
Fo		1.753	1.765	1.767
Stack Flow via O2 F-Factor (DSCFH)		11401151	11318780	11444084
Stack Flow via CO2 F-Factor (DSCFH)		11419426	11415332	11550600
NOx (ppmvd @ 15% O2)		14.3	14.6	12.2
NOx (lbs/hr) per O2 F-factor		22.8	23.1	19.5
CO (ppmvd @ 15% O2)		23.5	22.5	14.3
CO (lbs/hr) per O2 F-factor		22.8	21.7	13.9
SO2 (vol % @ 15% O2)		4.90E-06	4.90E-06	4.90E-06
SO2 (lbs/hr)		0.1083	0.1080	0.1087

PROCESS DESCRIPTION

Florida Power Corporation (FPC) is the owner of the University of Florida Co-generation Facility, which is located in Gainesville, Alachua County, Florida. The co-generation unit consists of a GE manufactured combustion turbine (CT) and a supplementary fired heat recovery steam generator (HRSG). This unit was installed to provide power and steam to the university and to reduce emissions by replacing some of the existing Central Heat Plant boilers. Emission testing was conducted on the combined cycle unit to determine its compliance status with regard to the state and federal regulations. Florida Power's Environmental Test Team performed the compliance emission testing utilizing a mobile test trailer. This section of the report provides a brief description of these units.

The turbine is a GE Model LM-6000PC-Esprint, serial no. 191-315, multi-nozzle, quiet combustor, single shaft combustion turbine and fires natural gas. This turbine has a peak load rating of 50.0 MW at site conditions of 45°F inlet temperature, 100% relative humidity, 14.64 psia atmospheric pressure, and steam injection utilized to control NOx emissions. The electricity produced from this turbine is distributed to university facilities by high voltage transmission lines and the area's electrical power distribution grid.

The unit's heat recovery steam generator (HRSG) is equipped with natural gas-fired duct burners, serial no. 40D-11797-2, to generate additional heat. The maximum permitted firing rate for the duct burners (198.7 mft^3/hr) was based on manufacturer's data. The steam generated from this unit is used as process steam and for heating of university facilities.

The turbine and duct burners both fire on the same pipeline grade natural gas. This natural gas is supplied to FPC by Florida Gas Transmission (FGT). The total sulfur compounds in the fuel are 0.091 gr/ft^3, 0.00029 by weight, based on the fuel analysis supplied by FGT.

The circular CT/HRSG exhaust stack was utilized for exhaust emission measurements. The exhaust stack dimensions are depicted in the stack diagram in Appendix A. Four three-inch ports are equally spaced perpendicular to each other. The stack is 92 ft. 6 in. in height and 117 inches in diameter. The ports are located 10 ft. 6 in. from the top of the stack (82 ft. above ground level).

ANALYTICAL TECHNIQUE

This section of the report describes the analytical techniques and procedures used during these tests.

The sampling and analysis procedures used during these tests conformed with those outlined in Code of Federal Regulations, 40 CFR 60, Appendix A, Methods 1, 3, 3a, 9, 10, 19, and 20. Table 5 lists the instruments and detection principles used for the instrumental analyses.

The test matrix consisted of an initial O_2 traverse by sampling at 36 points across the stack. This traverse was conducted at the peak load condition. Compliance tests were then conducted at peak load conditions during which NO_x, O_2 and CO concentrations were measured. Three test runs were conducted at the peak load condition.

The instrumental sampling and analysis system used to determine gaseous emission concentrations during the turbine tests is depicted in Figure 1. Stack gas entered through a stainless steel probe with a stainless steel sintered filter to keep unwanted particulate out of the system. The sample was transported via 3/8-inch heat-traced Teflon® tubing to the "wet" side of the sample manifold via a stainless steel/Teflon® diaphragm pump. It was then delivered to a specially designed stainless steel/Teflon® minimum-contact condenser, which dried the sample without removing NO_x or other compounds of interest. The sample was then passed to the dry side of the manifold where it was partitioned to the NO_x, CO, O_2 and CO_2 analyzers through glass and stainless steel rotometers for flow control of the sample.

Figure 1 shows that the sample system was also equipped with a separate path through which a calibration gas could be delivered to the probe and back through the entire sampling system. This allowed for a convenient way to perform the system bias checks as required by the test methods.

All instruments were housed in a mobile test trailer. Calibration gases were provided in aluminum cylinders with concentrations certified by the vendor. EPA Protocol No. 1 gases were used where applicable.

All data from the continuous monitoring instruments were recorded using a data acquisition system. This system consisted of a 486DX personal computer, LabView software and a dot matrix printer. The data from the individual test runs are located in Appendix G.

EPA Method 1 was used to determine the EPA Method 20 O_2 traverse point locations. The traverse point layout diagram is located in Appendix A.

The size and circular shape of the turbine stack required 36 traverse points to be used for the initial O_2 traverses. The eight points of lowest O_2 concentration were used for all subsequent gaseous constituent tests. No O_2 stratification was encountered; therefore, the eight most convenient traverse points were utilized for the tests.

The stack gas analyses for CO_2 and O_2 concentrations were performed in accordance with procedures set forth in EPA Method 3a. Instrumental analyses were used in lieu of an ORSAT procedure due to the greater accuracy and precision provided by the instruments. The CO_2 analyzer is based on the principle of infrared absorption; and, the O_2 analyzer operates on an electrochemical cell.

The F_o calculation of EPA Method 3 was used to verify the O_2 and CO_2 measurements. In all cases, the F_o fell within the expected values for natural gas.

CO emission concentrations were quantified during the 100% load test runs in accordance with procedures set forth in EPA method 10. A continuous nondispersive infrared (NDIR) analyzer was used for this purpose. This analyzer was equipped with a gas correlation filter, which also eliminates any interference from moisture, CO_2, or other combustion products.

EPA Method 20 procedures were used to determine concentrations of NO_x (via chemiluminescence) and O_2 as prescribed by the testing regulations for gas turbine units. NO_x mass emission rates were calculated as if all the NO_x were in the form of NO_2. This approach corresponds to EPA's convention.

The traverse point layout requirements for EPA Method 20 were discussed previously. Sampling time at each point is required by the method to be 1-minute plus the average sample system response time. The response time test that was conducted on site prior to testing showed a response time for NO_x, O_2, CO, and CO_2 of less than 1 minute. Therefore, the sampling time used for the initial O_2 traverse was 2 minutes per point and 3 minutes per point for the NO_x/O_2 and CO concentration test runs.

The stoichiometric calculations of EPA Method 19 were used to calculate the stack volumetric flow rates. This calculation is based on the heating value and the O_2 and CO_2 F-factors (SCF of exhaust per mmBtu of burned fuel) for natural gas. Method 19 flow rate determination are also based on excess air (as measured from the exhaust diluent concentrations) and the fuel flow rates. EPA Method 19 was used as the stack flow rate measurement technique for all testing. The data presented in this report makes use of the published F-factor (i.e. 8710 for O_2 and 1040 for CO_2 for natural gas).

Ambient absolute pressure, ambient temperature and humidity were also collected during each test run. A hand held sling psychrometer utilizing a wet/dry bulb was used to determine temperature and humidity conditions. A barometer/altimeter was used to measure absolute atmospheric pressure.

Operational data was also collected during the test runs. Following each test run the FOXBORO printout in the control room provided a printout of various operational data. The operational test data was recorded approximately every 10-minutes during the test runs and averaged over the test run period.

Operational data provided included the following:

- Mean turbine exhaust plenum temperature
- $DeNO_x$ steam flow
- Fuel flow rate
- Compressor inlet temperature
- Generator output
- Compressor discharge pressure
- Compressor discharge temperature

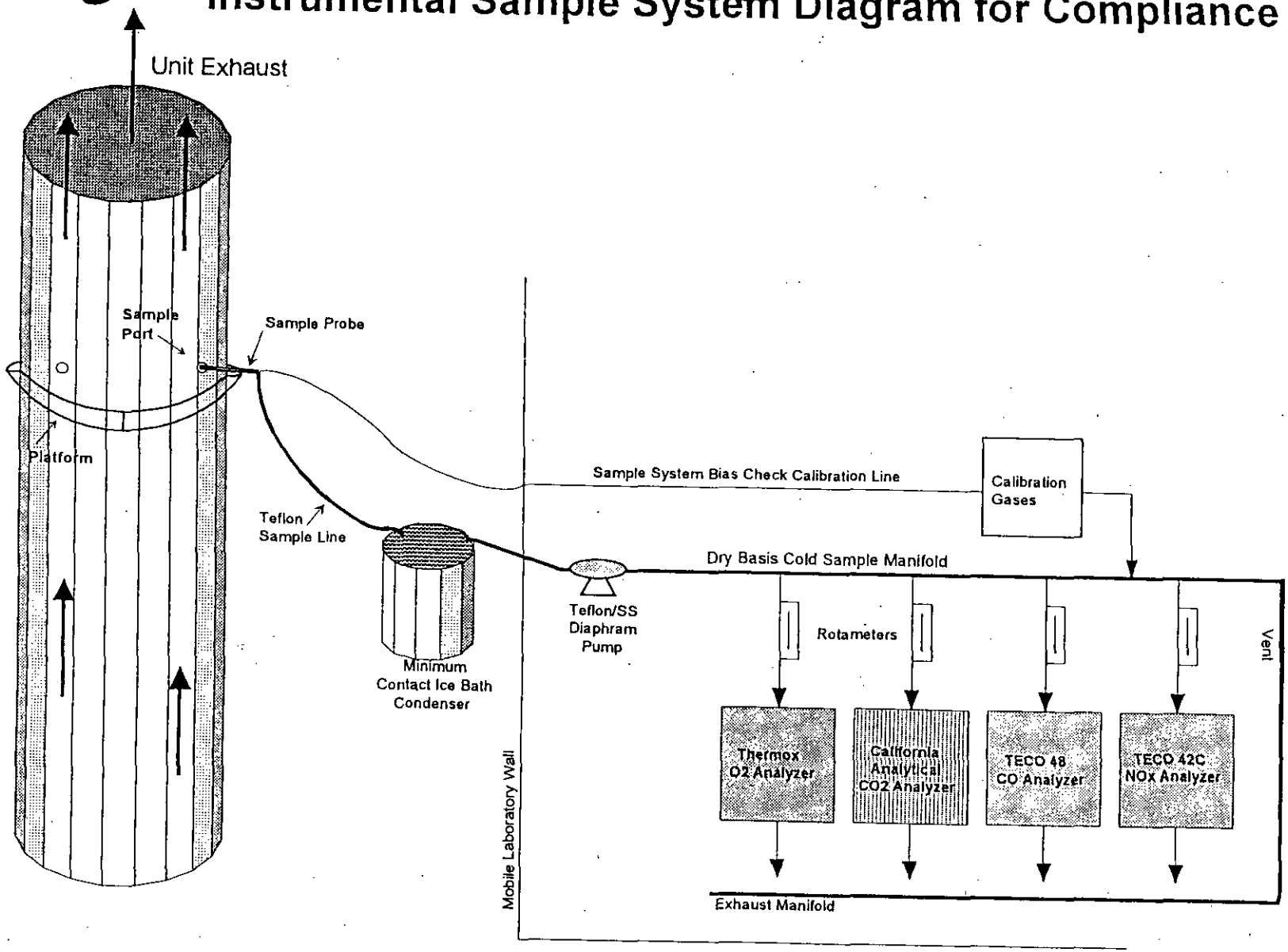
The printouts of the operational data are included in Appendix F of this report. The tabular summaries included in the *Summary of Results* include the average for all of the above operational parameters during each test run.

Analytical Instrumentation

Table 4

Parameter	Model & Manufacturer	Common Use Ranges	Sensitivity	Response Time (sec.)	Detection Principle
Oxygen (O_2)	Amatek Thermox	0-1% 0-10% 0-25% 0-100%	0.1%	5	Electrochemical cell convection process
Carbon Dioxide (CO_2) (high range)	California Analytical	0-1% 0-5% 0-10% 0-50% 0-100%	0.1 ppm	3	Infrared absorption, non-dispersive type deflection method, single IR, single beam (NDIR)
Carbon Monoxide (CO)	TECO 48	0-10 ppm 0-20 ppm 0-50 ppm 0-100 ppm 0-200 ppm 0-500 ppm 0-1000 ppm	0.1 ppm	120	Infrared absorption, gas filter correlation detector, microprocessor based linearization
Nitrogen Oxide (NOx)	TECO 42H	0-10 ppm 0-20 ppm 0-50 ppm 0-100 ppm 0-200 ppm 0-500 ppm 0-1000 ppm 0-2000 ppm 0-5000 ppm	0.1 ppm	5	Chemiluminescence

Instrumental Sample System Diagram for Compliance Testing



File: Sample2.ds4

QUALITY ASSURANCE ACTIVITIES

A number of quality assurance activities were undertaken before, during, and after this testing project. This section of the report combined with Appendices C and D describe each of those activities.

Each instrument's response was checked and adjusted in the field prior to the collection of data via multi-point calibration. The instrument's linearity was checked by first adjusting its zero and span responses to zero (nitrogen or zero air) and an upscale calibration gas in the range of the expected concentrations. The instrument response was then challenged with other calibration gases of known concentration. The instrument's response was accepted as being linear if the response of the other calibration gases agreed within ± 2% of range of the predicted values. Appendix C, Part 1 contains the calibration sheets.

As a minimum, before and after a set of test runs, the analyzers were checked for zero and span drift. This allows each set of test runs to be bracketed by calibrations and documents the precision of the data collected. The criterion for acceptable data is that the instrument drift is no more than 2% of the full-scale response. The quality assurance worksheets in Appendix C, part 5 summarize all multipoint calibration checks and zero and span checks performed during the tests. These worksheets show that no analyzer calibration drifted in excess of 2% during the tests.

Interference response tests on the instruments were recorded for the NO_x, CO, CO_2 and O_2 analyzers. The sum of the interference responses was less than 2% of the applicable full-scale value. The instruments used for the tests meet the performance specifications for EPA Methods 3a, 10, and 20. The results of the interference tests are available in Appendix C, Part 2 of this report.

The NO_x, O_2, CO_2, and CO sampling and analysis system was checked onsite for response time per the procedures outlined in EPA Method 20. The average NO_x analyzer's response times were 54 seconds upscale and 54 seconds downscale. The average O_2 analyzer's response times were 43 seconds upscale and 44 seconds downscale. Method 20 requires a minimum sample time per traverse point of 1-minute plus the average sample system response time. Therefore, a sample time of 2 minutes was used for the initial O_2 traverse. The response time for the CO analyzer was 45 seconds upscale and 55 seconds downscale, therefore, a sample time of 2 minutes was chosen for the NO_x traverse since CO emission are collected during these test runs at the 100% load condition. The response time test data is contained in Appendix C, Part 3.

The sampling systems were leak checked by demonstrating that a vacuum greater than 10" Hg could be held for at least 1 minute with a decline of less than 1" Hg. A leak check was conducted after each sample system was set up and before the systems were dismantled. These tests were conducted to ensure that ambient air had not diluted the sample. Any leakage detected prior to the tests was repaired and another leak check was conducted before testing commenced. No leaks were detected after the tests were complete. Leak check data is contained in Appendix C, Part 4.

The absence of leaks in the gaseous constituent sampling system was also verified by system bias checks. Comparing the responses of each analyzer to a calibration gas introduced via two paths tested the sampling system's integrity. The first path was directly into the analyzer via the zero/span calibration manifold. The second path was to introduce a calibration gas into the sample system at the sample probe. Any difference in the instrument responses by these two

methods was attributed to sampling system bias or leakage. These bias checks were conducted before and after the testing. The same sample system was used throughout the tests. The bias response check data is contained in Appendix C, Part 4. All responses, via both paths, agreed within ± 2%.

Having the analyzer sample a mixture of NO in N2 standard gas and zero air from a Tedlar® bag checked the efficiency of the NO2 to NO converter in the NOx analyzer. When this bag is mixed and exposed to sunlight, the NO is oxidized to NO_2 over approximately a 30 minute period. If the NO_x analyzer's converter is 100% efficient, then the NO_x response does not decrease as the NO in the bag is converted to NO_2. The criterion for acceptability is a demonstrated NO_x converter efficiency greater than 90%. The strip chart excerpt that demonstrates the converter efficiency is contained in Appendix C, Part 5.

The control gases used to calibrate the instruments were analyzed and certified by the compressed gas vendors to ± 1% accuracy for the NO_x, O_2 and CO_2 gases, and to ± 2% for the CO gases. EPA Protocol No. 1 was used, where applicable, to assign the concentration values traceable to the National Institute of Standards and Technology, Standard Reference Materials (SRM's). The calibration certification sheets are prepared by the vendor and are contained in Appendix D.

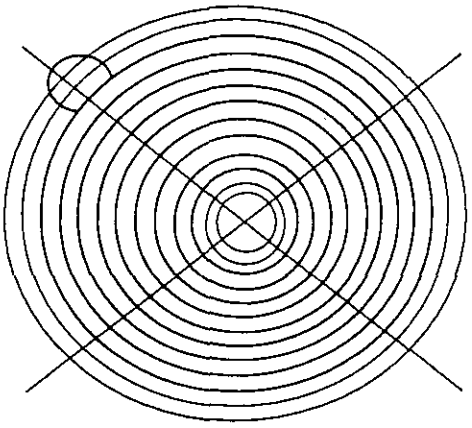
APPENDIX A

EPA Method 1 - Traverse Point Layout

Rectangular Stack Sampling Traverse Point Layout
(EPA Method 1)

University of Florida
Date: September 24, 2002
Plant: Florida Power
Source: Stack
Technician(s) JTL, LRF
Stack Length (L) N/A in.
Stack Width (W) N/A in.

Port + Stack ID: 121 in.
Port Extension (Ref. Pt.) 9 in.
Stack ID: 112 in.
Stack Area 74.66 $ft.^2$.
Total Req'd Trav. Pts. (P). 36
No. of Traverse Pts. 18 /dimen.



No. of Traverse Pts. 9 /port

Stack Diagram (Top view showing length, width, and sample ports.)

Point No.	Percent of Stack Diameter From Wall	Distance From Ref. Point (inches)
1	1.4	10.6
2	4.4	13.9
3	7.5	17.4
4	10.9	21.2
5	14.6	25.4
6	18.8	30.1
7	23.6	35.4
8	29.6	42.2
9	38.2	51.8
10	61.8	78.2
11	70.4	87.8
12	76.4	94.6
13	81.2	99.9
14	85.4	104.6
15	89.1	108.8
16	92.5	112.6
17	95.6	116.1
18	98.6	119.4

APPENDIX B

Example Calculations

Flow Rate in Stack by F-Factors (Qd):
refers to Test Run 1

Convert mass fuel flow to volumetric fuel flow:

Calculate Heat Input Run 1:
Hg = heating value of fuel = 1039.4 BTU/SCF (gross) from fuel analysis
F = fuel flow = 355900 SCF/hr from operational data
H = heat input (MMBtu/hr)
= Hg x F/($1x10^6$) = 369.9 MMBtu/hr

Calculate flow rate using **O_2 F-Factor** on Run 1:

C_{O2} = O_2 concentration in exhaust = 14.89 % by volume, dry
$Q_d = H * F_{O2} * 20.9/(20.9 - C_{O2})$

Q_d = 369.9 * 8710 * 20.9/(20.9 - 14.89)

Q_d = 11204711 DSCFH

Calculate flow rate using **CO_2 F-Factor**, using same data as above, except:

C_{CO2} = Concentration of CO_2 in stack = 3.39 % by volume, dry
$Q_d = H * F_{CO2} * 100/C_{CO2}$

Q_d = 369.9 * 1040 * 100 / 3.69

Q_d = 11348653 DSCFH

NO_x Correction to 15% O_2
refers to Test Run 1

NO_x obs = observed NO_x concentration = 18.48 ppmv
C_{O2} = concentration of O_2 = 14.89 % (from analyzer)

$$NO_x @ 15\% O_2 = \frac{(NO_x \text{ obs} \times (20.9 - 15.0))}{(20.9 - C_{O2})}$$

$$18.2 = \frac{(18.49 \times (20.9 - 15.0))}{(20.9 - 14.89)}$$

Mass Emission Rates NO_x (lb/hr) (E_{NOx})
refers to Test Run 1

C_{NOx} = NO_x concentration (ppmv, dry, uncorrected) = 18.49 ppmv
Q_d = Stack Flow Rate (SCFH, dry, via O2) = 11204711
$11.94 * 10^{-8}$ = NO_x density factor from molecular weight of 46.01 and gas constant of 385.15 SCF/lb-mole (lbs/scf-ppm)

$E_{NOx} = C_{NOx} * Q_d * 11.94*10^{-8}$

$E_{NOx} = 14.89 * 11204700 * 11.94*10^{-8}$

E_{NOx} = 24.7 lbs/hr

Mass Emission Rates CO (lbs/hr) (E_{CO})
refers to Test Run 1

C_{CO} = CO Concentration (ppmv, dry, uncorrected) = 5.79 ppmv
Q_d = Stack Flow Rate (SCFH, dry, via O2) = 11204711
$7.269 * 10^{-8}$ = CO Density factor from molecular weight of 28.01 and gas constant of 385.15 SCF/lb-mole (lbs/scf-ppm)

$E_{CO} = C_{CO} * Q_d * 7.269 * 10^{-8}$

$E_{CO} = 5.79 * 11204711 * 7.269 * 10^{-8}$

E_{CO} = 4.7 lbs/hr

Fo Calculation to Verify O_2/CO_2 Measurements
refers to Test Run 1

CO_2 = 3.39 % by volume
O_2 = 14.89 % by volume

Fo = (20.9 - O_2%) / CO_2%

Fo = (20.9 - 14.89)/3.39

Fo = 1.773 *(acceptable Fo values for natural gas = 1.600 to 1.836)*

SO_2 Emission Rate Calculation (E_{SO2})

refers to test run 1

Sw = Sulfur content of fuel = 0.00071 % by weight
F_g = Fuel flow to turbine = 15.98 Klb/hr

E_{SO2} = Sw / 100 * F_g * 3600 * 64 MW of SO_2 / 32 MW of Sulfur

E_{SO2} = 0.00071 / 100 * 15.98 * 3600 * 64/32

E_{SO2} = 0.2270 lbs/hr

SO_2 Concentration (C_{SO2})

refers to test run 1

E_{SO2} = SO_2 Emission Rate (lbs/hr) = 0.2270
Q_d = Stack Flow Rate (DSCF/hr) from F-Factor Flow Calc. = 11204711
385.15 SCF/lb-mole of ideal gas
MW = 64 lbs/lb/mole

C_{SO2} = E_{SO2} * 385.15 / MW / Q_d * 100

C_{SO2} = 0.2270 * 385.15 / 64 / 11204711 * 100

C_{SO2} = 1.22E-05 % SO_2

C_{SO2} at 15% O_2 = % SO_2 * 5.9 / (20.9 - O_2)

C_{SO2} at 15% O_2 = 1.22E-05 * 5.9 / (20.9 - 14.89)

C_{SO2} at 15% O_2 = 0.000012 %

Fuel Curve Calculations

refers to test run 1

Ideal:
@ 71.0° F (360,000 scf/hr)(1039.4 btu/scf) = 374.184 mmBtu/hr

Actual:
(355900)(1039.4) = 369.9 mmBtu/hr

(369.9 / 374.184) * 100 = 98.9%

Calculation for Gaseous Emissions QA

Initial Calibration and Linearity Check

(Pre Run 1)

Initial = observed reading when calibration gas is analyzed

$$Drift\ (\%\ of\ Span) = \frac{Initial\ (\%, ppm) - Cal.\ Gas\ Concentration\ (\%, ppm)}{Span\ Value} \times 100$$

For NOx @ 25.6 ppm
Drift (% of Span) = [(25.6-25.6)/50] x 100 = 0.00

All readings must be within 2% full-scale of predicted readings.

Zero and Span Check

Initial Span = observed reading when calibration gas is analyzed just prior to the start of a test run (i.e. target value).

Pre Run 1, NOx:
Initial Span = 25.6 ppm

Final Span = observed reading when calibration gas is analyzed just after the end of a test run (this will also be the initial span calibration for the next test run)

After Run 1, NOx:
Final Span = 25.48 ppm

$$Drift\ (\%\ of\ Span) = \frac{Final\ (\%, ppm) - Initial\ (\%, ppm)}{Span\ Value} \times 100$$

Drift = [(25.48 ppm - 25.6 ppm)/50] x 100 = -0.24

The drift is considered to be acceptable if the value is within 2% of full-scale from the predicted value.

APPENDIX C

Fuel Data &
Flow vs. Inlet Temperature Curve

daily chromatograph

date requested: Oct 4 2002 6:43AM

The 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 provided 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 information. This data will be subject to additional verification and possible modification prior to billing.

Chromatograph Report For: 8033 - GAINESVILLE LAB

download

Date	BTU	CO2	N2	Grav	Methan	Ethane	Propan	Ibutan	Nbutan	Ipenta	Npenta	C6	C7	H2	Helium	Oxygen
10/03/2002	1038	0.940	0.342	0.589	95.264	2.637	0.494	0.105	0.096	0.038	0.025	0.058	0	0	0	0
10/02/2002	1039	0.938	0.355	0.590	95.099	2.750	0.524	0.108	0.108	0.037	0.025	0.058	0	0	0	0
10/01/2002	1043	1.000	0.330	0.593	94.774	2.903	0.598	0.125	0.129	0.044	0.030	0.066	0	0	0	0
09/30/2002	1043	1.066	0.382	0.595	94.493	3.039	0.611	0.128	0.131	0.047	0.031	0.070	0	0	0	0
09/29/2002	1043	1.010	0.398	0.594	94.649	2.928	0.606	0.129	0.128	0.047	0.031	0.073	0	0	0	0
09/28/2002	1054	1.024	0.368	0.600	93.977	3.159	0.885	0.214	0.188	0.064	0.037	0.082	0	0	0	0
09/27/2002	1048	1.006	0.380	0.597	94.273	3.093	0.767	0.182	0.153	0.054	0.030	0.061	0	0	0	0
09/26/2002	1033	0.858	0.355	0.584	95.680	2.510	0.378	0.071	0.063	0.026	0.017	0.042	0	0	0	0
09/25/2002	1034	0.880	0.358	0.585	95.571	2.549	0.401	0.078	0.068	0.029	0.019	0.045	0	0	0	0
09/24/2002	1035	0.921	0.352	0.586	95.424	2.652	0.417	0.079	0.068	0.027	0.017	0.043	0	0	0	0
09/23/2002	1035	0.935	0.380	0.587	95.236	2.795	0.427	0.078	0.066	0.026	0.017	0.040	0	0	0	0
09/22/2002	1032	0.908	0.327	0.584	95.666	2.535	0.361	0.070	0.057	0.023	0.015	0.038	0	0	0	0
09/21/2002	1032	0.886	0.355	0.584	95.629	2.595	0.340	0.066	0.055	0.023	0.015	0.036	0	0	0	0
09/20/2002	1030	0.849	0.316	0.582	95.976	2.391	0.297	0.057	0.049	0.020	0.013	0.032	0	0	0	0
09/19/2002	1032	0.853	0.332	0.583	95.815	2.470	0.329	0.068	0.062	0.023	0.015	0.034	0	0	0	0
09/18/2002	1032	0.866	0.338	0.583	95.775	2.508	0.322	0.065	0.057	0.021	0.014	0.035	0	0	0	0
09/17/2002	1033	0.869	0.336	0.584	95.619	2.618	0.352	0.069	0.060	0.023	0.015	0.038	0	0	0	0
09/16/2002	1033	0.868	0.334	0.584	95.569	2.707	0.322	0.067	0.056	0.023	0.015	0.038	0	0	0	0
09/15/2002	1032	0.801	0.325	0.582	95.910	2.449	0.322	0.065	0.053	0.023	0.014	0.038	0	0	0	0
09/14/2002	1032	0.815	0.344	0.583	95.877	2.454	0.318	0.066	0.055	0.022	0.014	0.035	0	0	0	0
09/13/2002	1031	0.824	0.336	0.582	95.914	2.442	0.300	0.062	0.053	0.021	0.013	0.034	0	0	0	0
09/12/2002	1030	0.827	0.349	0.582	95.910	2.457	0.283	0.058	0.049	0.021	0.013	0.033	0	0	0	0
09/11/2002	1030	0.827	0.333	0.582	95.987	2.398	0.283	0.056	0.048	0.021	0.013	0.034	0	0	0	0
09/10/2002	1030	0.825	0.321	0.582	95.965	2.450	0.279	0.054	0.045	0.019	0.012	0.031	0	0	0	0
09/09/2002	1032	0.820	0.343	0.583	95.784	2.576	0.302	0.060	0.052	0.020	0.012	0.031	0	0	0	0
09/08/2002	1031	0.801	0.327	0.582	95.973	2.420	0.292	0.064	0.056	0.021	0.013	0.032	0	0	0	0
09/07/2002	1029	0.785	0.335	0.580	96.239	2.222	0.250	0.056	0.049	0.020	0.013	0.032	0	0	0	0
09/06/2002	1029	0.798	0.335	0.580	96.251	2.159	0.267	0.064	0.057	0.022	0.014	0.034	0	0	0	0
09/05/2002	1029	0.778	0.343	0.580	96.215	2.213	0.261	0.063	0.057	0.022	0.014	0.034	0	0	0	0
09/04/2002	1030	0.764	0.328	0.580	96.203	2.250	0.266	0.064	0.057	0.021	0.014	0.033	0	0	0	0
09/03/2002	1032	0.784	0.317	0.582	95.977	2.405	0.321	0.066	0.058	0.022	0.014	0.036	0	0	0	0
09/02/2002	1033	0.778	0.345	0.583	95.813	2.521	0.342	0.068	0.060	0.023	0.015	0.036	0	0	0	0
09/01/2002	1035	0.801	0.341	0.584	95.625	2.640	0.376	0.076	0.067	0.023	0.014	0.036	0	0	0	0
08/31/2002	1036	0.832	0.358	0.586	95.411	2.760	0.402	0.083	0.075	0.025	0.016	0.039	0	0	0	0
08/30/2002	1038	0.862	0.347	0.587	95.242	2.811	0.476	0.094	0.082	0.027	0.017	0.041	0	0	0	0
08/29/2002	1038	0.870	0.351	0.588	95.232	2.791	0.485	0.096	0.084	0.030	0.019	0.043	0	0	0	0
08/28/2002	1039	0.853	0.367	0.588	95.187	2.766	0.518	0.105	0.101	0.035	0.024	0.045	0	0	0	0
08/27/2002	1038	0.884	0.354	0.588	95.193	2.819	0.481	0.095	0.084	0.030	0.019	0.042	0	0	0	0
08/26/2002	1039	0.877	0.337	0.588	95.147	2.839	0.513	0.102	0.093	0.031	0.020	0.043	0	0	0	0
08/25/2002	1038	0.856	0.345	0.587	95.356	2.698	0.463	0.097	0.089	0.031	0.020	0.044	0	0	0	0
08/24/2002	1036	0.843	0.359	0.586	95.496	2.611	0.422	0.091	0.086	0.032	0.020	0.041	0	0	0	0
08/23/2002	1037	0.823	0.328	0.586	95.540	2.605	0.436	0.090	0.088	0.030	0.019	0.042	0	0	0	0
08/22/2002	1037	0.841	0.340	0.587	95.425	2.661	0.455	0.095	0.091	0.031	0.020	0.042	0	0	0	0

08/21/2002	1036	0.848	0.325	0.586	95.521	2.653	0.410	0.083	0.079	0.027	0.017	0.038	0	0	0	0
08/20/2002	1035	0.843	0.289	0.585	95.657	2.606	0.379	0.076	0.072	0.025	0.015	0.039	0	0	0	0
08/19/2002	1040	0.842	0.334	0.588	95.213	2.786	0.507	0.114	0.107	0.034	0.020	0.044	0	0	0	0
08/18/2002	1034	0.801	0.329	0.583	95.786	2.512	0.353	0.072	0.068	0.025	0.016	0.038	0	0	0	0
08/17/2002	1034	0.775	0.346	0.583	95.744	2.587	0.342	0.068	0.062	0.024	0.015	0.036	0	0	0	0
08/16/2002	1033	0.780	0.338	0.583	95.809	2.549	0.327	0.064	0.057	0.024	0.015	0.037	0	0	0	0
08/15/2002	1034	0.765	0.350	0.583	95.745	2.570	0.350	0.072	0.067	0.027	0.017	0.037	0	0	0	0
08/14/2002	1033	0.792	0.344	0.583	95.817	2.521	0.326	0.065	0.058	0.024	0.015	0.039	0	0	0	0
08/13/2002	1034	0.786	0.330	0.583	95.782	2.555	0.335	0.069	0.065	0.025	0.016	0.037	0	0	0	0
08/12/2002	1031	0.802	0.325	0.582	95.954	2.428	0.304	0.060	0.055	0.020	0.013	0.038	0	0	0	0
08/11/2002	1032	0.826	0.340	0.583	95.775	2.549	0.309	0.064	0.060	0.023	0.015	0.039	0	0	0	0
08/10/2002	1033	0.827	0.339	0.584	95.696	2.591	0.340	0.068	0.065	0.022	0.014	0.037	0	0	0	0
08/09/2002	1036	0.841	0.340	0.586	95.480	2.684	0.408	0.084	0.086	0.026	0.016	0.037	0	0	0	0
08/08/2002	1036	0.863	0.365	0.587	95.334	2.752	0.426	0.089	0.089	0.028	0.017	0.037	0	0	0	0
08/07/2002	1036	0.841	0.319	0.586	95.428	2.769	0.412	0.079	0.077	0.024	0.015	0.035	0	0	0	0
08/06/2002	1036	0.828	0.331	0.585	95.495	2.712	0.397	0.080	0.077	0.025	0.016	0.038	0	0	0	0
08/05/2002	1036	0.822	0.321	0.585	95.500	2.745	0.377	0.080	0.075	0.025	0.016	0.038	0	0	0	0
08/04/2002	1035	0.819	0.349	0.585	95.482	2.752	0.379	0.072	0.074	0.023	0.015	0.035	0	0	0	0
08/03/2002	1035	0.791	0.347	0.585	95.605	2.628	0.395	0.077	0.080	0.024	0.016	0.037	0	0	0	0
08/02/2002	1036	0.794	0.340	0.585	95.603	2.569	0.424	0.091	0.094	0.027	0.017	0.041	0	0	0	0
08/01/2002	1037	0.796	0.316	0.585	95.641	2.512	0.451	0.097	0.097	0.029	0.018	0.043	0	0	0	0
07/31/2002	1040	0.778	0.324	0.587	95.441	2.620	0.512	0.117	0.114	0.032	0.018	0.043	0	0	0	0
07/30/2002	1036	0.755	0.330	0.584	95.746	2.479	0.419	0.093	0.096	0.027	0.017	0.040	0	0	0	0
07/29/2002	1035	0.790	0.312	0.584	95.777	2.431	0.421	0.094	0.093	0.025	0.015	0.040	0	0	0	0
07/28/2002	1036	0.780	0.306	0.585	95.674	2.558	0.425	0.089	0.093	0.023	0.015	0.038	0	0	0	0
07/27/2002	1036	0.762	0.312	0.584	95.717	2.520	0.434	0.088	0.092	0.022	0.014	0.038	0	0	0	0
07/26/2002	1036	0.776	0.334	0.585	95.662	2.544	0.428	0.088	0.092	0.023	0.014	0.039	0	0	0	0
07/25/2002	1035	0.797	0.329	0.584	95.739	2.475	0.407	0.089	0.091	0.022	0.013	0.038	0	0	0	0
07/24/2002	1035	0.782	0.331	0.584	95.762	2.440	0.416	0.092	0.097	0.024	0.015	0.041	0	0	0	0
07/23/2002	1036	0.814	0.326	0.585	95.639	2.524	0.429	0.093	0.095	0.025	0.015	0.041	0	0	0	0
07/22/2002	1035	0.794	0.319	0.584	95.746	2.467	0.416	0.089	0.087	0.025	0.016	0.041	0	0	0	0
07/21/2002	1036	0.772	0.329	0.585	95.649	2.564	0.428	0.089	0.087	0.025	0.016	0.041	0	0	0	0
07/20/2002	1034	0.741	0.334	0.583	95.877	2.458	0.368	0.074	0.072	0.022	0.014	0.039	0	0	0	0
07/19/2002	1031	0.773	0.327	0.581	96.145	2.218	0.323	0.069	0.062	0.024	0.015	0.043	0	0	0	0
07/18/2002	1033	0.782	0.334	0.583	95.960	2.294	0.374	0.085	0.077	0.029	0.018	0.047	0	0	0	0
07/17/2002	1037	0.773	0.339	0.585	95.718	2.417	0.447	0.105	0.093	0.034	0.020	0.054	0	0	0	0
07/16/2002	1038	0.754	0.333	0.586	95.657	2.470	0.467	0.112	0.097	0.036	0.021	0.053	0	0	0	0
07/15/2002	1032	0.739	0.295	0.581	96.047	2.258	0.396	0.090	0.082	0.029	0.018	0.047	0	0	0	0
07/14/2002	1032	0.744	0.300	0.581	96.100	2.203	0.396	0.089	0.078	0.028	0.017	0.045	0	0	0	0
07/13/2002	1035	0.744	0.307	0.584	95.764	2.394	0.488	0.109	0.094	0.033	0.019	0.049	0	0	0	0
07/12/2002	1036	0.770	0.312	0.585	95.665	2.421	0.504	0.117	0.101	0.036	0.021	0.054	0	0	0	0
07/11/2002	1042	0.869	0.315	0.590	95.036	2.699	0.656	0.156	0.135	0.046	0.025	0.064	0	0	0	0
07/10/2002	1045	0.865	0.307	0.592	94.803	2.841	0.722	0.178	0.147	0.050	0.026	0.063	0	0	0	0
07/09/2002	1046	0.827	0.304	0.592	94.813	2.844	0.740	0.184	0.150	0.051	0.026	0.061	0	0	0	0
07/08/2002	1046	0.795	0.322	0.591	94.810	2.933	0.700	0.167	0.143	0.047	0.025	0.059	0	0	0	0
07/07/2002	1044	0.808	0.354	0.591	94.843	2.924	0.658	0.153	0.136	0.043	0.024	0.058	0	0	0	0
07/06/2002	1046	0.828	0.355	0.592	94.648	2.987	0.724	0.170	0.159	0.046	0.025	0.059	0	0	0	0
07/05/2002	1047	0.834	0.345	0.593	94.636	2.941	0.759	0.182	0.169	0.048	0.025	0.062	0	0	0	0
07/04/2002	1047	0.905	0.305	0.594	94.639	2.839	0.794	0.200	0.177	0.051	0.026	0.065	0	0	0	0

FGT

Last Updated 9/30/02 7:56

Station Name	Total Sulfur Previous Day Avg ppm 09/28/02	Total Sulfur Previous Day Avg Grains/hcf 09/28/02
Perry 36" Stream #1	1.088	0.068
Perry 30" Stream #2	1.092	0.068
Perry 24" Stream #3	1.061	0.066
Brooker 24" Stream	2.819	0.176

Florida Gas makes no warranty or representation whatsoever as to the accuracy of the information provided.
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

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 #3 15SA24PSUL.A Avg ppm	Perry 24" Stream #3 Avg Grains/hcf	Brooker 24" Stream BRO124PSUL.A Avg ppm	Brooker 24" Stream Avg Grains/hcf
09/27/02	33	0.403	0.025	0.474	0.030	0.499	0.031	3.179	0.199
09/26/02	32	0.696	0.043	1.209	0.076	1.170	0.073	5.422	0.339
09/25/02	31	1.792	0.112	2.056	0.129	2.018	0.126	5.422	0.339
09/24/02	30	1.458	0.091	0.986	0.062	1.042	0.065	3.131	0.196
09/23/02	29	0.599	0.037	0.826	0.052	0.784	0.049	3.253	0.203
09/22/02	28	0.839	0.052	1.014	0.063	0.905	0.057	3.253	0.203
09/21/02	27	1.226	0.077	0.945	0.059	0.997	0.062	3.291	0.206
09/20/02	26	0.834	0.052	1.004	0.063	0.848	0.053	3.291	0.206
09/19/02	25	0.651	0.041	0.696	0.044	0.730	0.046	3.026	0.189
09/18/02	24	0.645	0.040	0.726	0.045	0.871	0.054	3.299	0.206
09/17/02	23	0.460	0.029	0.621	0.039	0.702	0.044	3.299	0.206
09/16/02	22	0.487	0.030	0.764	0.048	0.798	0.050	3.777	0.236
09/15/02	21	0.415	0.026	0.779	0.049	0.900	0.056	4.035	0.252
09/14/02	20	0.455	0.028	0.749	0.047	1.030	0.064	4.035	0.252
09/13/02	19	0.599	0.037	0.805	0.050	0.776	0.049	3.390	0.212
09/12/02	18	0.479	0.030	0.576	0.036	0.693	0.043	3.111	0.194
09/11/02	17	0.502	0.031	0.659	0.041	0.607	0.038	3.111	0.194
09/10/02	16	0.511	0.032	0.694	0.043	0.713	0.045	3.148	0.197
09/09/02	15	0.537	0.034	0.718	0.045	0.714	0.045	3.148	0.197
09/08/02	14	0.489	0.031	0.660	0.041	0.636	0.040	3.148	0.197
09/07/02	13	0.400	0.025	0.593	0.037	0.591	0.037	3.148	0.197
09/06/02	12	0.392	0.025	0.597	0.037	0.574	0.036	3.148	0.197
09/05/02	11	0.338	0.021	0.532	0.033	0.534	0.033	3.148	0.197
09/04/02	10	0.514	0.032	0.834	0.052	0.831	0.052	3.148	0.197
09/03/02	9	0.550	0.034	0.876	0.055	0.924	0.058	3.148	0.197
09/02/02	8	0.598	0.037	1.076	0.067	1.155	0.072	3.148	0.197
09/01/02	7	0.678	0.042	1.043	0.065	1.134	0.071	3.148	0.197
08/31/02	6	0.631	0.039	1.057	0.066	1.129	0.071	3.148	0.197
08/30/02	5	0.564	0.035	0.961	0.060	1.065	0.067	3.148	0.197
08/29/02	4	0.686	0.043	1.351	0.084	1.481	0.093	2.939	0.184
08/28/02	3	0.659	0.041	1.114	0.070	1.132	0.071	3.313	0.207
08/27/02	2	0.927	0.058	1.416	0.089	1.441	0.090	3.313	0.207
08/26/02	1	0.832	0.052	1.976	0.124	2.025	0.127	4.994	0.312

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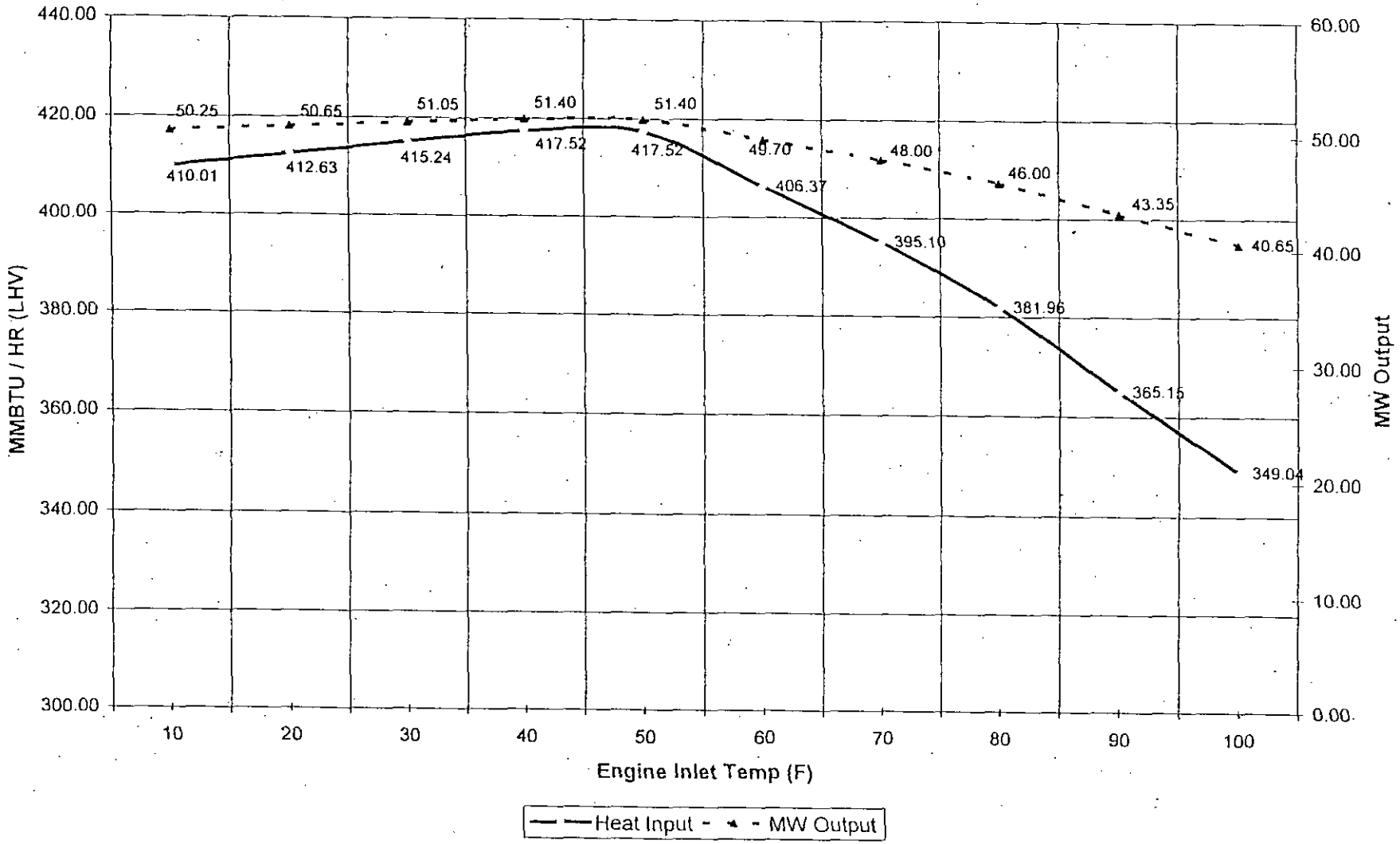
Engine Inlet Temp. Vs. Heat Input (LHV) and MW Output
LM6000PC-Esprint - University of Florida Cogen - Florida Power



APPENDIX D

Quality Assurance Activities

Quality Assurance Worksheet
University of Florida Cogen. Facility

DATE: 9/24/2002	Certified Gas Input		Initial Calibration & Linearity Check		Test Run 1	Zero and Span Calibration Check		Test Run 2	Zero and Span Calibration Check		Test Run 3	Zero and Span Calibration Check	
	Concentration (% or ppm)	% of Span	Initial (% or ppm)	Difference (% of span)		Final (% or ppm)	Drift (% of span)		Final (% or ppm)	Drift (% of span)		Final (% or ppm)	Drift (% of span)
O2					Avg. %			Avg. %			Avg. %		
zero	0.00	0.00	0.00	0.02	14.01	0.02	0.06	13.98	0.01	-0.06	14.01	0.00	-0.01
mid	11.85	47.40	11.74	-0.45		11.79	0.22		11.77	-0.09		11.75	-0.09
high	20.90	83.60	20.95	0.21		N/A	N/A		N/A	N/A		N/A	N/A
full scale	**25.0**				25.0			25.0			25.0		
CO2					Avg. %			Avg. %			Avg. %		
zero	0.00	0.00	-0.01	-0.03	3.93	0.00	0.05	3.92	0.01	0.02	3.90	0.01	-0.01
mid	3.66	18.30	3.64	-0.11		3.64	-0.01		3.65	0.07		3.635	-0.08
high	9.79	48.95	9.78	-0.06		N/A	N/A		N/A	N/A		N/A	N/A
full scale	**20.0**				20.0			20.0			20.0		
NOx					Avg. ppm			Avg. ppm			Avg. ppm		
zero	0.00	0.00	0.10	0.21	16.72	0.11	0.01	17.07		-0.21	14.28	0.11	0.23
low	11.70	23.40	11.83	0.25		N/A	N/A		N/A	N/A		N/A	N/A
mid	25.60	51.20	25.46	-0.27		25.34	-0.25		25.25	-0.18		25.53	0.57
high	46.80	93.60	46.67	-0.25		N/A	N/A		N/A	N/A		N/A	N/A
full scale	**50.0**				50.0			50.0			50.0		
CO					Avg. ppm			Avg. ppm			Avg. ppm		
zero	0.0	0.00	0.11	0.21	27.45	0.11	0.00	26.34	0.11	0.00	16.66	0.20	0.19
mid	15.2	30.40	15.21	0.02		15.16	-0.11		15.12	-0.07		15.16	0.07
high	30.5	61.00	30.39	-0.22		N/A	N/A		N/A	N/A		N/A	N/A
full scale	**50.0**				50.0			50.0			50.0		

Florida Power Corporation

Prepared by J. T. Long
10/1/2002

Florida Power Air Emissions Test Team

IDLE

10 seconds

Complaince & RATA

24-Sep-02 Florida Power University of Florida Unit # CT 001 & DB 002

	Parameter	O2	CO2	CO	NOx	SO2	NOx	NOx	CO	
	Units	%V	%V	ppmV	ppmV	ppmV	lb/Mmbtu	@15%O2	@15%O2	Comments
INSTANTANEOUS:		**0.006**	**-0.003**	**0.234**	**46.824 N/A**		**-197.0968**	**13.222**	**0.066**	**46.8 NOx**
24-Sep-02	8:11:21	0.006	-0.001	0.224	0.691 N/A		-8.7276	0.195	0.063	UF Initial Cal 100% Nit
24-Sep-02	8:11:31	0.001	-0.003	0.076	0.337 N/A		-1.4179	0.095	0.022	UF Initial Cal 100% Nit
24-Sep-02	8:11:41	0.004	-0.003	0.022	0.288 N/A		-1.2109	0.081	0.006	UF Initial Cal 100% Nit
24-Sep-02	8:12:39	11.742	-0.005	0.175	0.140 N/A		-0.3539	0.090	0.112	11.85 O2
24-Sep-02	8:12:49	11.742	-0.007	0.229	0.135 N/A		-0.2439	0.087	0.147	11.85 O2
24-Sep-02	8:12:59	11.727	-0.005	0.175	0.091 N/A		-0.2297	0.059	0.112	11.85 O2
24-Sep-02	8:13:55	20.954	-0.005	0.076	0.135 N/A		-0.3415	-14.720	-8.297	20.9 O2
24-Sep-02	8:14:05	20.952	-0.005	0.022	0.091 N/A		-0.2297	-10.362	-2.520	20.9 O2
24-Sep-02	8:14:15	20.952	-0.007	-0.027	0.086 N/A		-0.1552	-9.802	3.080	20.9 O2
24-Sep-02	8:14:54	0.026	3.636	-0.032	0.140 N/A		0.0005	0.040	-0.009	3.66 CO2
24-Sep-02	8:15:04	0.018	3.642	-0.081	0.086 N/A		0.0003	0.024	-0.023	3.66 CO2
24-Sep-02	8:15:14	0.009	3.640	0.022	0.140 N/A		0.0005	0.040	0.006	3.66 CO2
24-Sep-02	8:15:46	0.031	9.763	-0.081	0.140 N/A		0.0002	0.040	-0.023	9.79 CO2
24-Sep-02	8:15:56	0.018	9.785	-0.125	0.140 N/A		0.0002	0.040	-0.035	9.79 CO2
24-Sep-02	8:16:06	0.018	9.785	-0.224	0.140 N/A		0.0002	0.040	-0.063	9.79 CO2
24-Sep-02	8:17:56	0.009	0.007	15.119	0.091 N/A		0.1641	0.026	4.270	15.2 CO
24-Sep-02	8:18:06	0.009	0.005	15.227	0.091 N/A		0.2297	0.026	4.300	15.2 CO
24-Sep-02	8:18:16	0.009	0.005	15.281	0.037 N/A		0.0931	0.010	4.315	15.2 CO
24-Sep-02	8:19:45	0.001	0.003	30.353	0.037 N/A		0.1552	0.010	8.569	30.5 CO
24-Sep-02	8:19:55	0.001	0.001	30.412	0.042 N/A		0.5280	0.012	8.586	30.5 CO
24-Sep-02	8:20:05	0.001	0.001	30.412	0.037 N/A		0.4659	0.010	8.586	30.5 CO
24-Sep-02	8:23:09	0.014	-0.001	0.322	11.893 N/A		-150.2375	3.360	0.091	11.7 NOx
24-Sep-02	8:23:19	0.014	-0.001	0.283	11.818 N/A		-149.2853	3.338	0.080	11.7 NOx
24-Sep-02	8:23:29	0.014	0.001	0.322	11.770 N/A		148.6886	3.325	0.091	11.7 NOx
24-Sep-02	8:24:19	0.011	-0.001	0.322	25.316 N/A		-319.7993	7.150	0.091	25.6 NOx
24-Sep-02	8:24:29	0.014	-0.003	0.376	25.513 N/A		-107.3916	7.207	0.106	25.6 NOx
24-Sep-02	8:24:39	0.014	-0.003	0.376	25.562 N/A		-107.5987	7.221	0.106	25.6 NOx
24-Sep-02	8:25:26	0.006	-0.001	0.322	46.573 N/A		-588.3226	13.151	0.091	46.8 NOx
24-Sep-02	8:25:36	0.006	-0.003	0.179	46.622 N/A		-196.2482	13.165	0.051	46.8 NOx
24-Sep-02	8:25:46	0.006	-0.003	0.229	46.824 N/A		-197.0968	13.222	0.065	46.8 NOx

Florida Power Air Emissions Test Team

Emissions Monitoring Data

Gainesville, Florida

Summary of Emissions Testing Results

IDLE

24/Sep/02

Florida Power — University of Florida — Unit # CT 001 & DB 002

Date	Start Time	End Time	O2 %V	CO2 %V	CO ppmV	NOx ppmV	SO2 ppmV	NOx lb/Mmbtu	NOx @15%O2	CO @15%O2	Comments
24/Sep/02	08:25:22	08:25:46	0.006	-0.002	0.243	46.673	#DIV/0!	-327.2225	13.179	0.069	Avg So Far: 46.8 NOx
24/Sep/02	08:11:07	08:11:41	0.004	-0.002	0.107	0.438	#DIV/0!	-3.7855	0 124	0.030	UF Initial Cal 100% Nit
24/Sep/02	08:12:34	08:12:59	11.737	-0.006	0.193	0.122	#DIV/0!	-0.2759	0.079	0.124	11.85 O2
24/Sep/02	08:13:45	08:14:15	20.953	-0.006	0.024	0.104	#DIV/0!	-0.2422	-11.628	-2.579	20.9 O2
24/Sep/02	08:14:50	08:15:14	0.018	3.639	-0.030	0.122	#DIV/0!	0.0004	0.035	-0.009	3.66 CO2
24/Sep/02	08:15:40	08:16:06	0.023	9.777	-0.143	0.140	#DIV/0!	0.0002	0.040	-0.041	9.79 CO2
24/Sep/02	08:17:51	08:18:16	0.009	0.006	15.209	0.073	#DIV/0!	0.1623	0.021	4.295	15.2 CO
24/Sep/02	08:19:39	08:20:05	0.001	0.002	30.392	0.039	#DIV/0!	0.3830	0.011	8.580	30.5 CO
24/Sep/02	08:23:04	08:23:29	0.014	0.000	0.309	11.827	#DIV/0!	-50.2780	3.341	0.087	11.7 NOx
24/Sep/02	08:24:13	08:24:39	0.013	-0.002	0.358	25.463	#DIV/0!	-178.2632	7.193	0.101	25.6 NOx
24/Sep/02	08:25:22	08:25:46	0.006	-0.002	0.243	46.673	#DIV/0!	-327.2225	13.179	0.069	46.8 NOx

Florida Power Air Emissions Test Team

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10 seconds

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24-Sep-02 Florida Power University of Florida Unit # CT 001 & DB 002

	Parameter	O2	CO2	CO	NOx	SO2	NOx	NOx	CO	Comments
	Units	%V	%V	ppmV	ppmV	ppmV	lb/Mmbtu	@15%O2	@15%O2	
INSTANTANEOUS:		**0.007**	**0.001**	**0.325**	**25.515**	**N/A**	**322.3157**	**7.205**	**0.092**	**25.6 NOx**
24-Sep-02	11:30:34	0.027	0.013	0.177	0.192	N/A	0.1863	0.054	0.050	100% nit
24-Sep-02	11:30:44	0.020	0.011	0.123	0.143	N/A	0.1637	0.040	0.035	100% nit
24-Sep-02	11:30:54	0.012	0.009	0.025	0.143	N/A	0.2001	0.040	0.007	100% nit
24-Sep-02	11:31:36	11.742	0.007	0.084	0.093	N/A	0.1685	0.060	0.054	11.85 O2
24-Sep-02	11:31:46	11.841	0.007	0.079	0.093	N/A	0.1685	0.061	0.051	11.85 O2
24-Sep-02	11:31:56	11.796	0.005	0.128	0.089	N/A	0.2235	0.057	0.083	11.85 O2
24-Sep-02	11:32:24	20.957	0.005	0.226	0.143	N/A	0.3601	-14.786	-23.454	20.9 O2
24-Sep-02	11:32:34	20.957	0.003	0.177	0.089	N/A	0.3726	-9.178	-18.355	20.9 O2
24-Sep-02	11:32:44	20.957	0.001	0.084	0.089	N/A	1.1181	-9.178	-8.668	20.9 O2
24-Sep-02	11:33:13	0.101	3.632	-0.118	0.192	N/A	0.0007	0.054	-0.033	3.66 CO2
24-Sep-02	11:33:23	0.020	3.640	-0.084	0.143	N/A	0.0005	0.040	-0.024	3.66 CO2
24-Sep-02	11:33:33	0.015	3.640	-0.084	0.138	N/A	0.0005	0.039	-0.024	3.66 CO2
24-Sep-02	11:35:30	0.020	0.003	15.169	0.093	N/A	0.3933	0.026	4.286	15.2 CO
24-Sep-02	11:35:40	0.010	0.005	15.120	0.093	N/A	0.2359	0.026	4.270	15.2 CO
24-Sep-02	11:35:50	0.012	0.003	15.174	0.093	N/A	0.3933	0.026	4.286	15.2 CO
24-Sep-02	11:37:12	0.005	0.003	2.665	25.210	N/A	106.1187	7.118	0.753	25.6 NOx
24-Sep-02	11:37:22	0.007	0.001	0.477	25.363	N/A	320.3892	7.162	0.135	25.6 NOx
24-Sep-02	11:37:32	0.005	0.001	0.423	25.412	N/A	321.0108	7.175	0.119	25.6 NOx
24-Sep-02	11:37:42	0.005	0.003	0.369	25.363	N/A	106.7602	7.161	0.104	25.6 NOx

Florida Power Air Emissions Test Team

Summary of Emissions Testing Results

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Emissions Monitoring Data

Gainesville, Florida

24/Sep/02 | Florida Power | University of Florida | Unit # | CT 001 & DB 002

Date	Start Time	End Time	O2 %V	CO2 %V	CO ppmV	NOx ppmV	SO2 ppmV	NOx lb/Mmbtu	NOx @15%O2	CO @15%O2	Comments
24/Sep/02	11:37:06	11:37:42	0.006	0.002	0.983	25.337	#DIV/0!	213.5697	7.154	0.278	Avg So Far: 25.6 NOx
24/Sep/02	11:30:26	11:30:54	0.020	0.011	0.108	0.159	#DIV/0!	0.1833	0.045	0.031	100% nit
24/Sep/02	11:31:32	11:31:56	11.793	0.006	0.097	0.092	#DIV/0!	0.1869	0.059	0.083	11.85 O2
24/Sep/02	11:32:19	11:32:44	20.957	0.003	0.162	0.107	#DIV/0!	0.6169	-11.047	-16.825	20.9 O2
24/Sep/02	11:33:08	11:33:33	0.045	3.637	-0.095	0.157	#DIV/0!	0.0005	0.045	-0.027	3.66 CO2
24/Sep/02	11:35:08	11:35:50	0.014	0.004	15.155	0.093	#DIV/0!	0.3408	0.026	4.281	15.2 CO
24/Sep/02	11:37:06	11:37:42	0.006	0.002	0.983	25.337	#DIV/0!	213.5697	7.154	0.278	25.6 NOx

Florida Power Air Emissions Test Team

IDLE

10 seconds

Complaince & RATA

24-Sep-02 Florida Power University of Florida Unit # CT 001 & DB 002

	Parameter	O2	CO2	CO	NOx	SO2	NOx	NOx	CO	Comments
	Units	%V	%V	ppmV	ppmV	ppmV	lb/Mmbtu	@15%O2	@15%O2	
INSTANTANEOUS:		**0.001**	**0.004**	**0.285**	**25.361**	**N/A**	**80.0528**	**7.160**	**0.081**	**25.6 NOx**
24-Sep-02	12:48:28	0.009	0.018	0.224	0.243	N/A	0.1707	0.069	0.063	100% Nit
24-Sep-02	12:48:38	0.004	0.014	0.022	0.189	N/A	0.1707	0.053	0.006	100% Nit
24-Sep-02	12:48:48	0.004	0.014	0.076	0.194	N/A	0.1752	0.055	0.022	100% Nit
24-Sep-02	12:49:35	11.729	0.010	-0.037	0.140	N/A	0.1769	0.090	-0.024	11.85 O2
24-Sep-02	12:49:45	11.783	0.010	0.120	0.140	N/A	0.1769	0.091	0.078	11.85 O2
24-Sep-02	12:49:55	11.798	0.010	0.224	0.140	N/A	0.1769	0.091	0.145	11.85 O2
24-Sep-02	12:50:31	20.954	0.008	0.278	0.140	N/A	0.2212	-15.256	-30.244	20.9 O2
24-Sep-02	12:50:41	20.954	0.008	0.076	0.091	N/A	0.1436	-9.903	-8.297	20.9 O2
24-Sep-02	12:50:51	20.954	0.006	0.120	0.086	N/A	0.1811	-9.368	-13.115	20.9 O2
24-Sep-02	12:51:24	0.043	3.647	-0.125	0.194	N/A	0.0007	0.055	-0.035	3.66 CO2
24-Sep-02	12:51:34	0.018	3.653	-0.120	0.135	N/A	0.0005	0.038	-0.034	3.66 CO2
24-Sep-02	12:51:44	0.011	3.655	-0.120	0.140	N/A	0.0005	0.040	-0.034	3.66 CO2
24-Sep-02	12:53:22	0.011	0.008	15.119	0.086	N/A	0.1358	0.024	4.270	15.2 CO
24-Sep-02	12:53:32	0.011	0.004	15.119	0.091	N/A	0.2872	0.026	4.270	15.2 CO
24-Sep-02	12:53:42	0.011	0.004	15.119	0.086	N/A	0.2716	0.024	4.270	15.2 CO
24-Sep-02	12:54:54	0.004	0.004	1.941	25.111	N/A	79.2612	7.090	0.548	25.6 NOx
24-Sep-02	12:55:04	0.004	0.002	0.427	25.263	N/A	159.4850	7.133	0.121	25.6 NOx
24-Sep-02	12:55:14	0.004	0.004	0.290	25.361	N/A	80.0528	7.161	0.082	25.6 NOx

Florida Power Air Emissions Test Team

Emissions Monitoring Data

Summary of Emissions Testing Results

Gainesville, Florida

IDLE

24/Sep/02 Florida Power University of Florida Unit # CT 001 & DB 002

Date	Start Time	End Time	O2 %V	CO2 %V	CO ppmV	NOx ppmV	SO2 ppmV	NOx lb/Mmbtu	NOx @15%O2	CO @15%O2	Comments
24/Sep/02	12:54:48	12:55:14	0.004	0.003	0.886	25.245	#DIV/0!	106.2663	7.128	0.250	Avg So Far: 25.6 NOx
24/Sep/02	12:48:23	12:48:48	0.005	0.015	0.107	0.209	#DIV/0!	0.1722	0.059	0.030	100% Nit
24/Sep/02	12:49:30	12:49:55	11.770	0.010	0.102	0.140	#DIV/0!	0.1769	0.091	0.066	11.85 O2
24/Sep/02	12:50:24	12:50:51	20.954	0.007	0.158	0.106	#DIV/0!	0.1819	-11.509	-17.218	20.9 O2
24/Sep/02	12:51:18	12:51:44	0.024	3.651	-0.122	0.157	#DIV/0!	0.0005	0.044	-0.035	3.66 CO2
24/Sep/02	12:53:16	12:53:42	0.011	0.005	15.119	0.088	#DIV/0!	0.2315	0.025	4.270	15.2 CO
24/Sep/02	12:54:48	12:55:14	0.004	0.003	0.886	25.245	#DIV/0!	106.2663	7.128	0.250	25.6 NOx

Florida Power Air Emissions Test Team

IDLE

10 seconds

Complaince & RATA

24-Sep-02 Florida Power University of Florida Unit # CT 001 & DB 002

	Parameter	O2	CO2	CO	NOx	SO2	NOx	NOx	CO	Comments
	Units	%V	%V	ppmV	ppmV	ppmV	lb/Mmbtu	@15%O2	@15%O2	
INSTANTANEOUS:		**0.002**	**0.001**	**0.369**	**25.564**	**N/A**	**322.6066**	**7.218**	**0.104**	**25.6 NOx**
24-Sep-02	14:07:57	0.002	0.013	0.106	0.198	N/A	0.1919	0.056	0.030	100% Nit
24-Sep-02	14:08:07	0.000	0.009	0.066	0.153	N/A	0.2150	0.043	0.019	100% Nit
24-Sep-02	14:08:17	0.002	0.007	0.071	0.153	N/A	0.2764	0.043	0.020	100% Nit
24-Sep-02	14:09:17	11.726	0.007	0.199	0.113	N/A	0.2036	0.073	0.128	11.85 O2
24-Sep-02	14:09:27	11.724	0.007	0.248	0.113	N/A	0.2036	0.073	0.159	11.85 O2
24-Sep-02	14:09:37	11.793	0.005	0.155	0.113	N/A	0.2851	0.073	0.100	11.85 O2
24-Sep-02	14:10:05	0.103	3.628	0.199	0.153	N/A	0.0005	0.043	0.057	3.66 CO2
24-Sep-02	14:10:15	0.010	3.638	0.204	0.113	N/A	0.0004	0.032	0.057	3.66 CO2
24-Sep-02	14:10:25	0.010	3.638	0.150	0.113	N/A	0.0004	0.032	0.042	3.66 CO2
24-Sep-02	14:11:54	0.012	0.005	15.122	0.089	N/A	0.2235	0.025	4.271	15.2 CO
24-Sep-02	14:12:04	0.010	0.005	15.171	0.084	N/A	0.2111	0.024	4.285	15.2 CO
24-Sep-02	14:12:14	0.002	0.005	15.171	0.089	N/A	0.2235	0.025	4.283	15.2 CO
24-Sep-02	14:13:38	0.002	-0.001	0.669	25.460	N/A	-321.2912	7.188	0.189	25.6 NOx
24-Sep-02	14:13:48	0.002	0.001	0.566	25.564	N/A	322.6066	7.218	0.160	25.6 NOx
24-Sep-02	14:13:58	0.000	0.001	0.472	25.559	N/A	322.5441	7.215	0.133	25.6 NOx

Florida Power Air Emissions Test Team

Emissions Monitoring Data

Summary of Emissions Testing Results

Gainesville, Florida

IDLE

24/Sep/02 — Florida Power — University of Florida — Unit # CT 001 & DB 002

Date	Start Time	End Time	O2 %V	CO2 %V	CO ppmV	NOx ppmV	SO2 ppmV	NOx lb/Mmbtu	NOx @15%O2	CO @15%O2	Comments
24/Sep/02	14:13:32	14:13:58	0.002	0.000	0.569	25.528	#DIV/0!	107.9532	7.207	0.161	Avg So Far: 25.6 NOx
24/Sep/02	14:07:52	14:08:17	0.002	0.010	0.081	0.168	#DIV/0!	0.2277	0.047	0.023	100% Nit
24/Sep/02	14:09:11	14:09:37	11.747	0.006	0.201	0.113	#DIV/0!	0.2308	0.073	0.129	11.85 O2
24/Sep/02	14:10:01	14:10:25	0.041	3.635	0.184	0.126	#DIV/0!	0.0004	0.036	0.052	3.66 CO2
24/Sep/02	14:11:49	14:12:14	0.008	0.005	15.155	0.087	#DIV/0!	0.2194	0.025	4.280	15.2 CO
24/Sep/02	14:13:32	14:13:58	0.002	0.000	0.569	25.528	#DIV/0!	107.9532	7.207	0.161	25.6 NOx

Interference Response Tests

Florida Power
CORPORATION

Date: 11-8-94
Technician: JAMES T. LONG

Analyzer Type: THERMOX O_2
Analyzer Model: FCA
Serial Number: C114306
Analyzer Span: 20.9%

Test Gas		Analyzer Response	
Type Gas	Concentration	Concentration	% of Span
SO_2	203 ppm	-0.012	0.057
CO	450 ppm	-0.012	0.057
CO_2	10.1%	-0.012	0.057

$$\% \text{ of Span} = \frac{\text{Analyzer output response}}{\text{Instrument Span}} \times 100$$

Comments:

Sum of interference responses = 0.171 % (Must be less than < 2% of span value)

Interference Response Tests

Florida Power
CORPORATION

Date: 11-8-94
Technician: JAMES T. LONG

Analyzer Type: CALIFORNIA ANALYTICAL CO_2
Analyzer Model: ZRH
Serial Number: N3G2200T
Analyzer Span: 18-13 %

Test Gas		Analyzer Response	
Type Gas	Concentration	Concentration	% of Span
SO_2	203 ppm	-0.022	0.121
CO	450 ppm	-0.020	0.110
O_2	20.9%	0.107	0.590

$$\% \text{ of Span} = \frac{\text{Analyzer output response}}{\text{Instrument Span}} \times 100$$

Comments:

Sum of interference responses = 0.821 % (Must be less than < 2% of span value)

Interference Response Tests

Florida Power CORPORATION

Date: 11-8-94
Technician: JAMES T. LONG

Analyzer Type: THERMO ENVIRONMENTAL CO
Analyzer Model: 48
Serial Number: 48-45901-275
Analyzer Span: 450 ppm

Test Gas		Analyzer Response	
Type Gas	Concentration	Concentration	% of Span
SO_2	203 ppm	0.008	0.002
CO_2	10.10%	-0.875	0.194
O_2	20.97%	0.010	0.002

$$\%\ of\ Span = \frac{Analyzer\ output\ response}{Instrument\ Span} \times 100$$

Comments:

Sum of interference responses = 0.198 % (Must be less than < 2% of span value)

Interference Response Tests

Florida Power CORPORATION

Date: 11-8-94
Technician: JAMES T. LONG

Analyzer Type: THERMO ENVIRONMENTAL NOx
Analyzer Model: 42H
Serial Number: 42H - 46155 - 275K
Analyzer Span: 91.9 ppm

Test Gas		Analyzer Response	
Type Gas	Concentration	Concentration	% of Span
SO_2	203 ppm	0.043	0.047
CO_2	10.10 %	-0.028	0.030
CO	450 ppm	-0.014	0.015
O_2	20.9 %	-0.029	0.032

$$\% \text{ of Span} = \frac{\text{Analyzer output response}}{\text{Instrument Span}} \times 100$$

Comments:

Sum of interference responses = 0.124 % (Must be less than < 2% of span value)

INITIAL CALIBRATION
PRIOR TO INTERFERENCE
RESPONSE CHECK

CALIBRATION REPORT

11/08/94 11:18 AM

INITIAL CALIBRATION ??????? YES

CHANNEL NAME	O2	CO2	CO	NOx	NULL
ENGINEERING UNITS	%V	%V	ppmV	ppmV	ppmV
SPAN VALUE	20.90	18.13	450.00	91.90	1821.00
ZERO VALUE	0.00	0.00	0.00	0.00	0.00
MID SCALE VALUE	10.16	4.99	20.00	45.60	902.00
ZERO RESPONSE (V)	-0.0018	-0.0083	-0.0192	0.1847	-0.0170
SPAN RESPONSE (V)	8.3696	0.9024	9.0047	0.9069	6.6450
MID RESPONSE (V)	4.0430	0.2505	0.3616	0.5468	0.0000
ZERO RESPONSE (ENGR)	0.000	0.000	0.000	0.000	0.000
SPAN RESPONSE (ENGR)	20.90	18.13	450.00	91.90	1821.00
MID SCALE RESP (ENGR)	10.10	5.15	18.99	46.08	4.65
SLOPE	2.497	19.907	49.867	127.253	273.341
INTERCEPT	0.0046	0.1662	0.9595	-23.5035	4.6468

MIDSCALE DRIFT/BIAS (% OF FULL SCALE)

-0.25	0.81	-0.20	0.48	-44.87

ZERO DRIFT/BIAS (% OF FULL SCALE)

0.00	0.00	0.00	0.00	0.00

SPAN DRIFT/BIAS (% OF FULL SCALE)

0.00	0.00	0.00	0.00	0.00

Note: For initial calibrations, the above bias results are based on the current calibration values (ie slope and intercept), and therefore the errors for zero and span should be zero since the responses are set to these points. The midscale value demonstrates the linearity of the instrument. The drift/bias values for

Florida Power Corporation - Emissions Testing group
REFERENCE METHOD TEST DATA
Date: 11/08/94 Time: 11:28 AM
INTERCESSION CITY COMBUSTION TURBINE TEST
CO 450ppm

Parameter	O2	CO2	CO	NOx	NULL
Engr. Units	%V	%V	ppmV	ppmV	ppmV
11:28:36 AM	-0.012	-0.018	450.675	-0.018	0.000
11:28:50 AM	-0.012	-0.020	450.259	-0.027	0.000
11:29:05 AM	-0.012	-0.019	449.592	-0.025	0.000
11:29:20 AM	-0.012	-0.019	449.779	-0.004	0.000
11:29:35 AM	-0.012	-0.020	450.005	-0.007	0.000
11:29:51 AM	-0.012	-0.020	449.861	0.003	0.000
11:30:05 AM	-0.012	-0.020	448.364	-0.035	0.000
11:30:20 AM	-0.012	-0.020	449.583	-0.013	0.000
11:30:35 AM	-0.012	-0.021	448.566	0.021	0.000
11:30:50 AM	-0.012	-0.021	449.438	-0.023	0.000
11:31:06 AM	-0.012	-0.021	449.988	-0.004	0.000
11:31:20 AM	-0.012	-0.021	451.048	-0.030	0.000
Average	-0.012	-0.020	449.763	-0.014	0.000

Florida Power Corporation - Emissions Testing group
REFERENCE METHOD TEST DATA
Date: 11/08/94 Time: 11:34 AM
INTERCESSION CITY COMBUSTION TURBINE TEST
SO2 203ppm

Parameter	O2	CO2	CO	NOx	NULL
Engr. Units	%V	%V	ppmV	ppmV	ppmV
11:34:36 AM	-0.012	-0.021	0.033	-0.002	0.000
11:34:50 AM	-0.012	-0.024	0.020	-0.026	0.000
11:35:05 AM	-0.012	-0.023	-0.013	-0.045	0.000
11:35:20 AM	-0.012	-0.021	0.009	-0.014	0.000
11:35:35 AM	-0.012	-0.023	0.002	0.062	0.000
11:35:50 AM	-0.012	-0.021	0.001	0.072	0.000
11:36:05 AM	-0.012	-0.021	-0.017	0.066	0.000
11:36:20 AM	-0.012	-0.021	0.001	0.056	0.000
11:36:35 AM	-0.012	-0.023	0.002	0.066	0.000
11:36:50 AM	-0.012	-0.024	0.021	0.075	0.000
11:37:05 AM	-0.012	-0.022	0.023	0.103	0.000
11:37:21 AM	-0.012	-0.023	0.008	0.098	0.000
Average	-0.012	-0.022	0.008	0.043	0.000

Florida Power Corporation - Emissions Testing group
REFERENCE METHOD TEST DATA
Date: 11/08/94 Time: 11:39 AM
INTERCESSION CITY COMBUSTION TURBINE TEST
CO2 10.10%

Parameter	O2	CO2	CO	NOx	NULL
Engr. Units	%V	%V	ppmV	ppmV	ppmV
11:39:57 AM	-0.012	10.379	-0.455	-0.027	0.000
11:40:11 AM	-0.012	10.373	-0.899	-0.006	0.000
11:40:26 AM	-0.012	10.381	-0.907	-0.045	0.000
11:40:41 AM	-0.012	10.384	-0.927	-0.051	0.000
11:40:56 AM	-0.012	10.382	-0.916	0.001	0.000
11:41:11 AM	-0.012	10.384	-0.929	-0.025	0.000
11:41:26 AM	-0.012	10.386	-0.913	-0.046	0.000
11:41:41 AM	-0.012	10.388	-0.902	-0.029	0.000
11:41:56 AM	-0.012	10.382	-0.909	-0.003	0.000
11:42:11 AM	-0.012	10.386	-0.915	-0.029	0.000
11:42:26 AM	-0.012	10.395	-0.920	-0.047	0.000
11:42:42 AM	-0.012	10.390	-0.910	-0.035	0.000
Average	-0.012	10.384	-0.875	-0.028	0.000

Florida Power Corporation - Emissions Testing group
REFERENCE METHOD TEST DATA
Date: 11/08/94 Time: 11:45 AM
INTERCESSION CITY COMBUSTION TURBINE TEST
O2 20.9%

Parameter	O2	CO2	CO	NOx	NULL
Engr. Units	%V	%V	ppmV	ppmV	ppmV
11:45:37 AM	20.900	0.116	-0.020	-0.004	0.000
11:45:51 AM	20.900	0.113	-0.001	-0.041	0.000
11:46:06 AM	20.900	0.112	0.017	-0.021	0.000
11:46:21 AM	20.900	0.107	0.019	-0.021	0.000
11:46:36 AM	20.900	0.108	0.025	-0.038	0.000
11:46:51 AM	20.900	0.107	0.013	-0.022	0.000
11:47:06 AM	20.900	0.106	0.006	-0.046	0.000
11:47:22 AM	20.900	0.106	0.017	-0.008	0.000
11:47:37 AM	20.900	0.103	0.016	-0.037	0.000
11:47:51 AM	20.900	0.104	0.014	-0.028	0.000
11:48:06 AM	20.900	0.101	0.001	-0.021	0.000
11:48:21 AM	20.900	0.106	0.017	-0.062	0.000
Average	20.900	0.107	0.010	-0.029	0.000

Scott Specialty Gases, Inc.
1750 EAST CLUB BOULEVARD, DURHAM, NC 27704 (919) 220-0803 FAX: (919) 220-0808

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
Ms. Jennifer Listy
Florida Power Corp / MAC H2O
P. O. Box 14042
St. Petersburg, FL 33733

Assay Laboratory
Scott Specialty Gases, Inc.
1750 East Club Boulevard
Durham, NC 27704

Purchase Order B6800970
Scott Project # 12-06770

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, Section Number 3.0.4

Cylinder Number	ALM044172	**Certification Date**	03-29-94	**Expiration Date**	03-29-97
Cylinder Pressure	2000 PSIG	**Previous Certification**	None		

ANALYZED CYLINDER

Components	Certified Concentration	Analytical Uncertainty*
Carbon Dioxide	10.10 %	+/- 1% NIST Directly Traceable
Nitrogen		+/- 1% NIST Directly Traceable

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type	Expiration Date	Cylinder Number	Concentration
NTRM # 1675	06-30-94	ALM-001138	14.02 % Balance in Nitrogen

INSTRUMENTATION

Instrument/Model/Serial #	Last Date Calibrated	Analytical Principle
Varian /3400/0160	03-26-94	Gas Chromatography

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components: Carbon Dioxide

First Triad Analysis

Date: 03-29-94	Response Units: Area
STD=485570	SPL=352057
SPL=350273	SPL=352469
STD=489899	STD=488606

Second Triad Analysis

Date:	Response Units:
STD=	SPL=
SPL=	SPL=
STD=	STD=

Calibration Curve

Date: 03-26-94

Date:	Response Units:
STD=	SPL=
SPL=	SPL=
STD=	STD=

Second Triad Analysis

Date:	Response Units:
STD=	SPL=
SPL=	SPL=
STD=	STD=

Calibration Curve

Date: 03-26-94

Date:	Response Units:
STD=	SPL=
SPL=	SPL=
STD=	STD=

Second Triad Analysis

Date:	Response Units:
STD=	SPL=
SPL=	SPL=
STD=	STD=

Alan C. Barber
Analyst A. Barber

Scott Specialty Gases, Inc.

Shipped From: 1750 EAST CLUB BLVD.
DURHAM NC 27704
Phone: 919-220-0803 Fax: 919-220-0808

C E R T I F I C A T E O F A N A L Y S I S

ENV SCIENCE & ENGINEERING
ATTN: NORM CZARNIAK
14220 NEWBERRY ROAD

GAINESVILLE FL 32607

PROJECT #: 12-06333-009
PO#: S-40544
ITEM #: 12021453 4AL
DATE: 2/17/94

CYLINDER #: ALM008534 ANALYTICAL ACCURACY: +/-2%

BLEND TYPE : CERTIFIED MASTER GAS

COMPONENT	REQUESTED GAS CONC	MOLES	ANALYSIS (MOLES)	
CARBON MONOXIDE	450.	PPM	450.0	PPM
NITROGEN		BAL		BAL

ANALYST: A. Barber
A. BARBER

APPROVED BY: J. SPANT

Scott Specialty Gases, Inc.

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704 (919) 220-0803 FAX: (919) 220-0808

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
Florida Power Corp.
Attn: Mr. E. Harrelson
Env. Serv. Dept./Bartow Plt.
Weedon Island/Storeroom
St. Petersburg, FL 33702

Assay Laboratory
Scott Specialty Gases, Inc.
1750 East Club Boulevard
Durham, NC 27704

Purchase Order B6800970
Scott Project # 12-06770

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, Section Number 3.0.4

Cylinder Number	AAL-8882	**Certification Date**	04-26-94	**Expiration Date**	04-26-96
Cylinder Pressure	2000 PSIG	**Previous Certification**	None		

ANALYZED CYLINDER

Components	Certified Concentration	Analytical Uncertainty*
Sulfur Dioxide	**203 PPM**	**+/- 1% NIST Directly Traceable**
Nitrogen		**Balance**

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type	Expiration Date	Cylinder Number	Concentration
NTRM# 0260	05-03-95	AAL-14148	260.5 PPM Balance in Nitrogen

INSTRUMENTATION

Instrument/Model/Serial #	Last Date Calibrated	Analytical Principle
LOW SO2: Horiba/AIA23AS/850658161	04-01-94	NDIR

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components	First Triad Analysis	Second Triad Analysis	Calibration Curve
Sulfur Dioxide	Date: 04-19-94 Response Units: PPM Z1=0.00 R2=260.1 Z3=0.00 R1=260.4 Z2=0.00 T3=204.4 T1=204.9 T2=204.6 R3=260.4	Date: 04-26-94 Response Units: PPM Z1=0.1 R2=260.3 Z3=0.2 R1=260.1 Z2=0.2 T3=200.9 T1=201.0 T2=200.9 R3=260.4	Date: 04-01-94
	Date: Response Units: Z1= R2= Z3= R1= Z2= T3= T1= T2= R3=	Date: Response Units: Z1= R2= Z3= R1= Z2= T3= T1= T2= R3=	Date:
	Date: Response Units: Z1= R2= Z3= R1= Z2= T3= T1= T2= R3=	Date: Response Units: Z1= R2= Z3= R1= Z2= T3= T1= T2= R3=	Date:

W. Gilbert

Analyst W. Gilbert

Response Time
Data Sheet

Date: 9/23/02
Plant: University of Florida CoGen, Facility
Technician(s): J. Long, L. Fry
Sample Manifold: 10 in H_2O
Pump Model: KNF UNO35ST.11L / SN: 190354
Sample Line Length: 200 ft
Heat Trace Length: 10 ft

Analyzer Type:	O_2	CO_2	NO_x	*CO*
Make/Model:	Thermox	Fuji/ZRH	TECO/42H	*TECO/48*
Range:	25%	20%	55 ppm	50 ppm
Span Gas:	20.9%	9.97%	46.8 ppm	30.2 ppm
Upscale Response (sec.)				
Trial 1	43	44	52	44
Trial 2	45	47	56	49
Trial 3	42	49	53	43
Average	*43*	*47*	*54*	*45*
Downscale Response (sec.)				
Trial 1	46	45	52	57
Trial 2	43	42	55	53
Trial 3	42	41	54	54
Average	*44*	*43*	*54*	*55*

Comments:

The sampling time at each point during the O_2 traverse will be 2 minutes. The sampling time for the test runs at each point will be 3 minutes.

Instrumental Analysis
Quality Assurance Data

Date: 9/23/02
Plant: University of Florida CoGen. Facility
Technician: James T. Long

NO_x Analyzer: NO_2 to NO Converter Efficiency Check

NOx Calibration gas 25.6 ppm
Diluent gas: 20.53 (% O_2)

	NO_x Concentration (ppm)	*% Decrease from initial concentration*
Initial concentration	14.60	N/A
10 minute concentration	14.55	0.34
20 minute concentration	14.55	0.34
30 minute concentration	14.50	0.68

Sample System Leak Check

Date	*Run*	*Initial Vacuum (in. Hg)*	*Final Vacuum (in. Hg)*	*Leak Rate (in. Hg/min.)*
9/23/00	Pre	16.5	16.5	0.0
9/23/00	Post	17.0	17.0	0.0

Sample System Bias Check

Pre-Test

Run	*Cal. Gas Conc. (ppm/%)*	*Full Scale Span (ppm/%)*	*Direct Cal. Response (ppm/%)*	*Thru- Probe Sample System Response (ppm/%)*	*System Cal. Bias (% of span)*
O_2	11.85	25.0	11.74	11.787	0.188
CO_2	3.66	20.0	3.64	3.629	-0.055
CO	15.20	50.0	15.21	15.156	-0.108
NO_x	25.60	50.0	25.46	25.590	0.260

Post-Test

Run	*Cal. Gas Conc. (ppm/%)*	*Full Scale Span (ppm/%)*	*Direct Cal. Response (ppm/%)*	*Thru- Probe Sample System Response (ppm/%)*	*System Cal. Bias (% of span)*
O_2	11.85	25.0	11.75	11.785	0.140
CO_2	3.66	20.0	3.64	3.630	-0.050
CO	15.20	50.0	15.16	15.140	-0.040
NO_x	25.60	50.0	25.53	25.666	0.272

Florida Power Air Emissions Test Team

IDLE

10 seconds

Complaince & RATA

24-Sep-02 Florida Power University of Florida Unit # CT 001 & DB 002

	Parameter	O2	CO2	CO	NOx	SO2	NOx	NOx	CO	Comments
	Units	%V	%V	ppmV	ppmV	ppmV	lb/Mmbtu	@15%O2	@15%O2	
INSTANTANEOUS:		**0.006**	**-0.001**	**0.283**	**46.819**	**N/A**	**-591.4289**	**13.221**	**0.080**	**bias 46.8 NOx**
24-Sep-02	8:27:00	11.783	-0.005	0.179	0.494	N/A	-1.2480	0.320	0.116	bias 11.85 O2
24-Sep-02	8:27:10	11.795	-0.003	0.179	0.342	N/A	-1.4385	0.221	0.116	bias 11.85 O2
24-Sep-02	8:27:20	11.783	-0.007	0.175	0.293	N/A	-0.5277	0.189	0.113	bias 11.85 O2
24-Sep-02	8:28:09	20.951	-0.007	0.179	0.145	N/A	-0.2617	-16.880	-20.886	zero air
24-Sep-02	8:28:19	20.951	-0.007	0.027	0.145	N/A	-0.2617	-16.880	-3.147	zero air
24-Sep-02	8:28:29	20.951	-0.007	-0.081	0.145	N/A	-0.2617	-16.880	9.442	zero air
24-Sep-02	8:29:10	0.028	3.628	-0.120	0.140	N/A	0.0005	0.040	-0.034	bias 3.66 CO2
24-Sep-02	8:29:20	0.011	3.630	-0.116	0.145	N/A	0.0005	0.041	-0.033	bias 3.66 CO2
24-Sep-02	8:29:30	0.014	3.630	-0.116	0.145	N/A	0.0005	0.041	-0.033	bias 3.66 CO2
24-Sep-02	8:30:22	0.018	9.749	-0.027	0.145	N/A	0.0002	0.041	-0.008	bias 9.79 CO2
24-Sep-02	8:30:32	0.014	9.757	-0.219	0.091	N/A	0.0001	0.026	-0.062	bias 9.79 CO2
24-Sep-02	8:30:42	0.014	9.757	-0.361	0.096	N/A	0.0001	0.027	-0.102	bias 9.79 CO2
24-Sep-02	8:32:44	0.014	0.003	15.172	0.091	N/A	0.3829	0.026	4.286	bias 15.2 CO
24-Sep-02	8:32:54	0.004	0.003	15.172	0.091	N/A	0.3829	0.026	4.284	bias 15.2 CO
24-Sep-02	8:33:04	0.004	-0.001	15.123	0.091	N/A	-1.1491	0.026	4.270	bias 15.2 CO
24-Sep-02	8:34:30	0.006	-0.003	5.067	25.518	N/A	-107.4122	7.206	1.431	bias 25.6 NOx
24-Sep-02	8:34:40	0.006	-0.003	0.770	25.562	N/A	-107.5987	7.218	0.217	bias 25.6 NOx
24-Sep-02	8:34:50	0.006	-0.005	0.430	25.665	N/A	-64.8155	7.247	0.121	bias 25.6 NOx
24-Sep-02	8:35:00	0.006	-0.003	0.327	25.616	N/A	-107.8264	7.233	0.092	bias 25.6 NOx
24-Sep-02	8:35:54	0.006	-0.005	0.283	46.474	N/A	-117.3684	13.123	0.080	bias 46.8 NOx
24-Sep-02	8:36:04	0.006	-0.005	0.278	46.725	N/A	-118.0018	13.194	0.078	bias 46.8 NOx
24-Sep-02	8:36:14	0.006	-0.005	0.283	46.824	N/A	-118.2500	13.222	0.080	bias 46.8 NOx

Florida Power Air Emissions Test Team

Emissions Monitoring Data

Summary of Emissions Testing Results

Gainesville, Florida

IDLE

24/Sep/02

Florida Power | University of Florida | Unit # CT 001 & DB 002

Date	Start Time	End Time	O2 %V	CO2 %V	CO ppmV	NOx ppmV	SO2 ppmV	NOx lb/Mmbtu	NOx @15%O2	CO @15%O2	Comments
24/Sep/02	08:35:46	08:36:14	0.006	-0.005	0.281	46.674	#DIV/0!	-117.8734	13.180	0.079	Avg So Far: bias 46.8 NOx
24/Sep/02	08:26:53	08:27:20	11.787	-0.005	0.178	0.376	#DIV/0!	-1.0714	0.244	0.115	bias 11.85 O2
24/Sep/02	08:28:04	08:28:29	20.951	-0.007	0.042	0.145	#DIV/0!	-0.2617	-16.880	-4.864	zero air
24/Sep/02	08:29:04	08:29:30	0.018	3.629	-0.117	0.143	#DIV/0!	0.0005	0.041	-0.033	bias 3.66 CO2
24/Sep/02	08:30:13	08:30:42	0.015	9.754	-0.202	0.111	#DIV/0!	0.0001	0.031	-0.057	bias 9.79 CO2
24/Sep/02	08:32:28	08:33:04	0.007	0.002	15.156	0.091	#DIV/0!	-0.1278	0.026	4.280	bias 15.2 CO
24/Sep/02	08:34:20	08:35:00	0.006	-0.003	1.648	25.590	#DIV/0!	-96.9132	7.226	0.465	bias 25.6 NOx
24/Sep/02	08:35:46	08:36:14	0.006	-0.005	0.281	46.674	#DIV/0!	-117.8734	13.180	0.079	bias 46.8 NOx

Florida Power Air Emissions Test Team

IDLE

10 seconds

Complaince & RATA

24-Sep-02 Florida Power University of Florida Unit # CT 001 & DB 002

	Parameter	O2	CO2	CO	NOx	SO2	NOx	NOx	CO	
	Units	%V	%V	ppmV	ppmV	ppmV	lb/Mmbtu	@15%O2	@15%O2	Comments
INSTANTANEOUS:		**0.005**	**-0.006**	**0.325**	**25.770**	**N/A**	**-54.2275**	**7.276**	**0.092**	**bias 25.6 NOx**
24-Sep-02	14:16:28	11.783	-0.003	0.275	0.238	N/A	-1.0032	0.154	0.178	bias 11.85 NOx
24-Sep-02	14:16:38	11.780	-0.001	0.221	0.243	N/A	-3.0713	0.157	0.143	bias 11.85 NOx
24-Sep-02	14:16:48	11.793	-0.003	0.275	0.189	N/A	-0.7942	0.122	0.178	bias 11.85 NOx
24-Sep-02	14:17:13	20.952	-0.003	0.275	0.189	N/A	-0.7942	-21.581	-31.488	bias zero air
24-Sep-02	14:17:23	20.952	-0.001	0.226	0.189	N/A	-2.3818	-21.581	-25.865	bias zero air
24-Sep-02	14:17:33	20.952	-0.003	0.172	0.139	N/A	-0.5852	-15.902	-19.680	bias zero air
24-Sep-02	14:18:07	0.042	3.624	0.020	0.189	N/A	0.0006	0.053	0.006	bias 3.66 CO2
24-Sep-02	14:18:17	0.017	3.632	-0.034	0.189	N/A	0.0006	0.053	-0.010	bias 3.66 CO2
24-Sep-02	14:18:27	0.010	3.634	-0.034	0.189	N/A	0.0006	0.053	-0.010	bias 3.66 CO2
24-Sep-02	14:20:01	0.010	-0.001	15.073	0.139	N/A	-1.7550	0.039	4.257	bias 15.2 CO
24-Sep-02	14:20:11	0.012	-0.006	15.120	0.094	N/A	-0.1986	0.027	4.271	bias 15.2 CO
24-Sep-02	14:20:21	0.012	-0.004	15.228	0.144	N/A	-0.4546	0.041	4.301	bias 15.2 CO
24-Sep-02	14:21:36	0.007	-0.008	1.569	25.514	N/A	-40.2720	7.205	0.443	bias 25.6 NOx
24-Sep-02	14:21:46	0.002	-0.008	0.477	25.714	N/A	-40.5887	7.260	0.135	bias 25.6 NOx
24-Sep-02	14:21:56	0.002	-0.008	0.374	25.770	N/A	-40.6758	7.276	0.106	bias 25.6 NOx

Florida Power Air Emissions Test Team

Summary of Emissions Testing Results

IDLE

Emissions Monitoring Data

Gainesville, Florida

24/Sep/02 | Florida Power | University of Florida | Unit # | CT 001 & DB 002

Date	Start Time	End Time	O2 %V	CO2 %V	CO ppmV	NOx ppmV	SO2 ppmV	NOx lb/Mmbtu	NOx @15%O2	CO @15%O2	Comments
24/Sep/02	14:21:29	14:21:56	0.004	-0.008	0.806	25.666	#DIV/0!	-40.5122	7.247	0.228	Avg So Far: bias 25.6 NOx
24/Sep/02	14:16:20	14:16:48	11.785	-0.002	0.257	0.224	#DIV/0!	-1.6229	0.145	0.167	bias 11.85 NOx
24/Sep/02	14:17:07	14:17:33	20.952	-0.002	0.225	0.172	#DIV/0!	-1.2537	-19.688	-25.678	bias zero air
24/Sep/02	14:17:57	14:18:27	0.023	3.630	-0.016	0.189	#DIV/0!	0.0006	0.053	-0.005	bias 3.66 CO2
24/Sep/02	14:19:55	14:20:21	0.011	-0.004	15.140	0.126	#DIV/0!	-0.8027	0.036	4.276	bias 15.2 CO
24/Sep/02	14:21:29	14:21:56	0.004	-0.008	0.806	25.666	#DIV/0!	-40.5122	7.247	0.228	bias 25.6 NOx

APPENDIX E

Calibration Cerifications

PRAXAIR

Praxair Distribution, Inc.
145 Shimersville Road
Bethlehem, PA 18015
Tel. (610) 691-2474
Fax (610) 758-8384

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER PRAXAIR SOUTHEAST LLC

P.O NUMBER 495267-00

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
CARBON DIOXIDE 9.96 % GMIS VS.	2745	CAL-010439	15.69 %

ANALYZER READINGS

R=REFERENCE STANDARD *Z=ZERO GAS* *C=GAS CANDIDATE*

1. COMPONENT CARBON DIOXIDE 9.96 % GMIS VS ANALYZER MAKE-MODEL-S/N SIEMENS ULTRAMAT 5E SN: D2-412

ANALYTICAL PRINCIPLE NON-DISPERSIVE INFRARED

FIRST ANALYSIS DATE 02/22/00

Z	0	R	9.96	C	3.66	CONC.	3.66	Z			
R	9.95	Z	0	C	3.67	CONC.	3.67	R			
Z	0	C	3.66	R	9.95	CONC.	3.66	Z			
U/M	%			MEAN TEST ASSAY			3.66	U/M	%	MEAN TEST ASSAY	

LAST CALIBRATION DATE 02/04/00

SECOND ANALYSIS DATE

R		C		CONC.							
Z		C		CONC.							
C		R		CONC.							

VALUES NOT VALID BELOW 150 PSIG

UNCERTAINTY OF CARBON DIOXIDE: ± 0.02 %

THIS CYLINDER NO. SA1772
HAS BEEN CERTIFIED ACCORDING TO SECTION 2.2
OF TRACEABILITY PROTOCOL NO. EPA-600/R97/121
PROCEDURE G1
CERTIFIED ACCURACY ± 1 % NIST TRACEABLE
CYLINDER PRESSURE 2000 PSIG
CERTIFICATION DATE 02/22/00
EXPIRATION DATE 02/22/03 TERM 36 MONTHS

CERTIFIED CONCENTRATION

CARBON DIOXIDE	3.66 %
NITROGEN	BALANCE

ANALYZED BY JOE HORWATH

CERTIFIED BY KEVIN BRADY

PRAXAIR

Praxair Distribution, Inc.
145 Shimersville Road
Bethlehem, PA 18015

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER PRAXAIR SOUTHESAT P.O NUMBER. 669054-00

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
CARBON DIOXIDE 9.97% GMIS VS	2745	CAL-010439	15.69 %

ANALYZER READINGS

R=REFERENCE STANDARD *Z=ZERO GAS* *C=GAS CANDIDATE*

1. COMPONENT CARBON DIOXIDE 9.97% GMIS VS ANALYZER MAKE-MODEL-S/N HORIBA VIA 510, S/N 576979023

ANALYTICAL PRINCIPLE NON-DISPERSIVE INFRARED LAST CALIBRATION DATE 04/30/01

FIRST ANALYSIS DATE 05/17/01 SECOND ANALYSIS DATE

Z	0.00	R	10.06	C	9.87	CONC. 9.80	Z	R	C	CONC.
R	10.03	Z	0.00	C	9.87	CONC. 9.80	R	Z	C	CONC.
Z	0.00	C	9.86	R	10.04	CONC. 9.79	Z	C	R	CONC.
U/M	%			MEAN TEST ASSAY		9.79	U/M %		MEAN TEST ASSAY	

VALUES NOT VALID BELOW 150 PSIG

UNCERTAINTY OF CARBON DIOXIDE: ±0.04%

THIS CYLINDER NO. CC79358
HAS BEEN CERTIFIED ACCORDING TO SECTION 2.2
OF TRACEABILITY PROTOCOL NO. EPA-600/R97/121
PROCEDURE G1
CERTIFIED ACCURACY ± 1 % NIST TRACEABLE
CYLINDER PRESSURE 2000 PSIG
CERTIFICATION DATE 05/17/01
EXPIRATION DATE 05/17/04 TERM

CERTIFIED CONCENTRATION

CARBON DIOXIDE	9.79%
NITROGEN	BALANCE

ANALYZED BY JOE HORWATH

CERTIFIED BY KEVIN BRADY

PRAXAIR

Praxair Distribution, Inc.
145 Shimersville Road
Bethlehem, PA 18015

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER PRAXAIR SOUTHEAST P.O NUMBER 703904-00

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
NITRIC OXIDE 50-E-52	2629a	CAL-011185	18.97 PPM

ANALYZER READINGS

R=REFERENCE STANDARD *Z=ZERO GAS* *C=GAS CANDIDATE*

1. COMPONENT NITRIC OXIDE 50-E-52 ANALYZER MAKE-MODEL-S/N TECO MODEL 42C 42CH-57352-312

ANALYTICAL PRINCIPLE Chemiluminescence LAST CALIBRATION DATE 09/30/00

FIRST ANALYSIS DATE 10/16/00 SECOND ANALYSIS DATE 10/23/00

Z	0.00	R	18.96	C	11.73	CONC. 11.75	Z	0.00	R	18.99	C 11.73	CONC. 11.71
R	18.92	Z	0.00	C	11.68	CONC. 11.70	R	19.00	Z	0.00	C 11.69	CONC. 11.67
Z	0.00	C	11.68	R	18.95	CONC. 11.70	Z	0.00	C	11.70	R 19.00	CONC. 11.68
U/M	PPM			MEAN TEST ASSAY		11.71	U/M	PPM			MEAN TEST ASSAY	11.69

VALUES NOT VALID BELOW 150 PSIG

UNCERTAINTY OF NITRIC OXIDE: ±0.1PPM

THIS CYLINDER NO. SGAL875
HAS BEEN CERTIFIED ACCORDING TO SECTION 2.2
OF TRACEABILITY PROTOCOL NO. EPA-600/R97/121
PROCEDURE G1
CERTIFIED ACCURACY ± 1 % NIST TRACEABLE
CYLINDER PRESSURE 2000 PSIG
CERTIFICATION DATE 10/23/00
EXPIRATION DATE 10/23/02 TERM

CERTIFIED CONCENTRATION

NITRIC OXIDE	11.7PPM
NITROGEN	BALANCE
NOx (FOR REFERENCE ONLY)	11.7PPM

ANALYZED BY JOE HORWATH

CERTIFIED BY KEVIN BRADY

PRAXAIR

Praxair Distribution, Inc.
145 Shimersville Road
Bethlehem, PA 18015
Tel. (610) 691-2474
Fax (610) 758-8384

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER PRAXAIR SOUTHEAST P.O NUMBER 676873-00

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
NITRIC OXIDE 23.9PPM GMIS VS	1683b	CAL-013256	48.74 PPM

ANALYZER READINGS

R=REFERENCE STANDARD *Z=ZERO GAS* *C=GAS CANDIDATE*

1. COMPONENT NITRIC OXIDE 23.9PPM GMIS VS ANALYZER MAKE-MODEL-S/N TECO MODEL 42C 42CH-57352-312

ANALYTICAL PRINCIPLE Chemiluminescence

FIRST ANALYSIS DATE 01/29/01				LAST CALIBRATION DATE 01/31/01 SECOND ANALYSIS DATE 02/05/01			
Z 0.0	R 23.1	C 24.7	CONC. 25.5	Z 0.0	R 23.5	C 25.0	CONC. 25.5
R 23.2	Z 0.0	C 24.8	CONC. 25.6	R 23.4	Z 0.0	C 25.1	CONC. 25.6
Z 0.0	C 24.8	R 23.1	CONC. 25.6	Z 0.0	C 25.0	R 23.4	CONC. 25.5
U/M PPM		MEAN TEST ASSAY 25.6		U/M PPM		MEAN TEST ASSAY 25.5	

VALUES NOT VALID BELOW 150 PSIG
UNCERTAINTY OF NITRIC OXIDE: ±0.2PPM

THIS CYLINDER NO. CC86581
HAS BEEN CERTIFIED ACCORDING TO SECTION 2.2
OF TRACEABILITY PROTOCOL NO. EPA-600/R97/121
PROCEDURE G1
CERTIFIED ACCURACY ± 1 % NIST TRACEABLE
CYLINDER PRESSURE 2000 PSIG
CERTIFICATION DATE 02/05/01
EXPIRATION DATE 02/05/03 TERM

CERTIFIED CONCENTRATION

NITRIC OXIDE	25.6PPM
NITROGEN	BALANCE
NOx (FOR REFERENCE ONLY)	25.6PPM

ANALYZED BY JENNIFER HERISHKO

CERTIFIED BY KEVIN BRADY

PRAXAIR

Praxair Distribution, Inc.
145 Shimersville Road
Bethlehem, PA 18015
Tel. (610) 691-2474
Fax (610) 758-8384

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER PRAXAIR SOUTHEAST P.O NUMBER 703904-00

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
NITRIC OXIDE 56.7PPM GMIS	1683b	CAL-013256	48.74PPM

ANALYZER READINGS

R=REFERENCE STANDARD *Z=ZERO GAS* *C=GAS CANDIDATE*

1. COMPONENT NITRIC OXIDE 56.7PPM GMIS ANALYZER MAKE-MODEL-S/N TECO MODEL 42C 42CH-57352-312

ANALYTICAL PRINCIPLE Chemiluminescence LAST CALIBRATION DATE 09/30/00

FIRST ANALYSIS DATE 10/16/00 SECOND ANALYSIS DATE 10/23/00

Z 0	R 56.8	C 46.8	CONC. 46.9	Z 0	R 56.9	C 46.9	CONC. 46.8				
R 56.6	Z 0	C 46.7	CONC. 46.8	R 56.8	Z 0	C 46.9	CONC. 46.8				
Z 0	C 46.6	R 56.5	CONC. 46.7	Z 0	C 46.8	R 56.7	CONC. 46.7				
U/M PPM		MEAN TEST ASSAY	46.8	U/M PPM		MEAN TEST ASSAY	46.8				

VALUES NOT VALID BELOW 150 PSIG
UNCERTAINTY OF NITRIC OXIDE: ±0.5 PPM

THIS CYLINDER NO. SA2980
HAS BEEN CERTIFIED ACCORDING TO SECTION 2.2
OF TRACEABILITY PROTOCOL NO. EPA-600/R97/121
PROCEDURE G1
CERTIFIED ACCURACY ± 1 % NIST TRACEABLE
CYLINDER PRESSURE 2000 PSIG
CERTIFICATION DATE 10/23/00
EXPIRATION DATE 10/23/02 TERM 24 MONTHS

CERTIFIED CONCENTRATION

NITRIC OXIDE	46.8 PPM
NITROGEN	BALANCE
NOx (FOR REFERENCE ONLY)	46.8 PPM

ANALYZED BY JENNIFER HERISHKO

CERTIFIED BY KEVIN BRADY

PRAXAIR

Praxair Distribution, Inc.
145 Shimersville Road
Bethlehem, PA 18015
Tel. (610) 691-2474
Fax (610) 758-8384

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER PRAXAIR SOUTHEAST LLC P.O NUMBER 125400-00

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
OXYGEN 98070202	82659	SA-19987	20.92 %

ANALYZER READINGS

R = REFERENCE STANDARD *Z = ZERO GAS* *C = GAS CANDIDATE*

COMPONENT OXYGEN 98070202 ANALYZER MAKE-MODEL-S/N Siemens Oxymat 5E S/N F1-111

ANALYTICAL PRINCIPLE Paramagnetic LAST CALIBRATION DATE 08/31/99

FIRST ANALYSIS DATE 09/23/99 SECOND ANALYSIS DATE

Z	0.00	R	20.90	C	11.84	CONC.	11.85	Z	R	C	CONC.
R	20.90	Z	0.00	C	11.84	CONC.	11.85	R	Z	C	CONC.
Z	0.00	C	11.84	R	20.90	CONC.	11.85	Z	C	R	CONC.
U/M	%			MEAN TEST ASSAY			11.85	U/M	%	MEAN TEST ASSAY	

VALUES NOT VALID BELOW 150 PSIG
UNCERTAINTY OF OXYGEN: ±0.08%

THIS CYLINDER NO. SA17537 CERTIFIED CONCENTRATION
HAS BEEN CERTIFIED ACCORDING TO SECTION 2.2 OXYGEN 11.85%
OF TRACEABILITY PROTOCOL NO. EPA-600/R97/121 NITROGEN BALANCE
PROCEDURE G1
CERTIFIED ACCURACY ± 1 % NIST TRACEABLE
CYLINDER PRESSURE 2000 PSIG
CERTIFICATION DATE 09/23/99
EXPIRATION DATE 09/23/02 TERM 36 MONTHS

ANALYZED BY JASON BEARY

CERTIFIED BY KEVIN BRADY

Making Our Planet More Productive

PRAXAIR

Praxair Distribution, Inc.
145 Shimersville Road
Bethlehem, PA 18015
Tel (610) 691-2474
Fax (610) 758-8384

CERTIFICATE OF ANALYSIS

CUSTOMER: PRAXAIR SOUTHEAST LLC

ORDER NUMBER: 496007-00

PRODUCT NUMBER: EV NICOXN-AS

PRODUCT DESCRIPTION: 15 PPM CARBON MONOXIDE, BALANCE NITROGEN, SIZE AS, PRIMARY MASTER

CYLINDER SERIAL NUMBER: CC116813

COMPONENTS	SPECIFICATIONS	PREPERATION TOLERANCE	CERTIFIED CONCENTRATION
CARBON MONOXIDE	15 PPM	+/-5%	15.2 PPM
NITROGEN	BALANCE		BALANCE

CO NIST Traceable to SRM# 1677c

ANALYTICAL ACCURACY: +/-1%

NOMINAL CYLINDER VOLUME: 135 Cubic Feet

CGA VALVE NUMBER: 350

NOMINAL CYLINDER PRESSURE: 2000 psig

METHODS OF ANALYSIS: SPECIFIC CARBON MONOXIDE ANALYZER (NDIR)

CERTIFICATION DATE: May 17, 2000

ANALYZED BY: JOE HORWATH

It is recommended that cylinders not be depleted below 50 psig unless otherwise indicated.

PRAXAIR

Praxair Distribution, Inc.
145 Shimersville Road
Bethlehem, PA 18015
Tel. (610) 691-2474
Fax (610) 758-8384

CERTIFICATE OF ANALYSIS

CUSTOMER: PRAXAIR SOUTHEAST LLC ORDER NUMBER: 496007 -00

PRODUCT NUMBER: EV NICOXN-AS **PRIMARY MASTER**

PRODUCT DESCRIPTION: 30 PPM CARBON MONOXIDE,BALANCE NITROGEN SIZE AS

CYLINDER SERIAL NUMBER: CC87407

COMPONENTS	SPECIFICATIONS	TOLERANCE	CONCENTRATION
* CARBON MONOXIDE	30 PPM	+/- 5 %	30.5 PPM
NITROGEN	BALANCE		BALANCE

* NIST TRACEABLE TO SRM # 1679C

ANALYTICAL ACCURACY: +/- 1 %

NOMINAL CYLINDER VOLUME: 137 Cubic Feet

CGA VALVE NUMBER: 350

NOMINAL CYLINDER PRESSURE: 2000 psig

METHOD OF ANALYSIS: SPECIFIC CARBON MONOXIDE ANALYZER (NDIR)

CERTIFICATION DATE: FEBRUARY 24, 2000 ANALYZED BY: MICHAEL MESAROS

It is recommended that cylinders not be depleted below 50 psig unless otherwise indicated.

APPENDIX F

Operational Data

— START O2 TRAV. —

File Config Edgen Trends Applic SetPnts Help

System Process

9-24-02 09:30 AM

Change Env
FoxSelect
Print Screen
Cogen
HRSG
WaterPlant
WTQuality
DuctBurn
GasComp
FeedPump
MUWater
NOxStm
250Press
70Press_Temp
AirSys
PCWS
HeatPlant
HRSGSys

UF COGEN GT PERFORMANCE DATA

GEN OUTPUT		46.17	MW
AUX PWR		791	KW
EXP PWR		45.4	MW
AMB TEMP	AV	79.8	DEGF
AMB PRESS		29.87	INHGA
AMB HUMID		101	PCT
FLTR LOSS		1.9	"H2O
GT HUMID		101	PCT
INLET T2		76	DEGF
INLET P2		14.5	PSIA
VBV POS		1.0	PCT
VSV POS		94	PCT
GT T25		201	DEGF
GT P25 (B)		31.7	PSIA
GT T3		1007	DEGF
GT P3 (A)		421	PSIA
T48 AVG		1595	DEGF
T48 SPRD		129	DEGF
T48 12:30	A	1579	DEGF
T48 2:30	B	1633	DEGF
T48 5:00	C	1668	DEGF
T48 6:15	D	1541	DEGF
T48 7:00	E	1559	DEGF
T48 9:00	F	1605	DEGF
T48 10:00	G	1579	DEGF
T48 11:45	H	1601	DEGF
GT P48		103	PSIA
XNSD A		3601	RPM
XN25 A		10428	RPM
GT EXH	AVG	875	DEGF
DB EXH	AVG	838	DEGF
HRSG EXH	AVG	279	DEGF

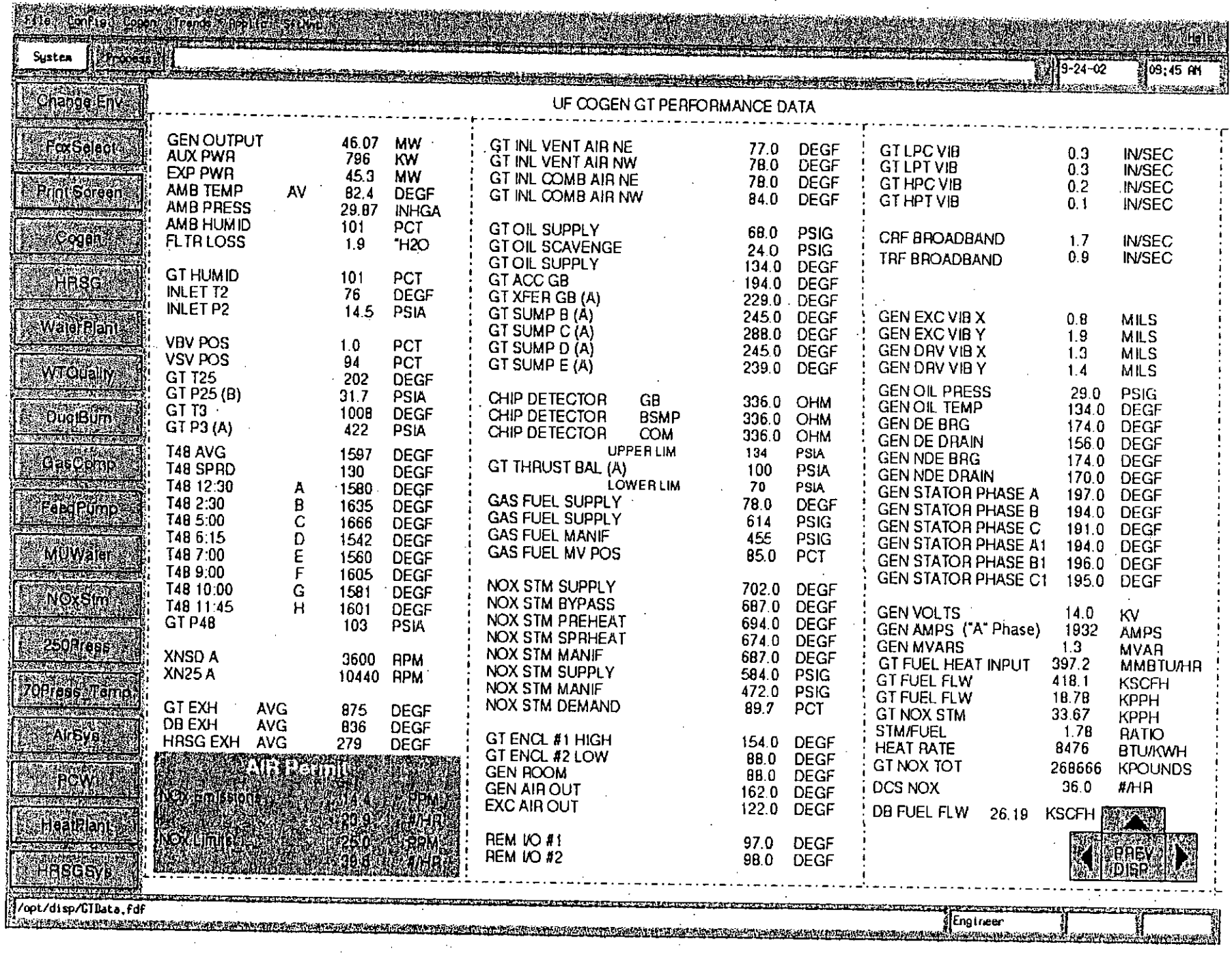
GT INL VENT AIR NE		78.0	DEGF
GT INL VENT AIR NW		78.0	DEGF
GT INL COMB AIR NE		77.0	DEGF
GT INL COMB AIR NW		83.0	DEGF
GT OIL SUPPLY		69.0	PSIG
GT OIL SCAVENGE		23.0	PSIG
GT OIL SUPPLY		135.0	DEGF
GT ACC GB		194.0	DEGF
GT XFER GB (A)		228.0	DEGF
GT SUMP B (A)		246.0	DEGF
GT SUMP C (A)		288.0	DEGF
GT SUMP D (A)		243.0	DEGF
GT SUMP E (A)		239.0	DEGF
CHIP DETECTOR	GB	336.0	OHM
CHIP DETECTOR	BSMP	336.0	OHM
CHIP DETECTOR	COM	336.0	OHM
	UPPER LIM	134	PSIA
GT THRUST BAL (A)		101	PSIA
	LOWER LIM	70	PSIA
GAS FUEL SUPPLY		78.0	DEGF
GAS FUEL SUPPLY		614	PSIG
GAS FUEL MANIF		455	PSIG
GAS FUEL MV POS		85.0	PCT
NOX STM SUPPLY		702.0	DEGF
NOX STM BYPASS		687.0	DEGF
NOX STM PREHEAT		695.0	DEGF
NOX STM SPRHEAT		674.0	DEGF
NOX STM MANIF		687.0	DEGF
NOX STM SUPPLY		589.0	PSIG
NOX STM MANIF		472.0	PSIG
NOX STM DEMAND		88.7	PCT
GT ENCL #1 HIGH		154.0	DEGF
GT ENCL #2 LOW		86.0	DEGF
GEN ROOM		88.0	DEGF
GEN AIR OUT		163.0	DEGF
EXC AIR OUT		121.0	DEGF
REM I/O #1		99.0	DEGF
REM I/O #2		98.0	DEGF

GT LPC VIB		0.4	IN/SEC
GT LPT VIB		0.3	IN/SEC
GT HPC VIB		0.2	IN/SEC
GT HPT VIB		0.1	IN/SEC
CRF BROADBAND		1.6	IN/SEC
TRF BROADBAND		0.9	IN/SEC
GEN EXC VIB X		0.8	MILS
GEN EXC VIB Y		1.9	MILS
GEN DRV VIB X		1.4	MILS
GEN DRV VIB Y		1.6	MILS
GEN OIL PRESS		29.0	PSIG
GEN OIL TEMP		135.0	DEGF
GEN DE BRG		173.0	DEGF
GEN DE DRAIN		156.0	DEGF
GEN NDE BRG		174.0	DEGF
GEN NDE DRAIN		169.0	DEGF
GEN STATOR PHASE A		197.0	DEGF
GEN STATOR PHASE B		194.0	DEGF
GEN STATOR PHASE C		192.0	DEGF
GEN STATOR PHASE A1		193.0	DEGF
GEN STATOR PHASE B1		195.0	DEGF
GEN STATOR PHASE C1		195.0	DEGF
GEN VOLTS		14.0	KV
GEN AMPS ("A" Phase)		1932	AMPS
GEN MVARS		1.3	MVAR
GT FUEL HEAT INPUT		398.2	MMBTU/HR
GT FUEL FLW		418.7	KSCFH
GT FUEL FLW		18.79	KPPH
GT NOX STM		33.48	KPPH
STM/FUEL		1.79	RATIO
HEAT RATE		8488	BTU/KWH
GT NOX TOT		268658	KPOUNDS
DCS NOX		36.0	#/HR
DB FUEL FLW	26.16	KSCFH	

PREV DISP

/opt/disp/GTData.fdf

Engineer


File Config Cogen Trends Applic Setup Help
System Process
9-24-02
09:45 AM
Change Env
FoxSelect
Print Screen
Cogen
HRSG
WaterPlant
WTQuality
DuctBurn
GasComp
FeedPump
MUWater
NOxSim
250Press
70Press Temp
AirSys
RCW
HeatPlant
HRSGSys
UF COGEN GT PERFORMANCE DATA
GEN OUTPUT 46.07 MW
AUX PWR 796 KW
EXP PWR 45.3 MW
AMB TEMP AV 82.4 DEGF
AMB PRESS 29.87 INHGA
AMB HUMID 101 PCT
FLTR LOSS 1.9 "H2O
GT HUMID 101 PCT
INLET T2 76 DEGF
INLET P2 14.5 PSIA
VBV POS 1.0 PCT
VSV POS 94 PCT
GT T25 202 DEGF
GT P25 (B) 31.7 PSIA
GT T3 1008 DEGF
GT P3 (A) 422 PSIA
T48 AVG 1597 DEGF
T48 SPRD 130 DEGF
T48 12:30 A 1580 DEGF
T48 2:30 B 1635 DEGF
T48 5:00 C 1666 DEGF
T48 6:15 D 1542 DEGF
T48 7:00 E 1560 DEGF
T48 9:00 F 1605 DEGF
T48 10:00 G 1581 DEGF
T48 11:45 H 1601 DEGF
GT P48 103 PSIA
XNSD A 3600 RPM
XN25 A 10440 RPM
GT EXH AVG 875 DEGF
DB EXH AVG 836 DEGF
HRSG EXH AVG 279 DEGF
Air Permit
NOx Emissions 2.14 4 PPMV
NOx Limit 25.0 #/HR
GT INL VENT AIR NE 77.0 DEGF
GT INL VENT AIR NW 78.0 DEGF
GT INL COMB AIR NE 78.0 DEGF
GT INL COMB AIR NW 84.0 DEGF
GT OIL SUPPLY 68.0 PSIG
GT OIL SCAVENGE 24.0 PSIG
GT OIL SUPPLY 134.0 DEGF
GT ACC GB 194.0 DEGF
GT XFER GB (A) 229.0 DEGF
GT SUMP B (A) 245.0 DEGF
GT SUMP C (A) 288.0 DEGF
GT SUMP D (A) 245.0 DEGF
GT SUMP E (A) 239.0 DEGF
CHIP DETECTOR GB 336.0 OHM
CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
UPPER LIM 134 PSIA
GT THRUST BAL (A) 100 PSIA
LOWER LIM 70 PSIA
GAS FUEL SUPPLY 78.0 DEGF
GAS FUEL SUPPLY 614 PSIG
GAS FUEL MANIF 455 PSIG
GAS FUEL MV POS 85.0 PCT
NOX STM SUPPLY 702.0 DEGF
NOX STM BYPASS 687.0 DEGF
NOX STM PREHEAT 694.0 DEGF
NOX STM SPRHEAT 674.0 DEGF
NOX STM MANIF 687.0 DEGF
NOX STM SUPPLY 584.0 PSIG
NOX STM MANIF 472.0 PSIG
NOX STM DEMAND 89.7 PCT
GT ENCL #1 HIGH 154.0 DEGF
GT ENCL #2 LOW 88.0 DEGF
GEN ROOM 88.0 DEGF
GEN AIR OUT 162.0 DEGF
EXC AIR OUT 122.0 DEGF
REM I/O #1 97.0 DEGF
REM I/O #2 98.0 DEGF
GT LPC VIB 0.3 IN/SEC
GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 1.7 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.4 MILS
GEN OIL PRESS 29.0 PSIG
GEN OIL TEMP 134.0 DEGF
GEN DE BRG 174.0 DEGF
GEN DE DRAIN 156.0 DEGF
GEN NDE BRG 174.0 DEGF
GEN NDE DRAIN 170.0 DEGF
GEN STATOR PHASE A 197.0 DEGF
GEN STATOR PHASE B 194.0 DEGF
GEN STATOR PHASE C 191.0 DEGF
GEN STATOR PHASE A1 194.0 DEGF
GEN STATOR PHASE B1 196.0 DEGF
GEN STATOR PHASE C1 195.0 DEGF
GEN VOLTS 14.0 KV
GEN AMPS ("A" Phase) 1932 AMPS
GEN MVARS 1.3 MVAR
GT FUEL HEAT INPUT 397.2 MMBTU/HR
GT FUEL FLW 418.1 KSCFH
GT FUEL FLW 18.78 KPPH
GT NOX STM 33.67 KPPH
STM/FUEL 1.78 RATIO
HEAT RATE 8476 BTU/KWH
GT NOX TOT 268666 KPOUNDS
DCS NOX 36.0 #/HR
DB FUEL FLW 26.19 KSCFH
PREV DISP
/opt/disp/GTData.fdf
Engineer

Stop O2 Trav

File Config Report Trends Applic SCUnit Help

System

9-24-02 10:00 AM

ChangeEnv
FoxSelect
Print Screen
Cogen
HRSG
WaterPlant
WTQuality
DuctBurn
GasComp
FeedPump
MUWater
NOxStm
250Press
70Press Temp
AirSys
RCW
HeatPlant
HRSGSys

UF COGEN GT PERFORMANCE DATA

GEN OUTPUT		46.07	MW
AUX PWR		797	KW
EXP PWR		45.3	MW
AMB TEMP	AV	85.8	DEGF
AMB PRESS		29.87	INHGA
AMB HUMID		101	PCT
FLTR LOSS		1.9	"H2O
GT HUMID		101	PCT
INLET T2		77	DEGF
INLET P2		14.5	PSIA
VBV POS		1.0	PCT
VSV POS		94	PCT
GT T25		202	DEGF
GT P25 (B)		31.7	PSIA
GT T3		1007	DEGF
GT P3 (A)		421	PSIA
T48 AVG		1598	DEGF
T48 SPRD		128	DEGF
T48 12:30	A	1580	DEGF
T48 2:30	B	1637	DEGF
T48 5:00	C	1673	DEGF
T48 6:15	D	1542	DEGF
T48 7:00	E	1561	DEGF
T48 9:00	F	1608	DEGF
T48 10:00	G	1580	DEGF
T48 11:45	H	1604	DEGF
GT P48		103	PSIA
XNSD A		3601	RPM
XN25 A		10447	RPM
GT EXH	AVG	876	DEGF
DB EXH	AVG	836	DEGF
HRSG EXH	AVG	279	DEGF

Air Permit		
NOx Emissions	14.4	PPM
	33.9	#/HR
NOx Limits	25.0	PPM
	99.6	#/HR

GT INL VENT AIR NE		78.0	DEGF
GT INL VENT AIR NW		80.0	DEGF
GT INL COMB AIR NE		78.0	DEGF
GT INL COMB AIR NW		86.0	DEGF
GT OIL SUPPLY		68.0	PSIG
GT OIL SCAVENGE		23.0	PSIG
GT OIL SUPPLY		135.0	DEGF
GT ACC GB		194.0	DEGF
GT XFER GB (A)		229.0	DEGF
GT SUMP B (A)		246.0	DEGF
GT SUMP C (A)		289.0	DEGF
GT SUMP D (A)		244.0	DEGF
GT SUMP E (A)		239.0	DEGF
CHIP DETECTOR	GB	336.0	OHM
CHIP DETECTOR	BSMP	336.0	OHM
CHIP DETECTOR	COM	336.0	OHM
	UPPER LIM	134	PSIA
GT THRUST BAL (A)		100	PSIA
	LOWER LIM	70	PSIA
GAS FUEL SUPPLY		78.0	DEGF
GAS FUEL SUPPLY		614	PSIG
GAS FUEL MANIF		455	PSIG
GAS FUEL MV POS		85.0	PCT
NOX STM SUPPLY		703.0	DEGF
NOX STM BYPASS		688.0	DEGF
NOX STM PREHEAT		696.0	DEGF
NOX STM SPRHEAT		675.0	DEGF
NOX STM MANIF		688.0	DEGF
NOX STM SUPPLY		586.0	PSIG
NOX STM MANIF		472.0	PSIG
NOX STM DEMAND		88.7	PCT
GT ENCL #1 HIGH		157.0	DEGF
GT ENCL #2 LOW		90.0	DEGF
GEN ROOM		89.0	DEGF
GEN AIR OUT		164.0	DEGF
EXC AIR OUT		122.0	DEGF
REM I/O #1		99.0	DEGF
REM I/O #2		98.0	DEGF

GT LPC VIB	0.3	IN/SEC
GT LPT VIB	0.3	IN/SEC
GT HPC VIB	0.2	IN/SEC
GT HPT VIB	0.1	IN/SEC
CRF BROADBAND	0.9	IN/SEC
TRF BROADBAND	1.0	IN/SEC
GEN EXC VIB X	0.8	MILS
GEN EXC VIB Y	1.9	MILS
GEN DRV VIB X	1.3	MILS
GEN DRV VIB Y	1.6	MILS
GEN OIL PRESS	29.0	PSIG
GEN OIL TEMP	135.0	DEGF
GEN DE BRG	172.0	DEGF
GEN DE DRAIN	156.0	DEGF
GEN NDE BRG	174.0	DEGF
GEN NDE DRAIN	169.0	DEGF
GEN STATOR PHASE A	198.0	DEGF
GEN STATOR PHASE B	194.0	DEGF
GEN STATOR PHASE C	192.0	DEGF
GEN STATOR PHASE A1	194.0	DEGF
GEN STATOR PHASE B1	195.0	DEGF
GEN STATOR PHASE C1	195.0	DEGF
GEN VOLTS	14.0	KV
GEN AMPS ("A" Phase)	1936	AMPS
GEN MVARS	1.3	MVAR
GT FUEL HEAT INPUT	397.0	MMBTU/HR
GT FUEL FLW	418.0	KSCFH
GT FUEL FLW	18.76	KPPH
GT NOX STM	33.50	KPPH
STM/FUEL	1.78	RATIO
HEAT RATE	8480	BTU/KWH
GT NOX TOT	268675	KPOUNDS
DCS NOX	36.0	#/HR
DB FUEL FLW	27.68	KSCFH

PREV DISP

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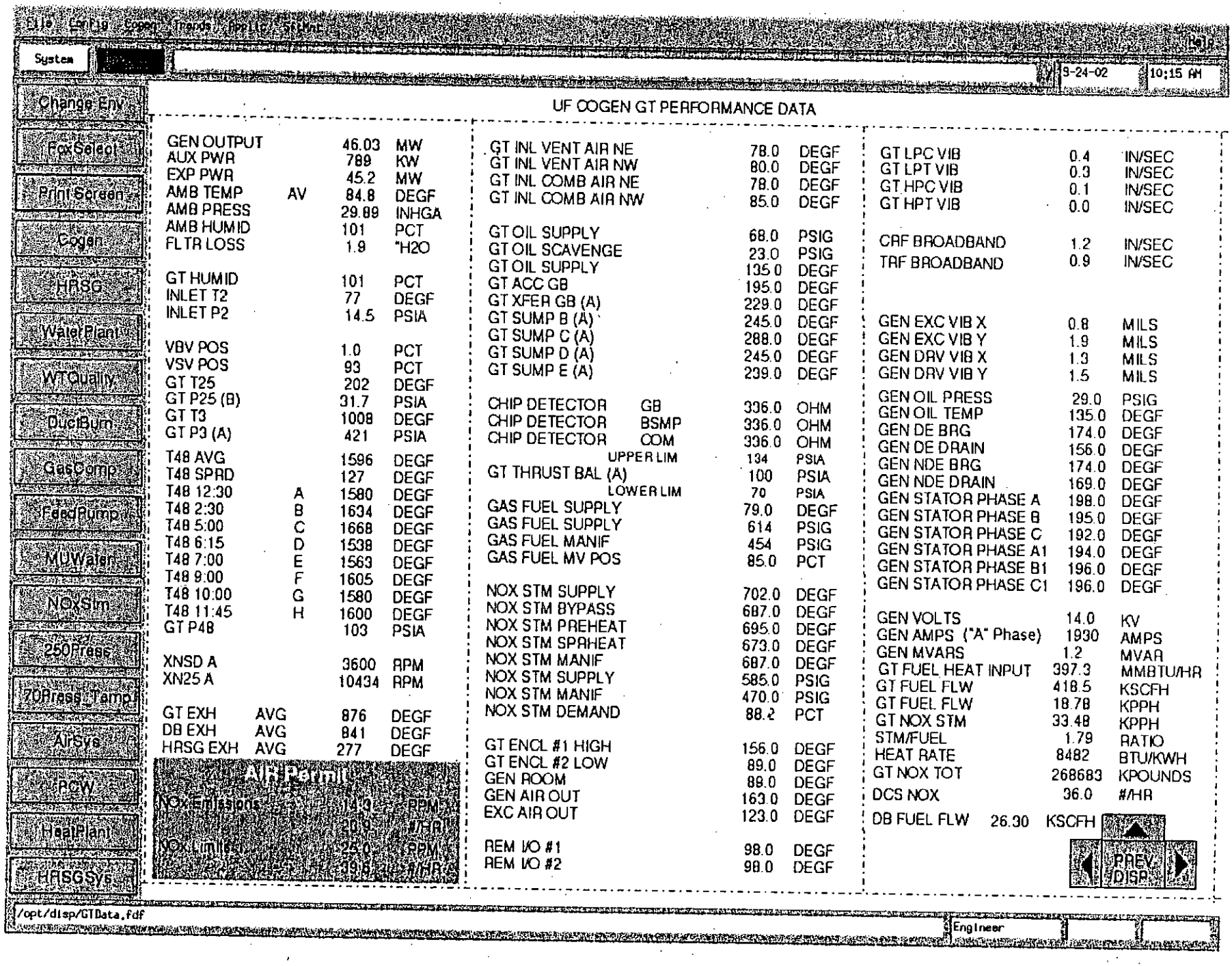
Engineer


File Config Cogen Trends Applic/Setpnt Help
System
9-24-02
10:15 AM
Change Env
FoxSelect
Print Screen
Cogen
HRSG
WaterPlant
WTQuality
DuctBurn
GasComp
FeedPump
MUWater
NOXStm
250Press
70Press Temp
AirSys
RCW
HeatPlant
HRSGSys
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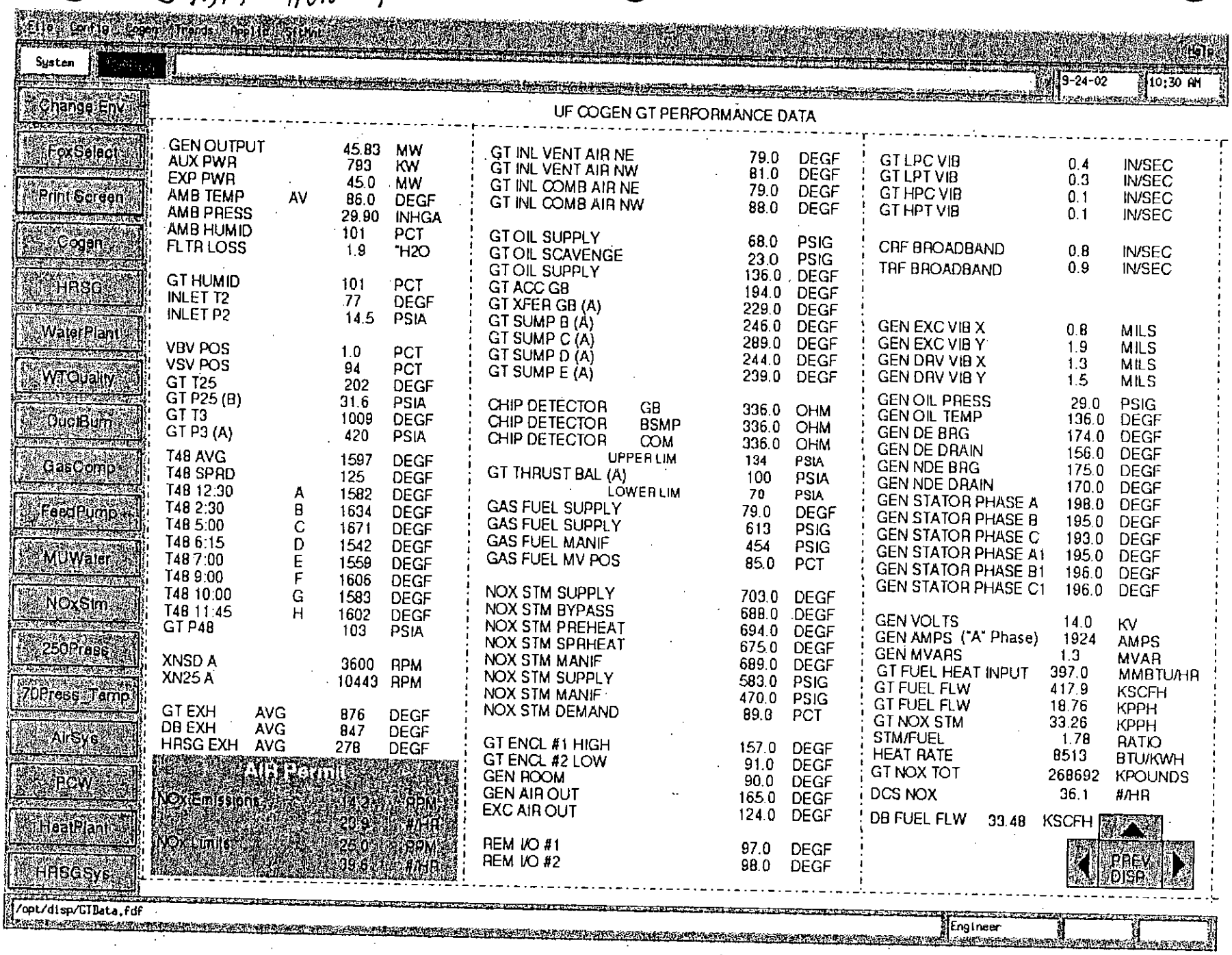
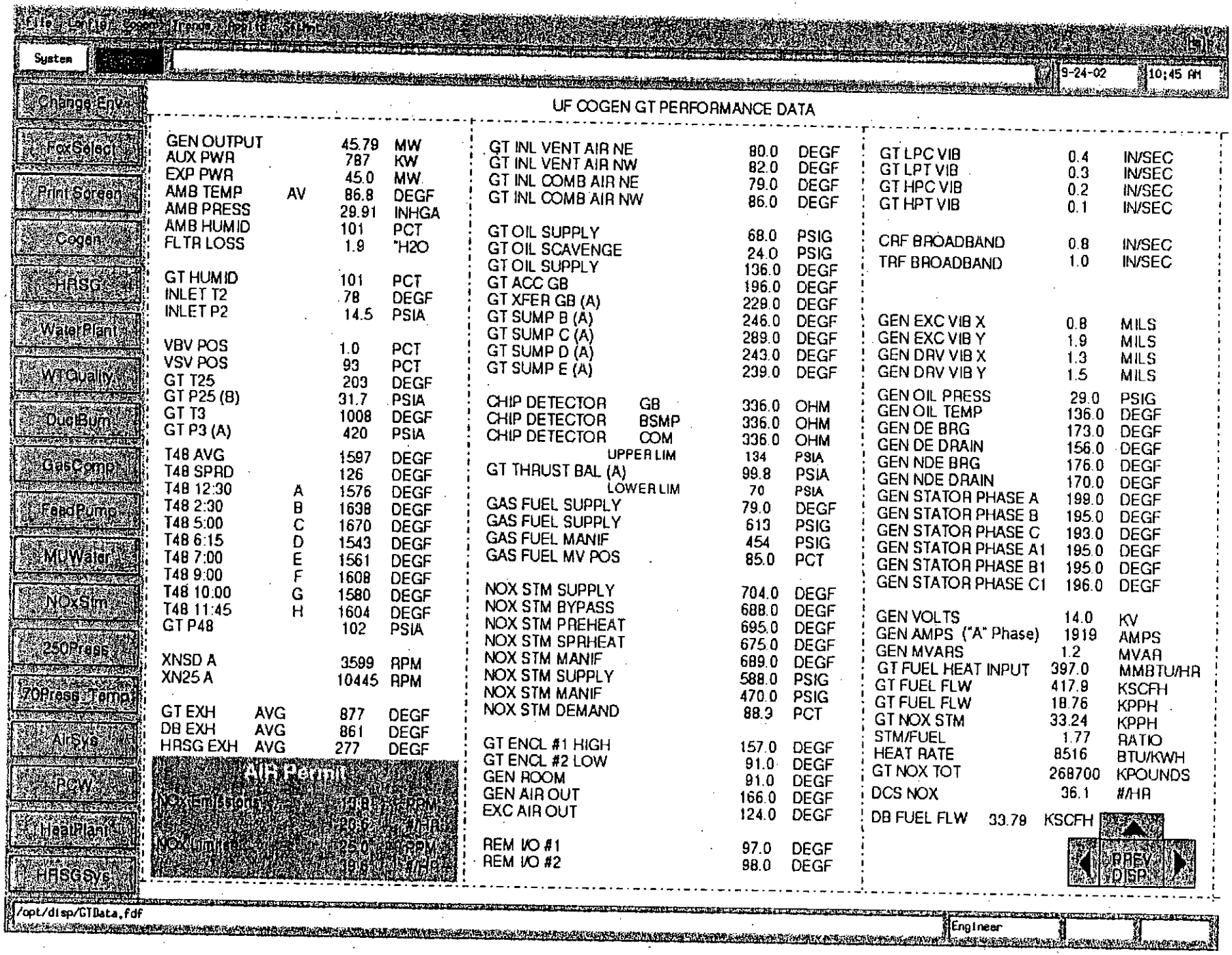
Engineer
UF COGEN GT PERFORMANCE DATA
GEN OUTPUT 46.03 MW
AUX PWR 789 KW
EXP PWR 45.2 MW
AMB TEMP AV 84.8 DEGF
AMB PRESS 29.89 INHGA
AMB HUMID 101 PCT
FLTR LOSS 1.9 "H2O
GT HUMID 101 PCT
INLET T2 77 DEGF
INLET P2 14.5 PSIA
VBV POS 1.0 PCT
VSV POS 93 PCT
GT T25 202 DEGF
GT P25 (B) 31.7 PSIA
GT T3 1008 DEGF
GT P3 (A) 421 PSIA
T48 AVG 1596 DEGF
T48 SPRD 127 DEGF
T48 12:30 A 1580 DEGF
T48 2:30 B 1634 DEGF
T48 5:00 C 1668 DEGF
T48 6:15 D 1538 DEGF
T48 7:00 E 1563 DEGF
T48 9:00 F 1605 DEGF
T48 10:00 G 1580 DEGF
T48 11:45 H 1600 DEGF
GT P48 103 PSIA
XNSD A 3600 RPM
XN25 A 10434 RPM
GT EXH AVG 876 DEGF
DB EXH AVG 841 DEGF
HRSG EXH AVG 277 DEGF
AIR Emiss
NOx Emissions 14.3 PPM
20.9 #/HR
NOx Limited 25.0 PPM
39.6 #/HR
GT INL VENT AIR NE 78.0 DEGF
GT INL VENT AIR NW 80.0 DEGF
GT INL COMB AIR NE 78.0 DEGF
GT INL COMB AIR NW 85.0 DEGF
GT OIL SUPPLY 68.0 PSIG
GT OIL SCAVENGE 23.0 PSIG
GT OIL SUPPLY 135.0 DEGF
GT ACC GB 195.0 DEGF
GT XFER GB (A) 229.0 DEGF
GT SUMP B (A) 245.0 DEGF
GT SUMP C (A) 288.0 DEGF
GT SUMP D (A) 245.0 DEGF
GT SUMP E (A) 239.0 DEGF
CHIP DETECTOR GB 336.0 OHM
CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
UPPER LIM 134 PSIA
GT THRUST BAL (A) 100 PSIA
LOWER LIM 70 PSIA
GAS FUEL SUPPLY 79.0 DEGF
GAS FUEL SUPPLY 614 PSIG
GAS FUEL MANIF 454 PSIG
GAS FUEL MV POS 85.0 PCT
NOX STM SUPPLY 702.0 DEGF
NOX STM BYPASS 687.0 DEGF
NOX STM PREHEAT 695.0 DEGF
NOX STM SPRHEAT 673.0 DEGF
NOX STM MANIF 687.0 DEGF
NOX STM SUPPLY 585.0 PSIG
NOX STM MANIF 470.0 PSIG
NOX STM DEMAND 88.2 PCT
GT ENCL #1 HIGH 156.0 DEGF
GT ENCL #2 LOW 89.0 DEGF
GEN ROOM 89.0 DEGF
GEN AIR OUT 163.0 DEGF
EXC AIR OUT 123.0 DEGF
REM I/O #1 98.0 DEGF
REM I/O #2 98.0 DEGF
GT LPC VIB 0.4 IN/SEC
GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.1 IN/SEC
GT HPT VIB 0.0 IN/SEC
CRF BROADBAND 1.2 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
GEN OIL PRESS 29.0 PSIG
GEN OIL TEMP 135.0 DEGF
GEN DE BRG 174.0 DEGF
GEN DE DRAIN 156.0 DEGF
GEN NDE BRG 174.0 DEGF
GEN NDE DRAIN 169.0 DEGF
GEN STATOR PHASE A 198.0 DEGF
GEN STATOR PHASE B 195.0 DEGF
GEN STATOR PHASE C 192.0 DEGF
GEN STATOR PHASE A1 194.0 DEGF
GEN STATOR PHASE B1 196.0 DEGF
GEN STATOR PHASE C1 196.0 DEGF
GEN VOLTS 14.0 KV
GEN AMPS ("A" Phase) 1930 AMPS
GEN MVARS 1.2 MVAR
GT FUEL HEAT INPUT 397.3 MMBTU/HR
GT FUEL FLW 418.5 KSCFH
GT FUEL FLW 18.78 KPPH
GT NOX STM 33.48 KPPH
STM/FUEL 1.79 RATIO
HEAT RATE 8482 BTU/KWH
GT NOX TOT 268683 KPOUNDS
DCS NOX 36.0 #/HR
DB FUEL FLW 26.30 KSCFH
PREV DISP

START RUN #1


File Config Logon Trends Applic Shtdwn
Help
System
9-24-02
10:30 AM
Change Env
FoxSelect
Print Screen
Cogen
HRSG
WaterPlant
WTQuality
DuctBurn
GasComp
FeedPump
MUWater
NOxStm
250Press
70Press_Tamp
AirSys
RCW
HeatPlant
HRSGSys
UF COGEN GT PERFORMANCE DATA
GEN OUTPUT 45.83 MW
AUX PWR 793 KW
EXP PWR 45.0 MW
AMB TEMP AV 86.0 DEGF
AMB PRESS 29.90 INHGA
AMB HUMID 101 PCT
FLTR LOSS 1.9 "H2O
GT HUMID 101 PCT
INLET T2 77 DEGF
INLET P2 14.5 PSIA
VBV POS 1.0 PCT
VSV POS 94 PCT
GT T25 202 DEGF
GT P25 (B) 31.6 PSIA
GT T3 1009 DEGF
GT P3 (A) 420 PSIA
T48 AVG 1597 DEGF
T48 SPRD 125 DEGF
T48 12:30 A 1582 DEGF
T48 2:30 B 1634 DEGF
T48 5:00 C 1671 DEGF
T48 6:15 D 1542 DEGF
T48 7:00 E 1559 DEGF
T48 9:00 F 1606 DEGF
T48 10:00 G 1583 DEGF
T48 11:45 H 1602 DEGF
GT P48 103 PSIA
XNSD A 3600 RPM
XN25 A 10443 RPM
GT EXH AVG 876 DEGF
DB EXH AVG 847 DEGF
HRSG EXH AVG 278 DEGF
Air Permit
NOxEmissions 14.2 RPM
20.9 #/HR
NOxLimits 25.0 RPM
29.6 #/HR
GT INL VENT AIR NE 79.0 DEGF
GT INL VENT AIR NW 81.0 DEGF
GT INL COMB AIR NE 79.0 DEGF
GT INL COMB AIR NW 88.0 DEGF
GT OIL SUPPLY 68.0 PSIG
GT OIL SCAVENGE 23.0 PSIG
GT OIL SUPPLY 136.0 DEGF
GT ACC GB 194.0 DEGF
GT XFER GB (A) 229.0 DEGF
GT SUMP B (A) 246.0 DEGF
GT SUMP C (A) 289.0 DEGF
GT SUMP D (A) 244.0 DEGF
GT SUMP E (A) 239.0 DEGF
CHIP DETECTOR GB 336.0 OHM
CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
UPPER LIM 134 PSIA
GT THRUST BAL (A) 100 PSIA
LOWER LIM 70 PSIA
GAS FUEL SUPPLY 79.0 DEGF
GAS FUEL SUPPLY 613 PSIG
GAS FUEL MANIF 454 PSIG
GAS FUEL MV POS 85.0 PCT
NOX STM SUPPLY 703.0 DEGF
NOX STM BYPASS 688.0 DEGF
NOX STM PREHEAT 694.0 DEGF
NOX STM SPRHEAT 675.0 DEGF
NOX STM MANIF 689.0 DEGF
NOX STM SUPPLY 583.0 PSIG
NOX STM MANIF 470.0 PSIG
NOX STM DEMAND 89.0 PCT
GT ENCL #1 HIGH 157.0 DEGF
GT ENCL #2 LOW 91.0 DEGF
GEN ROOM 90.0 DEGF
GEN AIR OUT 165.0 DEGF
EXC AIR OUT 124.0 DEGF
REM I/O #1 97.0 DEGF
REM I/O #2 98.0 DEGF
GT LPC VIB 0.4 IN/SEC
GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.1 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 0.8 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
GEN OIL PRESS 29.0 PSIG
GEN OIL TEMP 136.0 DEGF
GEN DE BRG 174.0 DEGF
GEN DE DRAIN 156.0 DEGF
GEN NDE BRG 175.0 DEGF
GEN NDE DRAIN 170.0 DEGF
GEN STATOR PHASE A 198.0 DEGF
GEN STATOR PHASE B 195.0 DEGF
GEN STATOR PHASE C 193.0 DEGF
GEN STATOR PHASE A1 195.0 DEGF
GEN STATOR PHASE B1 196.0 DEGF
GEN STATOR PHASE C1 196.0 DEGF
GEN VOLTS 14.0 KV
GEN AMPS ("A" Phase) 1924 AMPS
GEN MVARS 1.3 MVAR
GT FUEL HEAT INPUT 397.0 MMBTU/HR
GT FUEL FLW 417.9 KSCFH
GT FUEL FLW 18.76 KPPH
GT NOX STM 33.26 KPPH
STM/FUEL 1.78 RATIO
HEAT RATE 8513 BTU/KWH
GT NOX TOT 268692 KPOUNDS
DCS NOX 36.1 #/HR
DB FUEL FLW 33.48 KSCFH
PREV DISP
/opt/disp/GTData.fdf
Engineer


File Config Cogen Trends Points Other
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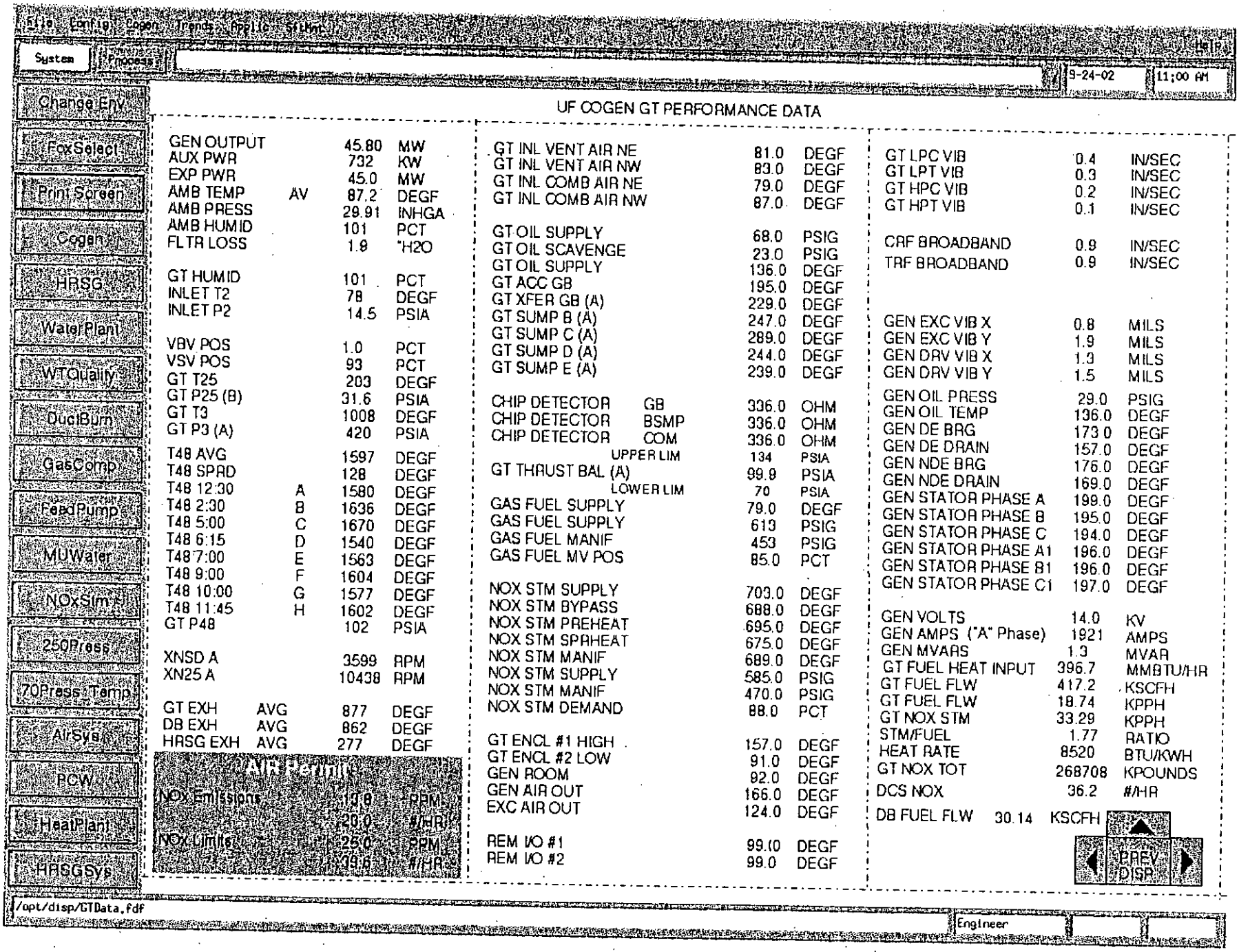
9-24-02
10:45 AM
Change Env
FoxSelect
Print Screen
Cogen
HRSG
WaterPlant
WTQuality
DuctBurn
GasComp
FeedPump
MUWater
NOxSim
250Press
70Press Temp
AirSys
PCW
HeatPlant
HRSGSys
UF COGEN GT PERFORMANCE DATA
GEN OUTPUT 45.79 MW
AUX PWR 787 KW
EXP PWR 45.0 MW
AMB TEMP AV 86.8 DEGF
AMB PRESS 29.91 INHGA
AMB HUMID 101 PCT
FLTR LOSS 1.9 "H2O
GT HUMID 101 PCT
INLET T2 78 DEGF
INLET P2 14.5 PSIA
VBV POS 1.0 PCT
VSV POS 93 PCT
GT T25 203 DEGF
GT P25 (B) 31.7 PSIA
GT T3 1008 DEGF
GT P3 (A) 420 PSIA
T48 AVG 1597 DEGF
T48 SPRD 126 DEGF
T48 12:30 A 1576 DEGF
T48 2:30 B 1638 DEGF
T48 5:00 C 1670 DEGF
T48 6:15 D 1543 DEGF
T48 7:00 E 1561 DEGF
T48 9:00 F 1608 DEGF
T48 10:00 G 1580 DEGF
T48 11:45 H 1604 DEGF
GT P48 102 PSIA
XNSD A 3599 RPM
XN25 A 10445 RPM
GT EXH AVG 877 DEGF
DB EXH AVG 861 DEGF
HRSG EXH AVG 277 DEGF
AIR Permit
NOx Emissions
NOx Limit
GT INL VENT AIR NE 80.0 DEGF
GT INL VENT AIR NW 82.0 DEGF
GT INL COMB AIR NE 79.0 DEGF
GT INL COMB AIR NW 86.0 DEGF
GT OIL SUPPLY 68.0 PSIG
GT OIL SCAVENGE 24.0 PSIG
GT OIL SUPPLY 136.0 DEGF
GT ACC GB 196.0 DEGF
GT XFER GB (A) 229.0 DEGF
GT SUMP B (A) 246.0 DEGF
GT SUMP C (A) 289.0 DEGF
GT SUMP D (A) 243.0 DEGF
GT SUMP E (A) 239.0 DEGF
CHIP DETECTOR GB 336.0 OHM
CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
UPPER LIM 134 PSIA
GT THRUST BAL (A) 99.8 PSIA
LOWER LIM 70 PSIA
GAS FUEL SUPPLY 79.0 DEGF
GAS FUEL SUPPLY 613 PSIG
GAS FUEL MANIF 454 PSIG
GAS FUEL MV POS 85.0 PCT
NOX STM SUPPLY 704.0 DEGF
NOX STM BYPASS 688.0 DEGF
NOX STM PREHEAT 695.0 DEGF
NOX STM SPRHEAT 675.0 DEGF
NOX STM MANIF 689.0 DEGF
NOX STM SUPPLY 588.0 PSIG
NOX STM MANIF 470.0 PSIG
NOX STM DEMAND 88.9 PCT
GT ENCL #1 HIGH 157.0 DEGF
GT ENCL #2 LOW 91.0 DEGF
GEN ROOM 91.0 DEGF
GEN AIR OUT 166.0 DEGF
EXC AIR OUT 124.0 DEGF
REM I/O #1 97.0 DEGF
REM I/O #2 98.0 DEGF
GT LPC VIB 0.4 IN/SEC
GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 0.8 IN/SEC
TRF BROADBAND 1.0 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
GEN OIL PRESS 29.0 PSIG
GEN OIL TEMP 136.0 DEGF
GEN DE BRG 173.0 DEGF
GEN DE DRAIN 156.0 DEGF
GEN NDE BRG 176.0 DEGF
GEN NDE DRAIN 170.0 DEGF
GEN STATOR PHASE A 199.0 DEGF
GEN STATOR PHASE B 195.0 DEGF
GEN STATOR PHASE C 193.0 DEGF
GEN STATOR PHASE A1 195.0 DEGF
GEN STATOR PHASE B1 195.0 DEGF
GEN STATOR PHASE C1 196.0 DEGF
GEN VOLTS 14.0 KV
GEN AMPS ("A" Phase) 1919 AMPS
GEN MVARS 1.2 MVAR
GT FUEL HEAT INPUT 397.0 MMBTU/HR
GT FUEL FLW 417.9 KSCFH
GT FUEL FLW 18.76 KPPH
GT NOX STM 33.24 KPPH
STM/FUEL 1.77 RATIO
HEAT RATE 8516 BTU/KWH
GT NOX TOT 268700 KPOUNDS
DCS NOX 36.1 #/HR
DB FUEL FLW 33.79 KSCFH
PREV DISP
/opt/disp/GTData.fdf
Engineer


File Config Cogen Trends Optic Status Help
System Process
9-24-02 11:00 AM
Change Env
FoxSelect
Print Screen
Cogen
HRSG
WaterPlant
WTQuality
DuctBurn
GasComp
FeedPump
MUWater
NOxSim
250Press
70Press Temp
AirSys
RCW
HeatPlant
HRSGSys
UF COGEN GT PERFORMANCE DATA
GEN OUTPUT 45.80 MW
AUX PWR 732 KW
EXP PWR 45.0 MW
AMB TEMP AV 87.2 DEGF
AMB PRESS 29.91 INHGA
AMB HUMID 101 PCT
FLTR LOSS 1.8 "H2O
GT HUMID 101 PCT
INLET T2 78 DEGF
INLET P2 14.5 PSIA
VBV POS 1.0 PCT
VSV POS 93 PCT
GT T25 203 DEGF
GT P25 (B) 31.6 PSIA
GT T3 1008 DEGF
GT P3 (A) 420 PSIA
T48 AVG 1597 DEGF
T48 SPRD 128 DEGF
T48 12:30 A 1580 DEGF
T48 2:30 B 1636 DEGF
T48 5:00 C 1670 DEGF
T48 6:15 D 1540 DEGF
T48 7:00 E 1563 DEGF
T48 9:00 F 1604 DEGF
T48 10:00 G 1577 DEGF
T48 11:45 H 1602 DEGF
GT P48 102 PSIA
XNSD A 3599 RPM
XN25 A 10438 RPM
GT EXH AVG 877 DEGF
DB EXH AVG 862 DEGF
HRSG EXH AVG 277 DEGF
AIR Permits
NOx Emissions 13.8 PPM
20.0 #/HR
NOx Limits 25.0 PPM
39.6 #/HR
GT INL VENT AIR NE 81.0 DEGF
GT INL VENT AIR NW 83.0 DEGF
GT INL COMB AIR NE 79.0 DEGF
GT INL COMB AIR NW 87.0 DEGF
GT OIL SUPPLY 68.0 PSIG
GT OIL SCAVENGE 23.0 PSIG
GT OIL SUPPLY 136.0 DEGF
GT ACC GB 195.0 DEGF
GT XFER GB (A) 229.0 DEGF
GT SUMP B (A) 247.0 DEGF
GT SUMP C (A) 289.0 DEGF
GT SUMP D (A) 244.0 DEGF
GT SUMP E (A) 239.0 DEGF
CHIP DETECTOR GB 336.0 OHM
CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
UPPER LIM 134 PSIA
GT THRUST BAL (A) 99.9 PSIA
LOWER LIM 70 PSIA
GAS FUEL SUPPLY 79.0 DEGF
GAS FUEL SUPPLY 613 PSIG
GAS FUEL MANIF 453 PSIG
GAS FUEL MV POS 85.0 PCT
NOX STM SUPPLY 703.0 DEGF
NOX STM BYPASS 688.0 DEGF
NOX STM PREHEAT 695.0 DEGF
NOX STM SPRHEAT 675.0 DEGF
NOX STM MANIF 689.0 DEGF
NOX STM SUPPLY 585.0 PSIG
NOX STM MANIF 470.0 PSIG
NOX STM DEMAND 88.0 PCT
GT ENCL #1 HIGH 157.0 DEGF
GT ENCL #2 LOW 91.0 DEGF
GEN ROOM 92.0 DEGF
GEN AIR OUT 166.0 DEGF
EXC AIR OUT 124.0 DEGF
REM I/O #1 99.0 DEGF
REM I/O #2 99.0 DEGF
GT LPC VIB 0.4 IN/SEC
GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 0.9 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
GEN OIL PRESS 29.0 PSIG
GEN OIL TEMP 136.0 DEGF
GEN DE BRG 173.0 DEGF
GEN DE DRAIN 157.0 DEGF
GEN NDE BRG 176.0 DEGF
GEN NDE DRAIN 169.0 DEGF
GEN STATOR PHASE A 199.0 DEGF
GEN STATOR PHASE B 195.0 DEGF
GEN STATOR PHASE C 194.0 DEGF
GEN STATOR PHASE A1 196.0 DEGF
GEN STATOR PHASE B1 196.0 DEGF
GEN STATOR PHASE C1 197.0 DEGF
GEN VOLTS 14.0 KV
GEN AMPS ("A" Phase) 1921 AMPS
GEN MVARS 1.3 MVAR
GT FUEL HEAT INPUT 396.7 MMBTU/HR
GT FUEL FLW 417.2 KSCFH
GT FUEL FLW 18.74 KPPH
GT NOX STM 33.29 KPPH
STM/FUEL 1.77 RATIO
HEAT RATE 8520 BTU/KWH
GT NOX TOT 268708 KPOUNDS
DCS NOX 36.2 #/HR
DB FUEL FLW 30.14 KSCFH
PREV DISP
/opt/disp/GTData.fdf
Engineer

— Stop Run "1 —

File Config Cogen Trends Applic Shmb Help

System

9-24-02 11:15 AM

Change Env
FoxSelect
Print Screen
Cogen
HRSG
WaterPlant
WTQuality
DuctBurn
GasComp
FeedPump
MUWater
NOxSim
250Press
70Press/Temp
AirSys
PCW
HeatPlant
HRSGSys

UF COGEN GT PERFORMANCE DATA

GEN OUTPUT		45.63	MW
AUX PWR		731	KW
EXP PWR		44.9	MW
AMB TEMP	AV	87.3	DEGF
AMB PRESS		29.92	INHGA
AMB HUMID		101	PCT
FLTR LOSS		1.9	"H2O
GT HUMID		101	PCT
INLET T2		78	DEGF
INLET P2		14.5	PSIA
VBV POS		1.0	PCT
VSV POS		93	PCT
GT T25		202	DEGF
GT P25 (B)		31.6	PSIA
GT T3		1009	DEGF
GT P3 (A)		419	PSIA
T48 AVG		1597	DEGF
T48 SPRD		132	DEGF
T48 12:30	A	1578	DEGF
T48 2:30	B	1635	DEGF
T48 5:00	C	1672	DEGF
T48 6:15	D	1540	DEGF
T48 7:00	E	1561	DEGF
T48 9:00	F	1607	DEGF
T48 10:00	G	1581	DEGF
T48 11:45	H	1602	DEGF
GT P48		102	PSIA
XNSD A		3600	RPM
XN25 A		10440	RPM
GT EXH	AVG	877	DEGF
DB EXH	AVG	863	DEGF
HRSG EXH	AVG	276	DEGF

Air Permit

NOx Emissions	19.8	PPMV
	29.2	#/HR
NOx Limits	25.0	PPMV
	39.6	#/HR

GT INL VENT AIR NE	82.0	DEGF
GT INL VENT AIR NW	84.0	DEGF
GT INL COMB AIR NE	80.0	DEGF
GT INL COMB AIR NW	87.0	DEGF
GT OIL SUPPLY	68.0	PSIG
GT OIL SCAVENGE	23.0	PSIG
GT OIL SUPPLY	136.0	DEGF
GT ACC GB	195.0	DEGF
GT XFER GB (A)	230.0	DEGF
GT SUMP B (A)	246.0	DEGF
GT SUMP C (A)	289.0	DEGF
GT SUMP D (A)	246.0	DEGF
GT SUMP E (A)	240.0	DEGF
CHIP DETECTOR GB	336.0	OHM
CHIP DETECTOR BSMP	336.0	OHM
CHIP DETECTOR COM	336.0	OHM
UPPER LIM	134	PSIA
GT THRUST BAL (A)	99.4	PSIA
LOWER LIM	70	PSIA
GAS FUEL SUPPLY	80.0	DEGF
GAS FUEL SUPPLY	614	PSIG
GAS FUEL MANIF	452	PSIG
GAS FUEL MV POS	85.0	PCT
NOX STM SUPPLY	705.0	DEGF
NOX STM BYPASS	688.0	DEGF
NOX STM PREHEAT	695.0	DEGF
NOX STM SPRHEAT	675.0	DEGF
NOX STM MANIF	691.0	DEGF
NOX STM SUPPLY	588.0	PSIG
NOX STM MANIF	468.0	PSIG
NOX STM DEMAND	88.2	PCT
GT ENCL #1 HIGH	157.0	DEGF
GT ENCL #2 LOW	93.0	DEGF
GEN ROOM	91.0	DEGF
GEN AIR OUT	166.0	DEGF
EXC AIR OUT	125.0	DEGF
REM I/O #1	99.0	DEGF
REM I/O #2	99.0	DEGF

GT LPC VIB	0.4	IN/SEC
GT LPT VIB	0.3	IN/SEC
GT HPC VIB	0.2	IN/SEC
GT HPT VIB	0.1	IN/SEC
CRF BROADBAND	0.9	IN/SEC
TRF BROADBAND	0.9	IN/SEC
GEN EXC VIB X	0.8	MILS
GEN EXC VIB Y	1.9	MILS
GEN DRV VIB X	1.4	MILS
GEN DRV VIB Y	1.5	MILS
GEN OIL PRESS	29.0	PSIG
GEN OIL TEMP	136.0	DEGF
GEN DE BRG	174.0	DEGF
GEN DE DRAIN	157.0	DEGF
GEN NDE BRG	175.0	DEGF
GEN NDE DRAIN	170.0	DEGF
GEN STATOR PHASE A	200.0	DEGF
GEN STATOR PHASE B	196.0	DEGF
GEN STATOR PHASE C	194.0	DEGF
GEN STATOR PHASE A1	196.0	DEGF
GEN STATOR PHASE B1	198.0	DEGF
GEN STATOR PHASE C1	197.0	DEGF
GEN VOLTS	14.0	KV
GEN AMPS ("A" Phase)	1910	AMPS
GEN MVARS	1.2	MVAR
GT FUEL HEAT INPUT	394.2	MMBTU/HR
GT FUEL FLW	414.7	KSCFH
GT FUEL FLW	18.62	KPPH
GT NOX STM	33.10	KPPH
STM/FUEL	1.78	RATIO
HEAT RATE	8483	BTU/KWH
GT NOX TOT	268716	KPOUNDS
DCS NOX	36.2	#/HR
DB FUEL FLW	34.17	KSCFH

PREV DISP

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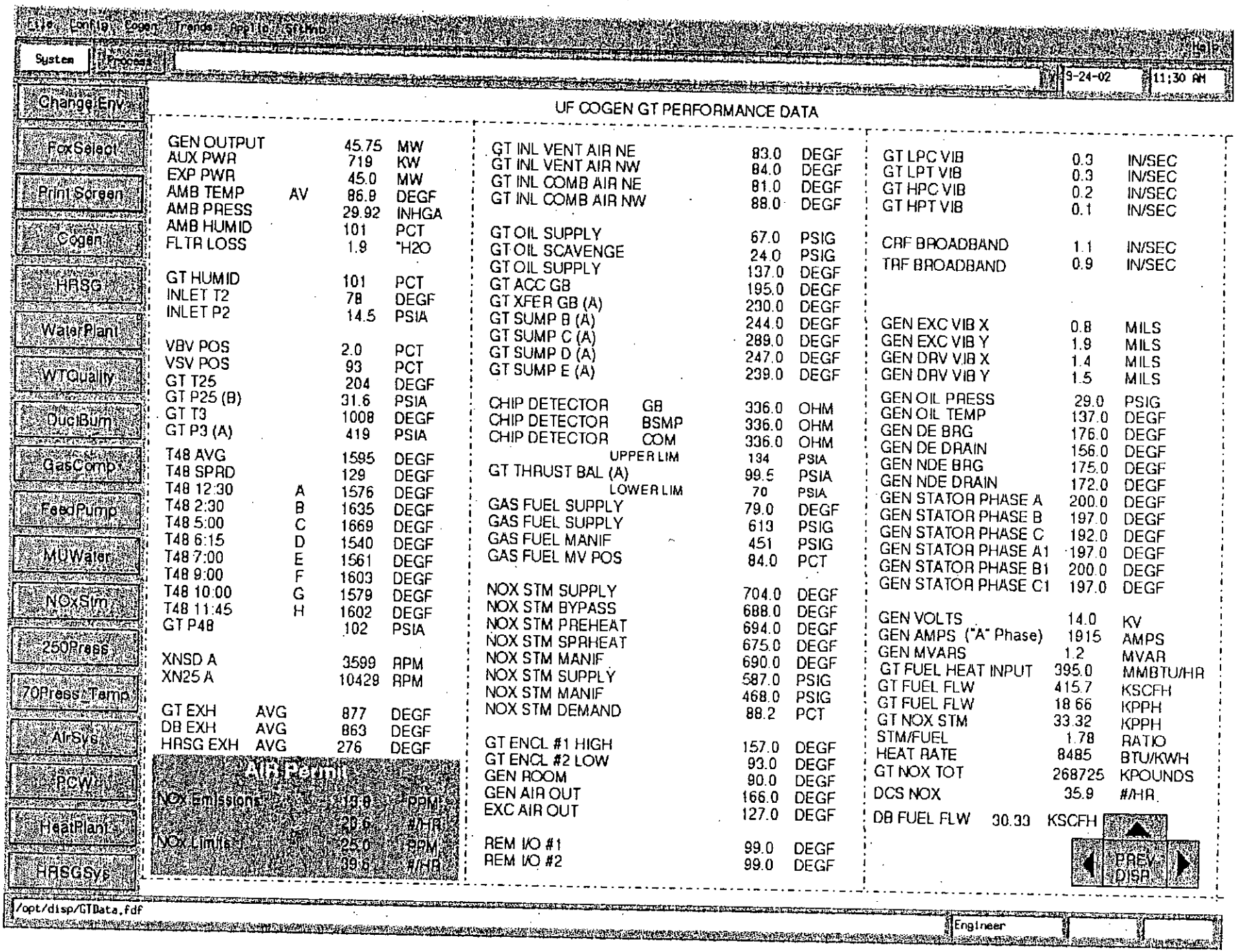
Engineer


File Config Cogen Trends Applic SetMnb
System
Process
9-24-02
11:30 AM
Change Env
FoxSelect
Print Screen
Cogen
HRSG
WaterPlant
WTQuality
DuctBurn
GasComp
FeedPump
MUWater
NOxStm
250Press
70Press Temp
AirSys
PCW
HeatPlants
HRSGSys
UF COGEN GT PERFORMANCE DATA
GEN OUTPUT 45.75 MW
AUX PWR 719 KW
EXP PWR 45.0 MW
AMB TEMP AV 86.9 DEGF
AMB PRESS 29.92 INHGA
AMB HUMID 101 PCT
FLTR LOSS 1.9 "H2O
GT HUMID 101 PCT
INLET T2 78 DEGF
INLET P2 14.5 PSIA
VBV POS 2.0 PCT
VSV POS 93 PCT
GT T25 204 DEGF
GT P25 (B) 31.6 PSIA
GT T3 1008 DEGF
GT P3 (A) 419 PSIA
T48 AVG 1595 DEGF
T48 SPRD 129 DEGF
T48 12:30 A 1576 DEGF
T48 2:30 B 1635 DEGF
T48 5:00 C 1669 DEGF
T48 6:15 D 1540 DEGF
T48 7:00 E 1561 DEGF
T48 9:00 F 1603 DEGF
T48 10:00 G 1579 DEGF
T48 11:45 H 1602 DEGF
GT P48 102 PSIA
XNSD A 3599 RPM
XN25 A 10429 RPM
GT EXH AVG 877 DEGF
DB EXH AVG 863 DEGF
HRSG EXH AVG 276 DEGF
Air Permit
NOx Emissions 9.8 PPM
20.6 #/HR
NOx Limits 25.0 PPM
39.6 #/HR
GT INL VENT AIR NE 83.0 DEGF
GT INL VENT AIR NW 84.0 DEGF
GT INL COMB AIR NE 81.0 DEGF
GT INL COMB AIR NW 88.0 DEGF
GT OIL SUPPLY 67.0 PSIG
GT OIL SCAVENGE 24.0 PSIG
GT OIL SUPPLY 137.0 DEGF
GT ACC GB 195.0 DEGF
GT XFER GB (A) 230.0 DEGF
GT SUMP B (A) 244.0 DEGF
GT SUMP C (A) 289.0 DEGF
GT SUMP D (A) 247.0 DEGF
GT SUMP E (A) 239.0 DEGF
CHIP DETECTOR GB 336.0 OHM
CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
UPPER LIM 134 PSIA
GT THRUST BAL (A) 99.5 PSIA
LOWER LIM 70 PSIA
GAS FUEL SUPPLY 79.0 DEGF
GAS FUEL SUPPLY 613 PSIG
GAS FUEL MANIF 451 PSIG
GAS FUEL MV POS 84.0 PCT
NOX STM SUPPLY 704.0 DEGF
NOX STM BYPASS 688.0 DEGF
NOX STM PREHEAT 694.0 DEGF
NOX STM SPRHEAT 675.0 DEGF
NOX STM MANIF 690.0 DEGF
NOX STM SUPPLY 587.0 PSIG
NOX STM MANIF 468.0 PSIG
NOX STM DEMAND 88.2 PCT
GT ENCL #1 HIGH 157.0 DEGF
GT ENCL #2 LOW 93.0 DEGF
GEN ROOM 90.0 DEGF
GEN AIR OUT 166.0 DEGF
EXC AIR OUT 127.0 DEGF
REM I/O #1 99.0 DEGF
REM I/O #2 99.0 DEGF
GT LPC VIB 0.3 IN/SEC
GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 1.1 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.4 MILS
GEN DRV VIB Y 1.5 MILS
GEN OIL PRESS 29.0 PSIG
GEN OIL TEMP 137.0 DEGF
GEN DE BRG 176.0 DEGF
GEN DE DRAIN 156.0 DEGF
GEN NDE BRG 175.0 DEGF
GEN NDE DRAIN 172.0 DEGF
GEN STATOR PHASE A 200.0 DEGF
GEN STATOR PHASE B 197.0 DEGF
GEN STATOR PHASE C 192.0 DEGF
GEN STATOR PHASE A1 197.0 DEGF
GEN STATOR PHASE B1 200.0 DEGF
GEN STATOR PHASE C1 197.0 DEGF
GEN VOLTS 14.0 KV
GEN AMPS ("A" Phase) 1915 AMPS
GEN MVARS 1.2 MVAR
GT FUEL HEAT INPUT 395.0 MMBTU/HR
GT FUEL FLW 415.7 KSCFH
GT FUEL FLW 18.66 KPPH
GT NOX STM 33.32 KPPH
STM/FUEL 1.78 RATIO
HEAT RATE 8485 BTU/KWH
GT NOX TOT 268725 KPOUNDS
DCS NOX 35.9 #/HR
DB FUEL FLW 30.33 KSCFH
PREV DISP
/opt/disp/GTData.fdf
Engineer

START RUN #2

File Config Cogen Trends Applic Status Help

System Process

9-24-02 11:45 AM

Change Env
FoxSelect
Print Screen
Cogen
HRSG
WaterPlant
WTQuality
DuctBurn
GasComp
FeedPump
MUWater
NOxSim
250Press
70Press/Temp
AirSys
PCW
HeatPlant
HRSGSys

UF COGEN GT PERFORMANCE DATA

GEN OUTPUT		45.72	MW
AUX PWR		722	KW
EXP PWR		45.0	MW
AMB TEMP	AV	90.2	DEGF
AMB PRESS		29.92	INHGA
AMB HUMID		101	PCT
FLTR LOSS		1.9	"H2O
GT HUMID		101	PCT
INLET T2		79	DEGF
INLET P2		14.5	PSIA
VBV POS		1.0	PCT
VSV POS		93	PCT
GT T25		204	DEGF
GT P25 (B)		31.6	PSIA
GT T3		1007	DEGF
GT P3 (A)		419	PSIA
T48 AVG		1597	DEGF
T48 SPRD		130	DEGF
T48 12:30	A	1579	DEGF
T48 2:30	B	1633	DEGF
T48 5:00	C	1670	DEGF
T48 6:15	D	1541	DEGF
T48 7:00	E	1561	DEGF
T48 9:00	F	1608	DEGF
T48 10:00	G	1581	DEGF
T48 11:45	H	1601	DEGF
GT P48		102	PSIA
XNSD A		3600	RPM
XN25 A		10441	RPM
GT EXH	AVG	877	DEGF
DB EXH	AVG	863	DEGF
HRSG EXH	AVG	276	DEGF

AIR Permit

NOx Emissions	10.8	PPM
	20.4	#/HR
NOx Limits	25.0	PPM
	39.6	#/HR

GT INL VENT AIR NE		82.0	DEGF
GT INL VENT AIR NW		85.0	DEGF
GT INL COMB AIR NE		78.0	DEGF
GT INL COMB AIR NW		87.0	DEGF
GT OIL SUPPLY		68.0	PSIG
GT OIL SCAVENGE		23.0	PSIG
GT OIL SUPPLY		136.0	DEGF
GT ACC GB		196.0	DEGF
GT XFER GB (A)		230.0	DEGF
GT SUMP B (A)		248.0	DEGF
GT SUMP C (A)		289.0	DEGF
GT SUMP D (A)		244.0	DEGF
GT SUMP E (A)		240.0	DEGF
CHIP DETECTOR	GB	336.0	OHM
CHIP DETECTOR	BSMP	336.0	OHM
CHIP DETECTOR	COM	336.0	OHM
	UPPER LIM	134	PSIA
GT THRUST BAL (A)		99.4	PSIA
	LOWER LIM	70	PSIA
GAS FUEL SUPPLY		79.0	DEGF
GAS FUEL SUPPLY		613	PSIG
GAS FUEL MANIF		452	PSIG
GAS FUEL MV POS		85.0	PCT
NOX STM SUPPLY		702.0	DEGF
NOX STM BYPASS		687.0	DEGF
NOX STM PREHEAT		696.0	DEGF
NOX STM SPRHEAT		673.0	DEGF
NOX STM MANIF		685.0	DEGF
NOX STM SUPPLY		582.0	PSIG
NOX STM MANIF		469.0	PSIG
NOX STM DEMAND		88.2	PCT
GT ENCL #1 HIGH		158.0	DEGF
GT ENCL #2 LOW		93.0	DEGF
GEN ROOM		95.0	DEGF
GEN AIR OUT		167.0	DEGF
EXC AIR OUT		125.0	DEGF
REM I/O #1		102.)	DEGF
REM I/O #2		100.)	DEGF

GT LPC VIB	0.3	IN/SEC
GT LPT VIB	0.3	IN/SEC
GT HPC VIB	0.2	IN/SEC
GT HPT VIB	0.1	IN/SEC
CRF BROADBAND	0.8	IN/SEC
TRF BROADBAND	0.9	IN/SEC
GEN EXC VIB X	0.8	MILS
GEN EXC VIB Y	1.9	MILS
GEN DRV VIB X	1.4	MILS
GEN DRV VIB Y	1.5	MILS
GEN OIL PRESS	29.0	PSIG
GEN OIL TEMP	136.0	DEGF
GEN DE BRG	173.0	DEGF
GEN DE DRAIN	158.0	DEGF
GEN NDE BRG	175.0	DEGF
GEN NDE DRAIN	169.0	DEGF
GEN STATOR PHASE A	200.0	DEGF
GEN STATOR PHASE B	197.0	DEGF
GEN STATOR PHASE C	196.0	DEGF
GEN STATOR PHASE A1	197.0	DEGF
GEN STATOR PHASE B1	198.0	DEGF
GEN STATOR PHASE C1	198.0	DEGF
GEN VOLTS	14.0	KV
GEN AMPS ("A" Phase)	1903	AMPS
GEN MVARS	1.1	MVAR
GT FUEL HEAT INPUT	394.8	MMBTU/HR
GT FUEL FLW	415.1	KSCFH
GT FUEL FLW	18.64	KPPH
GT NOX STM	33.25	KPPH
STM/FUEL	1.78	RATIO
HEAT RATE	8483	BTU/KWH
GT NOX TOT	268733	KPOUNDS
DCS NOX	35.8	#/HR
DB FUEL FLW	30.80	KSCFH

PREV DISP

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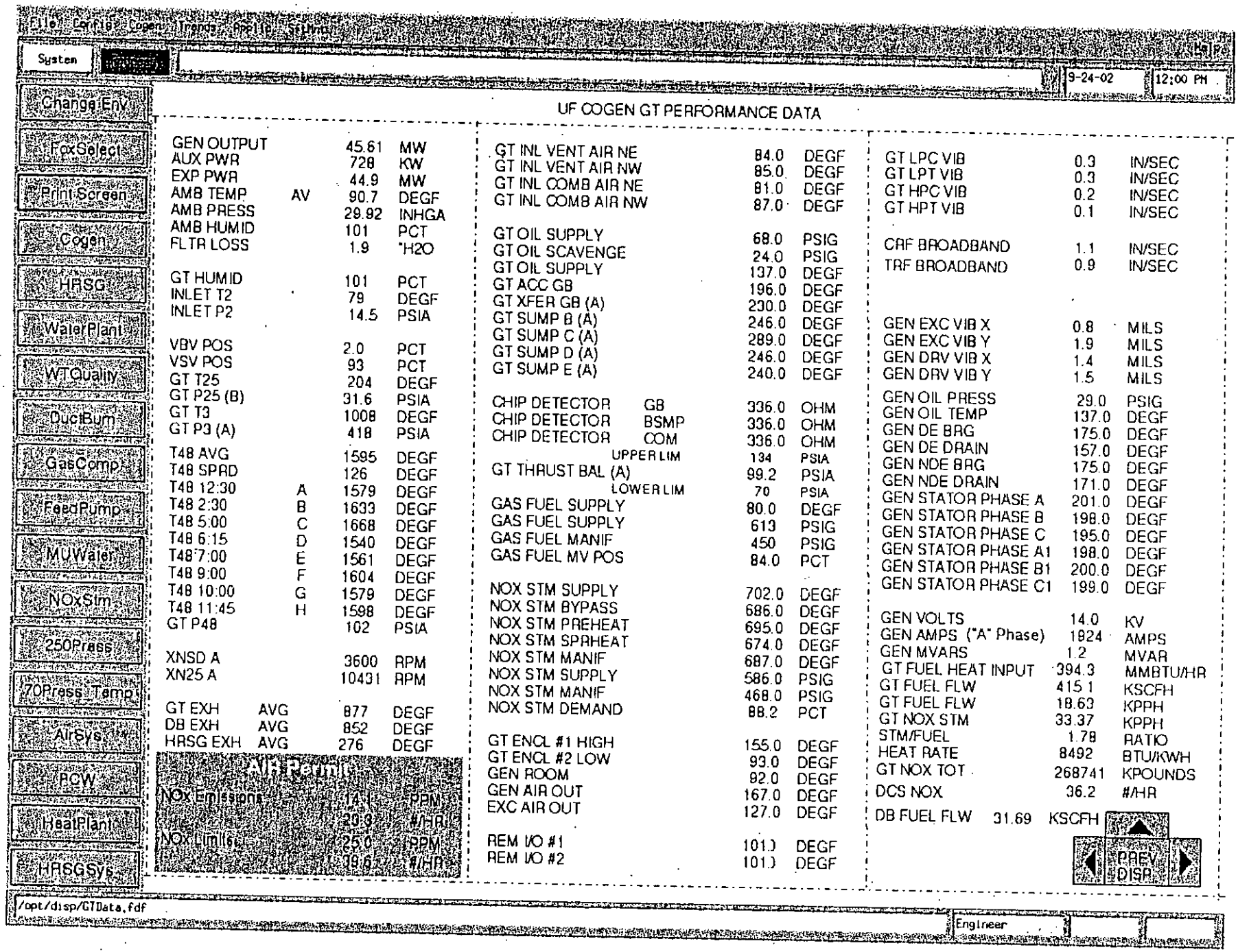
Engineer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Print Screen
Cogen
HRSG
WaterPlant
WTQuality
DuctBurn
GasComp
FeedPump
MUWater
NOxSim
250Press
70Press Temp
AirSys
RCW
HeatPlant
HRSGSys
UF COGEN GT PERFORMANCE DATA
GEN OUTPUT 45.61 MW
AUX PWR 728 KW
EXP PWR 44.9 MW
AMB TEMP AV 90.7 DEGF
AMB PRESS 29.92 INHGA
AMB HUMID 101 PCT
FLTR LOSS 1.9 "H2O
GT HUMID 101 PCT
INLET T2 79 DEGF
INLET P2 14.5 PSIA
VBV POS 2.0 PCT
VSV POS 93 PCT
GT T25 204 DEGF
GT P25 (B) 31.6 PSIA
GT T3 1008 DEGF
GT P3 (A) 418 PSIA
T48 AVG 1595 DEGF
T48 SPRD 126 DEGF
T48 12:30 A 1579 DEGF
T48 2:30 B 1633 DEGF
T48 5:00 C 1668 DEGF
T48 6:15 D 1540 DEGF
T48 7:00 E 1561 DEGF
T48 9:00 F 1604 DEGF
T48 10:00 G 1579 DEGF
T48 11:45 H 1598 DEGF
GT P48 102 PSIA
XNSD A 3600 RPM
XN25 A 10431 RPM
GT EXH AVG 877 DEGF
DB EXH AVG 852 DEGF
HRSG EXH AVG 276 DEGF
NOx Emissions 14.1 PPM
20.9 #/HR
NOx Limits 25.0 PPM
39.6 #/HR
GT INL VENT AIR NE 84.0 DEGF
GT INL VENT AIR NW 85.0 DEGF
GT INL COMB AIR NE 81.0 DEGF
GT INL COMB AIR NW 87.0 DEGF
GT OIL SUPPLY 68.0 PSIG
GT OIL SCAVENGE 24.0 PSIG
GT OIL SUPPLY 137.0 DEGF
GT ACC GB 196.0 DEGF
GT XFER GB (A) 230.0 DEGF
GT SUMP B (A) 246.0 DEGF
GT SUMP C (A) 289.0 DEGF
GT SUMP D (A) 246.0 DEGF
GT SUMP E (A) 240.0 DEGF
CHIP DETECTOR GB 336.0 OHM
CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
UPPER LIM 134 PSIA
GT THRUST BAL (A) 99.2 PSIA
LOWER LIM 70 PSIA
GAS FUEL SUPPLY 80.0 DEGF
GAS FUEL SUPPLY 613 PSIG
GAS FUEL MANIF 450 PSIG
GAS FUEL MV POS 84.0 PCT
NOX STM SUPPLY 702.0 DEGF
NOX STM BYPASS 686.0 DEGF
NOX STM PREHEAT 695.0 DEGF
NOX STM SPRHEAT 674.0 DEGF
NOX STM MANIF 687.0 DEGF
NOX STM SUPPLY 586.0 PSIG
NOX STM MANIF 468.0 PSIG
NOX STM DEMAND 88.2 PCT
GT ENCL #1 HIGH 155.0 DEGF
GT ENCL #2 LOW 93.0 DEGF
GEN ROOM 92.0 DEGF
GEN AIR OUT 167.0 DEGF
EXC AIR OUT 127.0 DEGF
REM I/O #1 101.0 DEGF
REM I/O #2 101.0 DEGF
GT LPC VIB 0.3 IN/SEC
GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 1.1 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.4 MILS
GEN DRV VIB Y 1.5 MILS
GEN OIL PRESS 29.0 PSIG
GEN OIL TEMP 137.0 DEGF
GEN DE BRG 175.0 DEGF
GEN DE DRAIN 157.0 DEGF
GEN NDE BRG 175.0 DEGF
GEN NDE DRAIN 171.0 DEGF
GEN STATOR PHASE A 201.0 DEGF
GEN STATOR PHASE B 198.0 DEGF
GEN STATOR PHASE C 195.0 DEGF
GEN STATOR PHASE A1 198.0 DEGF
GEN STATOR PHASE B1 200.0 DEGF
GEN STATOR PHASE C1 199.0 DEGF
GEN VOLTS 14.0 KV
GEN AMPS ("A" Phase) 1924 AMPS
GEN MVARS 1.2 MVAR
GT FUEL HEAT INPUT 394.3 MMBTU/HR
GT FUEL FLW 415.1 KSCFH
GT FUEL FLW 18.63 KPPH
GT NOX STM 33.37 KPPH
STM/FUEL 1.78 RATIO
HEAT RATE 8492 BTU/KWH
GT NOX TOT 268741 KPOUNDS
DCS NOX 36.2 #/HR
DB FUEL FLW 31.69 KSCFH
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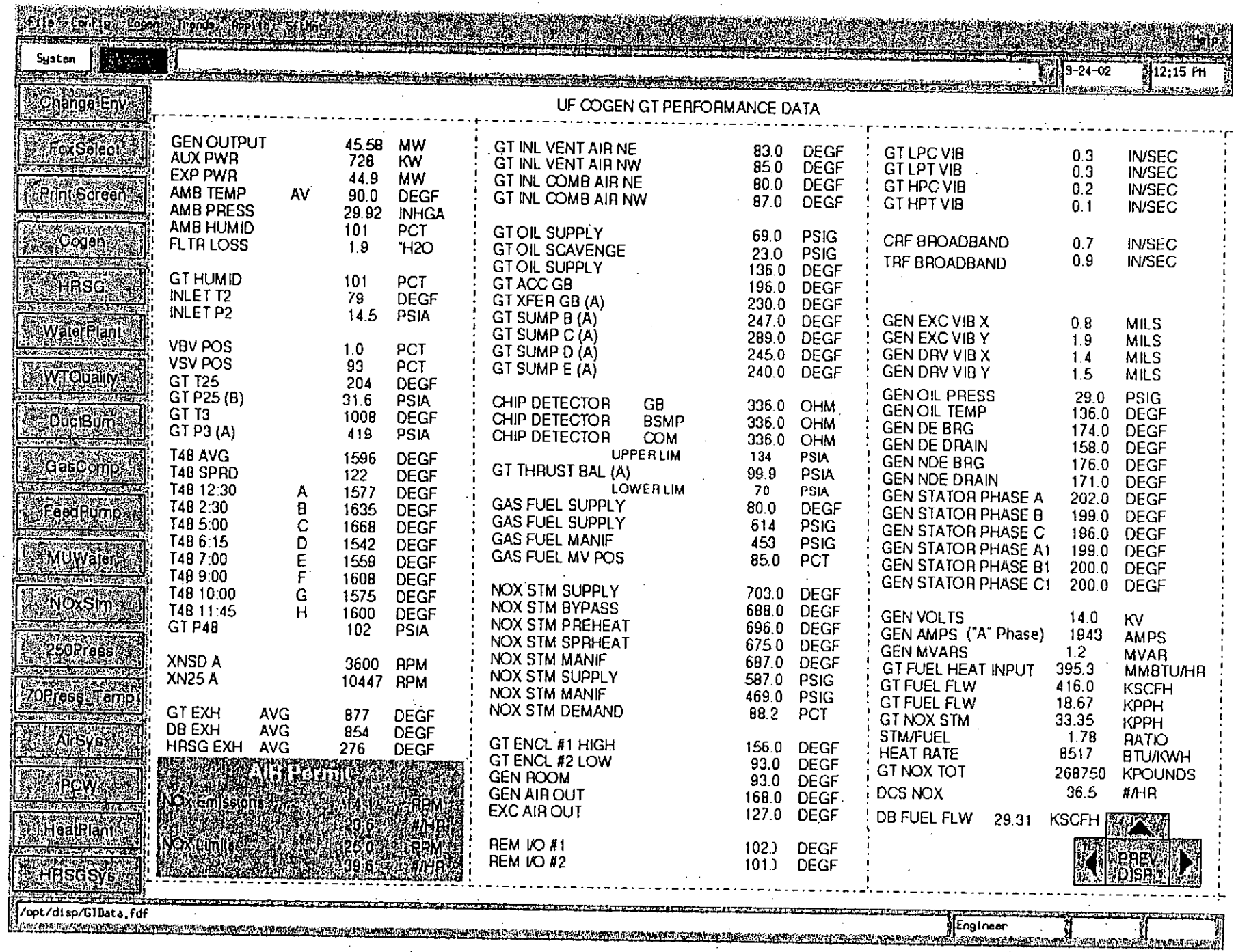
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GasComp
FeedPump
MUWater
NOxSim
250Press
70Press_Temp
AirSys
PCW
HeatPlant
HRSGSys
UF COGEN GT PERFORMANCE DATA
GEN OUTPUT 45.58 MW
AUX PWR 728 KW
EXP PWR 44.9 MW
AMB TEMP AV 90.0 DEGF
AMB PRESS 29.92 INHGA
AMB HUMID 101 PCT
FLTR LOSS 1.9 "H2O
GT HUMID 101 PCT
INLET T2 79 DEGF
INLET P2 14.5 PSIA
VBV POS 1.0 PCT
VSV POS 93 PCT
GT T25 204 DEGF
GT P25 (B) 31.6 PSIA
GT T3 1008 DEGF
GT P3 (A) 419 PSIA
T48 AVG 1596 DEGF
T48 SPRD 122 DEGF
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T48 6:15 D 1542 DEGF
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T48 10:00 G 1575 DEGF
T48 11:45 H 1600 DEGF
GT P48 102 PSIA
XNSD A 3600 RPM
XN25 A 10447 RPM
GT EXH AVG 877 DEGF
DB EXH AVG 854 DEGF
HRSG EXH AVG 276 DEGF
Air Permit
NOx Emissions 14.1 RPM
29.6 #/HR
NOx Limits 25.0 RPM
39.6 #/HR
GT INL VENT AIR NE 83.0 DEGF
GT INL VENT AIR NW 85.0 DEGF
GT INL COMB AIR NE 80.0 DEGF
GT INL COMB AIR NW 87.0 DEGF
GT OIL SUPPLY 69.0 PSIG
GT OIL SCAVENGE 23.0 PSIG
GT OIL SUPPLY 136.0 DEGF
GT ACC GB 196.0 DEGF
GT XFER GB (A) 230.0 DEGF
GT SUMP B (A) 247.0 DEGF
GT SUMP C (A) 289.0 DEGF
GT SUMP D (A) 245.0 DEGF
GT SUMP E (A) 240.0 DEGF
CHIP DETECTOR GB 336.0 OHM
CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
UPPER LIM 134 PSIA
GT THRUST BAL (A) 99.9 PSIA
LOWER LIM 70 PSIA
GAS FUEL SUPPLY 80.0 DEGF
GAS FUEL SUPPLY 614 PSIG
GAS FUEL MANIF 453 PSIG
GAS FUEL MV POS 85.0 PCT
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NOX STM BYPASS 688.0 DEGF
NOX STM PREHEAT 696.0 DEGF
NOX STM SPRHEAT 675.0 DEGF
NOX STM MANIF 687.0 DEGF
NOX STM SUPPLY 587.0 PSIG
NOX STM MANIF 469.0 PSIG
NOX STM DEMAND 88.2 PCT
GT ENCL #1 HIGH 156.0 DEGF
GT ENCL #2 LOW 93.0 DEGF
GEN ROOM 93.0 DEGF
GEN AIR OUT 168.0 DEGF
EXC AIR OUT 127.0 DEGF
REM I/O #1 102.0 DEGF
REM I/O #2 101.0 DEGF
GT LPC VIB 0.3 IN/SEC
GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 0.7 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.4 MILS
GEN DRV VIB Y 1.5 MILS
GEN OIL PRESS 29.0 PSIG
GEN OIL TEMP 136.0 DEGF
GEN DE BRG 174.0 DEGF
GEN DE DRAIN 158.0 DEGF
GEN NDE BRG 176.0 DEGF
GEN NDE DRAIN 171.0 DEGF
GEN STATOR PHASE A 202.0 DEGF
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GEN STATOR PHASE C 186.0 DEGF
GEN STATOR PHASE A1 199.0 DEGF
GEN STATOR PHASE B1 200.0 DEGF
GEN STATOR PHASE C1 200.0 DEGF
GEN VOLTS 14.0 KV
GEN AMPS ("A" Phase) 1943 AMPS
GEN MVARS 1.2 MVAR
GT FUEL HEAT INPUT 395.3 MMBTU/HR
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GT FUEL FLW 18.67 KPPH
GT NOX STM 33.35 KPPH
STM/FUEL 1.78 RATIO
HEAT RATE 8517 BTU/KWH
GT NOX TOT 268750 KPOUNDS
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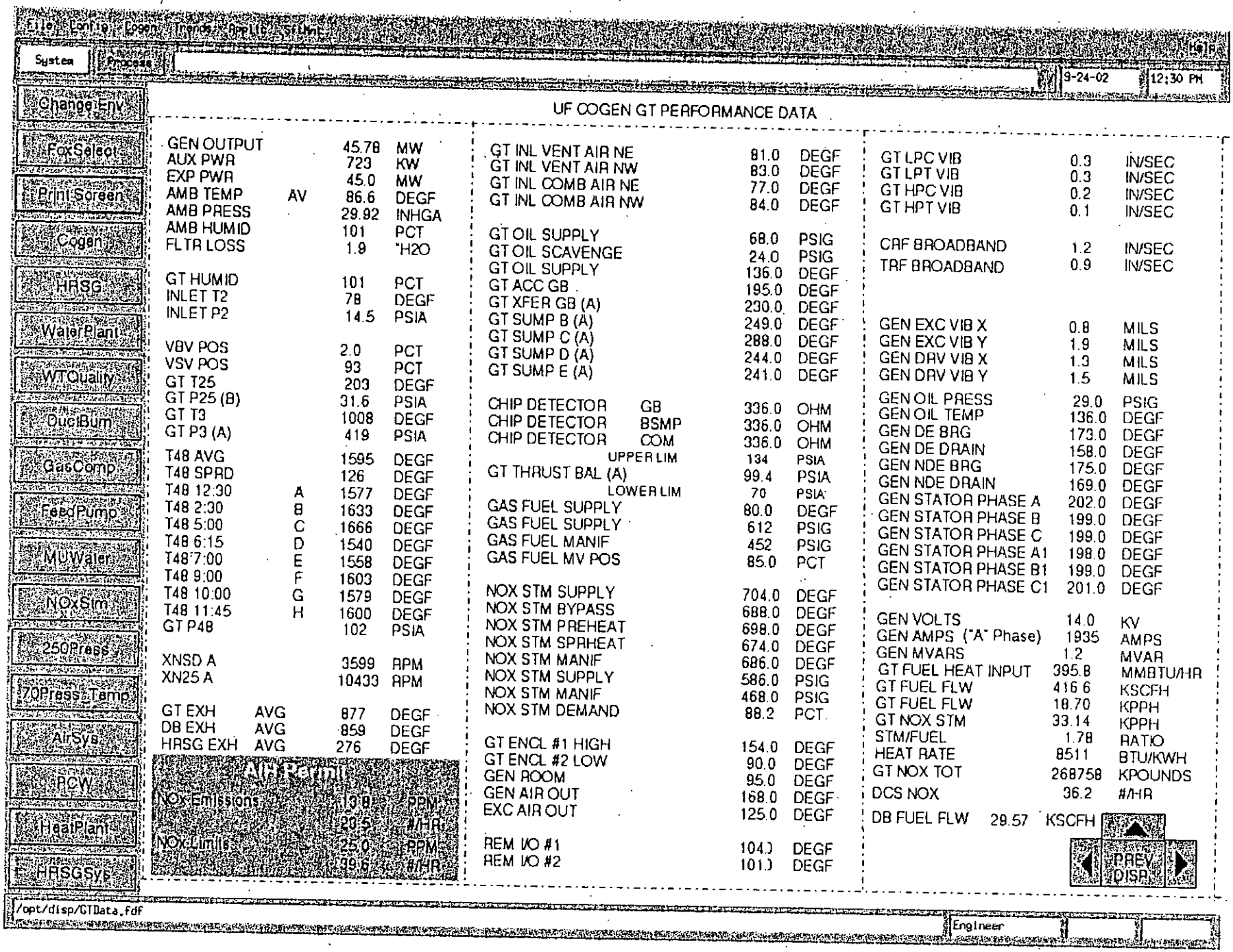
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DuctBurn
GasComp
FeedPump
MUWater
NOxSim
250Press
70Press Temp
AirSys
PCW
HeatPlant
HRSGSys
UF COGEN GT PERFORMANCE DATA
GEN OUTPUT 45.78 MW
AUX PWR 723 KW
EXP PWR 45.0 MW
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AMB HUMID 101 PCT
FLTR LOSS 1.9 "H2O
GT HUMID 101 PCT
INLET T2 78 DEGF
INLET P2 14.5 PSIA
VBV POS 2.0 PCT
VSV POS 93 PCT
GT T25 203 DEGF
GT P25 (B) 31.6 PSIA
GT T3 1008 DEGF
GT P3 (A) 419 PSIA
T48 AVG 1595 DEGF
T48 SPRD 126 DEGF
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T48 11:45 H 1600 DEGF
GT P48 102 PSIA
XNSD A 3599 RPM
XN25 A 10433 RPM
GT EXH AVG 877 DEGF
DB EXH AVG 859 DEGF
HRSG EXH AVG 276 DEGF
Air Permit
NOx Emissions 13.8 PPM
20.5 #/HR
NOx Limits 25.0 PPM
99.6 #/HR
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GT INL VENT AIR NW 83.0 DEGF
GT INL COMB AIR NE 77.0 DEGF
GT INL COMB AIR NW 84.0 DEGF
GT OIL SUPPLY 68.0 PSIG
GT OIL SCAVENGE 24.0 PSIG
GT OIL SUPPLY 136.0 DEGF
GT ACC GB 195.0 DEGF
GT XFER GB (A) 230.0 DEGF
GT SUMP B (A) 249.0 DEGF
GT SUMP C (A) 288.0 DEGF
GT SUMP D (A) 244.0 DEGF
GT SUMP E (A) 241.0 DEGF
CHIP DETECTOR GB 336.0 OHM
CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
UPPER LIM 134 PSIA
GT THRUST BAL (A) 99.4 PSIA
LOWER LIM 70 PSIA
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GAS FUEL SUPPLY 612 PSIG
GAS FUEL MANIF 452 PSIG
GAS FUEL MV POS 85.0 PCT
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NOX STM PREHEAT 698.0 DEGF
NOX STM SPRHEAT 674.0 DEGF
NOX STM MANIF 686.0 DEGF
NOX STM SUPPLY 586.0 PSIG
NOX STM MANIF 468.0 PSIG
NOX STM DEMAND 88.2 PCT
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GT ENCL #2 LOW 90.0 DEGF
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EXC AIR OUT 125.0 DEGF
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REM I/O #2 101.0 DEGF
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GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 1.2 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
GEN OIL PRESS 29.0 PSIG
GEN OIL TEMP 136.0 DEGF
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GEN STATOR PHASE C 199.0 DEGF
GEN STATOR PHASE A1 198.0 DEGF
GEN STATOR PHASE B1 199.0 DEGF
GEN STATOR PHASE C1 201.0 DEGF
GEN VOLTS 14.0 KV
GEN AMPS ("A" Phase) 1935 AMPS
GEN MVARS 1.2 MVAR
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GT FUEL FLW 18.70 KPPH
GT NOX STM 33.14 KPPH
STM/FUEL 1.78 RATIO
HEAT RATE 8511 BTU/KWH
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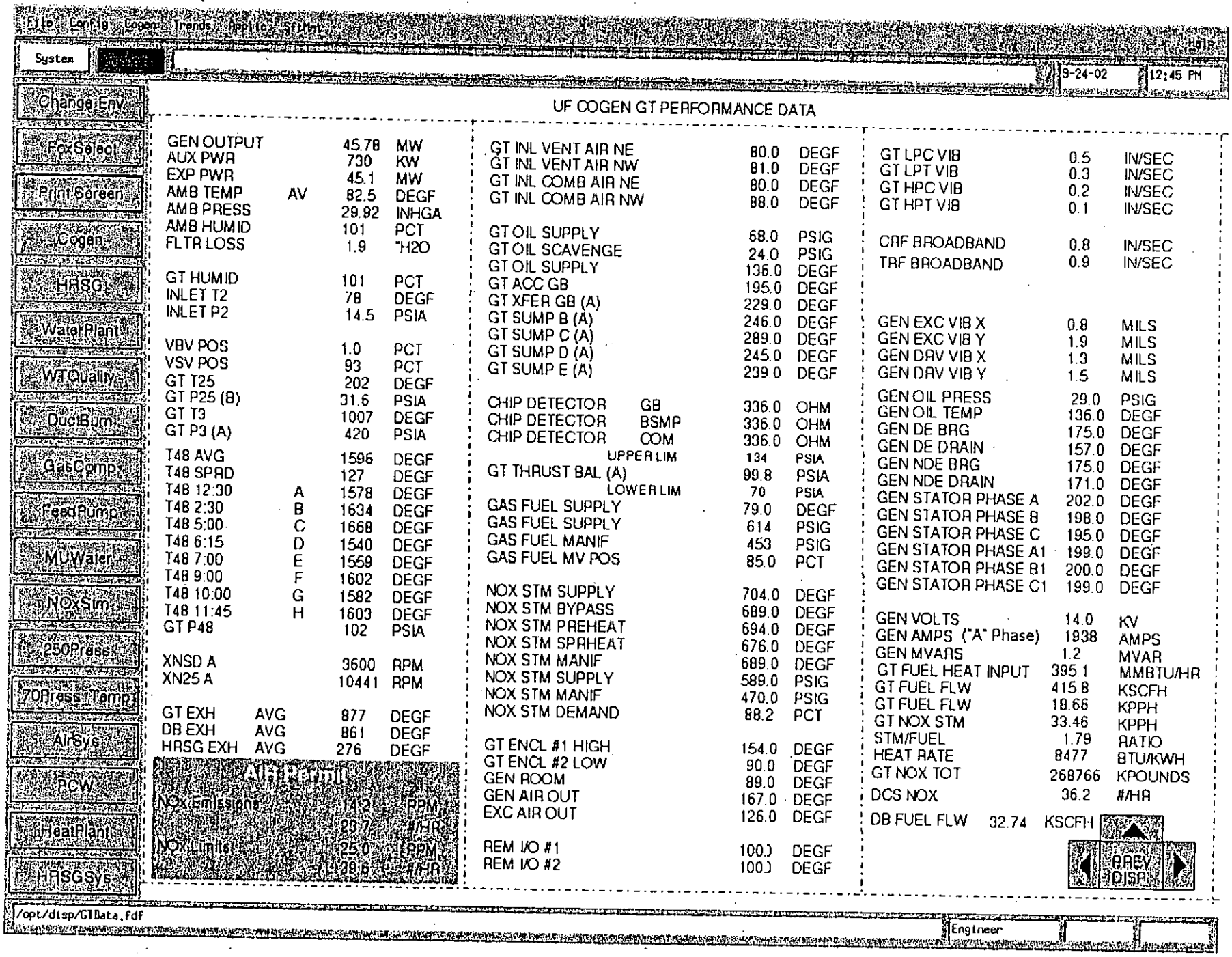
— 3 10p Run '2 —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MUWater
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250Press
70Press Temp
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PCW
HeatPlant
HRSGSys
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AUX PWR 730 KW
EXP PWR 45.1 MW
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AMB HUMID 101 PCT
FLTR LOSS 1.9 "H2O
GT HUMID 101 PCT
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INLET P2 14.5 PSIA
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VSV POS 93 PCT
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GT P25 (B) 31.6 PSIA
GT T3 1007 DEGF
GT P3 (A) 420 PSIA
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T48 11:45 H 1603 DEGF
GT P48 102 PSIA
XNSD A 3600 RPM
XN25 A 10441 RPM
GT EXH AVG 877 DEGF
DB EXH AVG 861 DEGF
HRSG EXH AVG 276 DEGF
AIR Permit
NOx Emissions 14.2 PPMV
29.7 #/HR
NOx Limits 25.0 PPMV
139.6 #/HR
GT INL VENT AIR NE 80.0 DEGF
GT INL VENT AIR NW 81.0 DEGF
GT INL COMB AIR NE 80.0 DEGF
GT INL COMB AIR NW 88.0 DEGF
GT OIL SUPPLY 68.0 PSIG
GT OIL SCAVENGE 24.0 PSIG
GT OIL SUPPLY 136.0 DEGF
GT ACC GB 195.0 DEGF
GT XFER GB (A) 229.0 DEGF
GT SUMP B (A) 246.0 DEGF
GT SUMP C (A) 289.0 DEGF
GT SUMP D (A) 245.0 DEGF
GT SUMP E (A) 239.0 DEGF
CHIP DETECTOR GB 336.0 OHM
CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
UPPER LIM 134 PSIA
GT THRUST BAL (A) 99.8 PSIA
LOWER LIM 70 PSIA
GAS FUEL SUPPLY 79.0 DEGF
GAS FUEL SUPPLY 614 PSIG
GAS FUEL MANIF 453 PSIG
GAS FUEL MV POS 85.0 PCT
NOX STM SUPPLY 704.0 DEGF
NOX STM BYPASS 689.0 DEGF
NOX STM PREHEAT 694.0 DEGF
NOX STM SPRHEAT 676.0 DEGF
NOX STM MANIF 689.0 DEGF
NOX STM SUPPLY 589.0 PSIG
NOX STM MANIF 470.0 PSIG
NOX STM DEMAND 88.2 PCT
GT ENCL #1 HIGH 154.0 DEGF
GT ENCL #2 LOW 90.0 DEGF
GEN ROOM 89.0 DEGF
GEN AIR OUT 167.0 DEGF
EXC AIR OUT 126.0 DEGF
REM I/O #1 100.0 DEGF
REM I/O #2 100.0 DEGF
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GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 0.8 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
GEN OIL PRESS 29.0 PSIG
GEN OIL TEMP 136.0 DEGF
GEN DE BRG 175.0 DEGF
GEN DE DRAIN 157.0 DEGF
GEN NDE BRG 175.0 DEGF
GEN NDE DRAIN 171.0 DEGF
GEN STATOR PHASE A 202.0 DEGF
GEN STATOR PHASE B 198.0 DEGF
GEN STATOR PHASE C 195.0 DEGF
GEN STATOR PHASE A1 199.0 DEGF
GEN STATOR PHASE B1 200.0 DEGF
GEN STATOR PHASE C1 199.0 DEGF
GEN VOLTS 14.0 KV
GEN AMPS ("A" Phase) 1938 AMPS
GEN MVARS 1.2 MVAR
GT FUEL HEAT INPUT 395.1 MMBTU/HR
GT FUEL FLW 415.8 KSCFH
GT FUEL FLW 18.66 KPPH
GT NOX STM 33.46 KPPH
STM/FUEL 1.79 RATIO
HEAT RATE 8477 BTU/KWH
GT NOX TOT 268766 KPOUNDS
DCS NOX 36.2 #/HR
DB FUEL FLW 32.74 KSCFH
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Engineer

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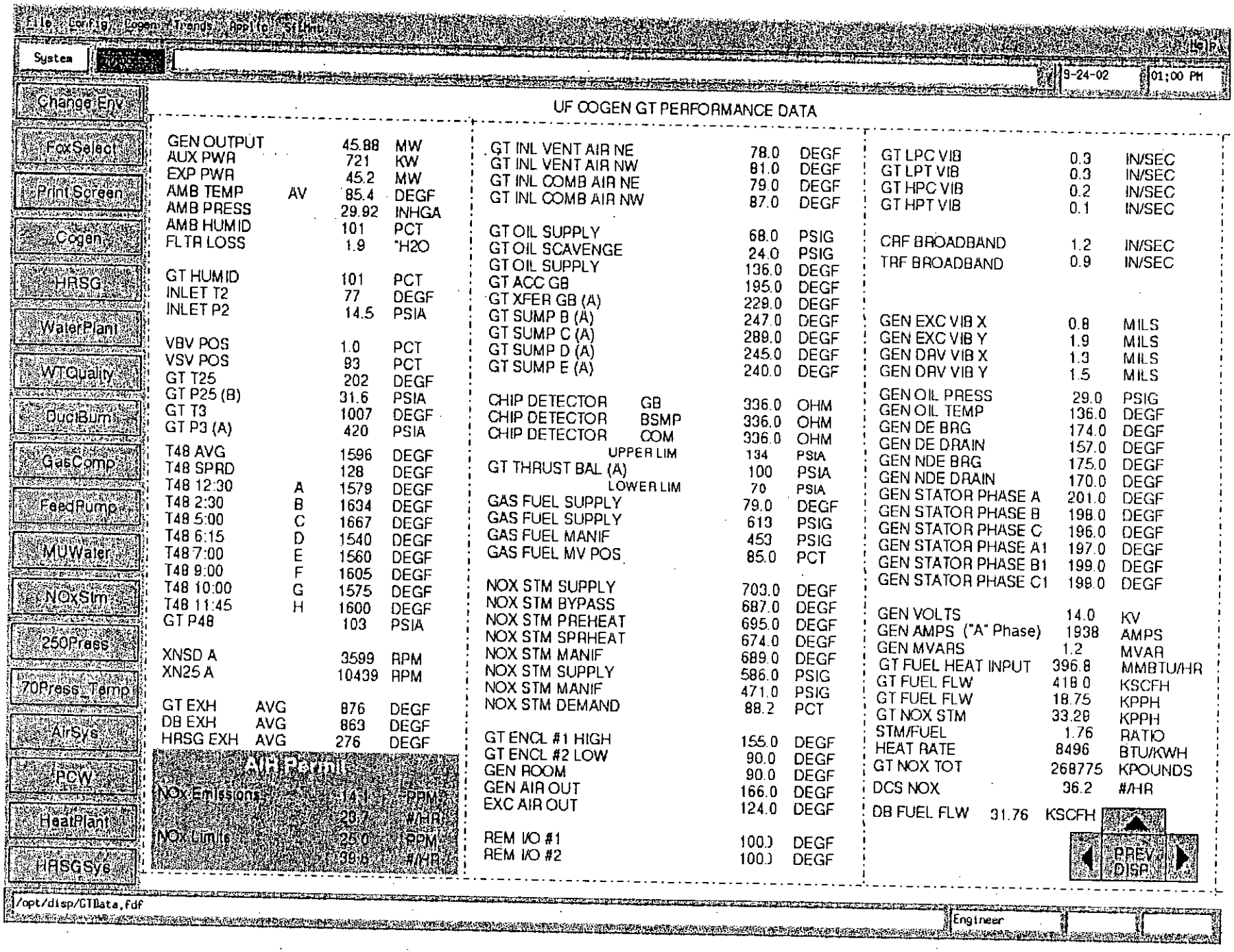
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Change Env
FoxSelect
Print Screen
Cogen
HRSG
WaterPlant
WTQuality
DuctBurn
GasComp
FeedPump
MUWater
NOxStm
250Press
70Press Temp
AirSys
RCW
HeatPlant
HRSGSys
UF COGEN GT PERFORMANCE DATA
GEN OUTPUT 45.88 MW
AUX PWR 721 KW
EXP PWR 45.2 MW
AMB TEMP AV 85.4 DEGF
AMB PRESS 29.92 INHGA
AMB HUMID 101 PCT
FLTR LOSS 1.9 "H2O
GT HUMID 101 PCT
INLET T2 77 DEGF
INLET P2 14.5 PSIA
VBV POS 1.0 PCT
VSV POS 93 PCT
GT T25 202 DEGF
GT P25 (B) 31.6 PSIA
GT T3 1007 DEGF
GT P3 (A) 420 PSIA
T48 AVG 1596 DEGF
T48 SPRD 128 DEGF
T48 12:30 A 1579 DEGF
T48 2:30 B 1634 DEGF
T48 5:00 C 1667 DEGF
T48 6:15 D 1540 DEGF
T48 7:00 E 1560 DEGF
T48 9:00 F 1605 DEGF
T48 10:00 G 1575 DEGF
T48 11:45 H 1600 DEGF
GT P48 103 PSIA
XNSD A 3599 RPM
XN25 A 10439 RPM
GT EXH AVG 876 DEGF
DB EXH AVG 863 DEGF
HRSG EXH AVG 276 DEGF
NOx Emissions 14 PPM
25.7 #/HR
NOx Limits 25.0 PPM
99.6 #/HR
GT INL VENT AIR NE 78.0 DEGF
GT INL VENT AIR NW 81.0 DEGF
GT INL COMB AIR NE 79.0 DEGF
GT INL COMB AIR NW 87.0 DEGF
GT OIL SUPPLY 68.0 PSIG
GT OIL SCAVENGE 24.0 PSIG
GT OIL SUPPLY 136.0 DEGF
GT ACC GB 195.0 DEGF
GT XFER GB (A) 229.0 DEGF
GT SUMP B (A) 247.0 DEGF
GT SUMP C (A) 289.0 DEGF
GT SUMP D (A) 245.0 DEGF
GT SUMP E (A) 240.0 DEGF
CHIP DETECTOR GB 336.0 OHM
CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
UPPER LIM 134 PSIA
GT THRUST BAL (A) 100 PSIA
LOWER LIM 70 PSIA
GAS FUEL SUPPLY 79.0 DEGF
GAS FUEL SUPPLY 613 PSIG
GAS FUEL MANIF 453 PSIG
GAS FUEL MV POS 85.0 PCT
NOX STM SUPPLY 703.0 DEGF
NOX STM BYPASS 687.0 DEGF
NOX STM PREHEAT 695.0 DEGF
NOX STM SPRHEAT 674.0 DEGF
NOX STM MANIF 689.0 DEGF
NOX STM SUPPLY 586.0 PSIG
NOX STM MANIF 471.0 PSIG
NOX STM DEMAND 88.2 PCT
GT ENCL #1 HIGH 155.0 DEGF
GT ENCL #2 LOW 90.0 DEGF
GEN ROOM 90.0 DEGF
GEN AIR OUT 166.0 DEGF
EXC AIR OUT 124.0 DEGF
REM I/O #1 100.0 DEGF
REM I/O #2 100.0 DEGF
GT LPC VIB 0.3 IN/SEC
GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 1.2 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
GEN OIL PRESS 29.0 PSIG
GEN OIL TEMP 136.0 DEGF
GEN DE BRG 174.0 DEGF
GEN DE DRAIN 157.0 DEGF
GEN NDE BRG 175.0 DEGF
GEN NDE DRAIN 170.0 DEGF
GEN STATOR PHASE A 201.0 DEGF
GEN STATOR PHASE B 198.0 DEGF
GEN STATOR PHASE C 196.0 DEGF
GEN STATOR PHASE A1 197.0 DEGF
GEN STATOR PHASE B1 199.0 DEGF
GEN STATOR PHASE C1 198.0 DEGF
GEN VOLTS 14.0 KV
GEN AMPS ("A" Phase) 1938 AMPS
GEN MVARS 1.2 MVAR
GT FUEL HEAT INPUT 396.8 MMBTU/HR
GT FUEL FLW 418.0 KSCFH
GT FUEL FLW 18.75 KPPH
GT NOX STM 33.28 KPPH
STM/FUEL 1.76 RATIO
HEAT RATE 8496 BTU/KWH
GT NOX TOT 268775 KPOUNDS
DCS NOX 36.2 #/HR
DB FUEL FLW 31.76 KSCFH
PREV DISP
/opt/disp/GTData.fdf
Engineer

File Config Open Trends Applic SetPnt Help

System | Process

9-24-02 | 01:15 PM

Change Env
FoxSelect
Print Screen
Cogen
HRSG
WaterPlant
WTQuality
DuctBurn
GasComp
FeedPump
MUWater
NOxStm
250Press
70Press Temp
AirSys
PCW
HeatPlant
HRSGSys

UF COGEN GT PERFORMANCE DATA

GEN OUTPUT		46.10	MW
AUX PWR		726	KW
EXP PWR		45.4	MW
AMB TEMP	AV	84.6	DEGF
AMB PRESS		29.92	INHGA
AMB HUMID		101	PCT
FLTR LOSS		1.9	"H2O
GT HUMID		101	PCT
INLET T2		76	DEGF
INLET P2		14.5	PSIA
VBV POS		1.0	PCT
VSV POS		93	PCT
GT T25		202	DEGF
GT P25 (B)		31.7	PSIA
GT T3		1009	DEGF
GT P3 (A)		421	PSIA
T48 AVG		1596	DEGF
T48 SPRD		130	DEGF
T48 12:30	A	1578	DEGF
T48 2:30	B	1636	DEGF
T48 5:00	C	1667	DEGF
T48 6:15	D	1541	DEGF
T48 7:00	E	1557	DEGF
T48 9:00	F	1604	DEGF
T48 10:00	G	1580	DEGF
T48 11:45	H	1600	DEGF
GT P48		103	PSIA
XNSD A		3600	RPM
XN25 A		10428	RPM
GT EXH	AVG	875	DEGF
DB EXH	AVG	867	DEGF
HRSG EXH	AVG	276	DEGF

Air Permit

NOx Emissions	14.1	PPM
	20.9	#/HR
NOx Limits	25.0	PPM
	39.6	#/HR

GT INL VENT AIR NE		77.0	DEGF
GT INL VENT AIR NW		79.0	DEGF
GT INL COMB AIR NE		78.0	DEGF
GT INL COMB AIR NW		85.0	DEGF
GT OIL SUPPLY		68.0	PSIG
GT OIL SCAVENGE		24.0	PSIG
GT OIL SUPPLY		135.0	DEGF
GT ACC GB		195.0	DEGF
GT XFER GB (A)		229.0	DEGF
GT SUMP B (A)		246.0	DEGF
GT SUMP C (A)		289.0	DEGF
GT SUMP D (A)		244.0	DEGF
GT SUMP E (A)		240.0	DEGF
CHIP DETECTOR	GB	336.0	OHM
CHIP DETECTOR	BSMP	336.0	OHM
CHIP DETECTOR	COM	336.0	OHM
	UPPER LIM	134	PSIA
GT THRUST BAL (A)		100	PSIA
	LOWER LIM	70	PSIA
GAS FUEL SUPPLY		78.0	DEGF
GAS FUEL SUPPLY		615	PSIG
GAS FUEL MANIF		454	PSIG
GAS FUEL MV POS		85.0	PCT
NOX STM SUPPLY		702.0	DEGF
NOX STM BYPASS		687.0	DEGF
NOX STM PREHEAT		694.0	DEGF
NOX STM SPRHEAT		674.0	DEGF
NOX STM MANIF		687.0	DEGF
NOX STM SUPPLY		585.0	PSIG
NOX STM MANIF		471.0	PSIG
NOX STM DEMAND		89.2	PCT
GT ENCL #1 HIGH		155.0	DEGF
GT ENCL #2 LOW		89.0	DEGF
GEN ROOM		88.0	DEGF
GEN AIR OUT		166.0	DEGF
EXC AIR OUT		124.0	DEGF
REM I/O #1		99.0	DEGF
REM I/O #2		99.0	DEGF

GT LPC VIB	0.3	IN/SEC
GT LPT VIB	0.3	IN/SEC
GT HPC VIB	0.2	IN/SEC
GT HPT VIB	0.1	IN/SEC
CRF BROADBAND	1.6	IN/SEC
TRF BROADBAND	1.0	IN/SEC
GEN EXC VIB X	0.8	MILS
GEN EXC VIB Y	1.9	MILS
GEN DRV VIB X	1.2	MILS
GEN DRV VIB Y	1.5	MILS
GEN OIL PRESS	29.0	PSIG
GEN OIL TEMP	135.0	DEGF
GEN DE BRG	173.0	DEGF
GEN DE DRAIN	156.0	DEGF
GEN NDE BRG	175.0	DEGF
GEN NDE DRAIN	169.0	DEGF
GEN STATOR PHASE A	201.0	DEGF
GEN STATOR PHASE B	197.0	DEGF
GEN STATOR PHASE C	194.0	DEGF
GEN STATOR PHASE A1	197.0	DEGF
GEN STATOR PHASE B1	198.0	DEGF
GEN STATOR PHASE C1	197.0	DEGF
GEN VOLTS	14.0	KV
GEN AMPS ("A" Phase)	1943	AMPS
GEN MVARS	1.2	MVAR
GT FUEL HEAT INPUT	398.5	MMBTU/HR
GT FUEL FLW	419.0	KSCFH
GT FUEL FLW	18.83	KPPH
GT NOX STM	33.58	KPPH
STM/FUEL	1.77	RATIO
HEAT RATE	8490	BTU/KWH
GT NOX TOT	268783	KPOUNDS
DCS NOX	36.2	#/HR
DB FUEL FLW	34.66	KSCFH

PREV DISP

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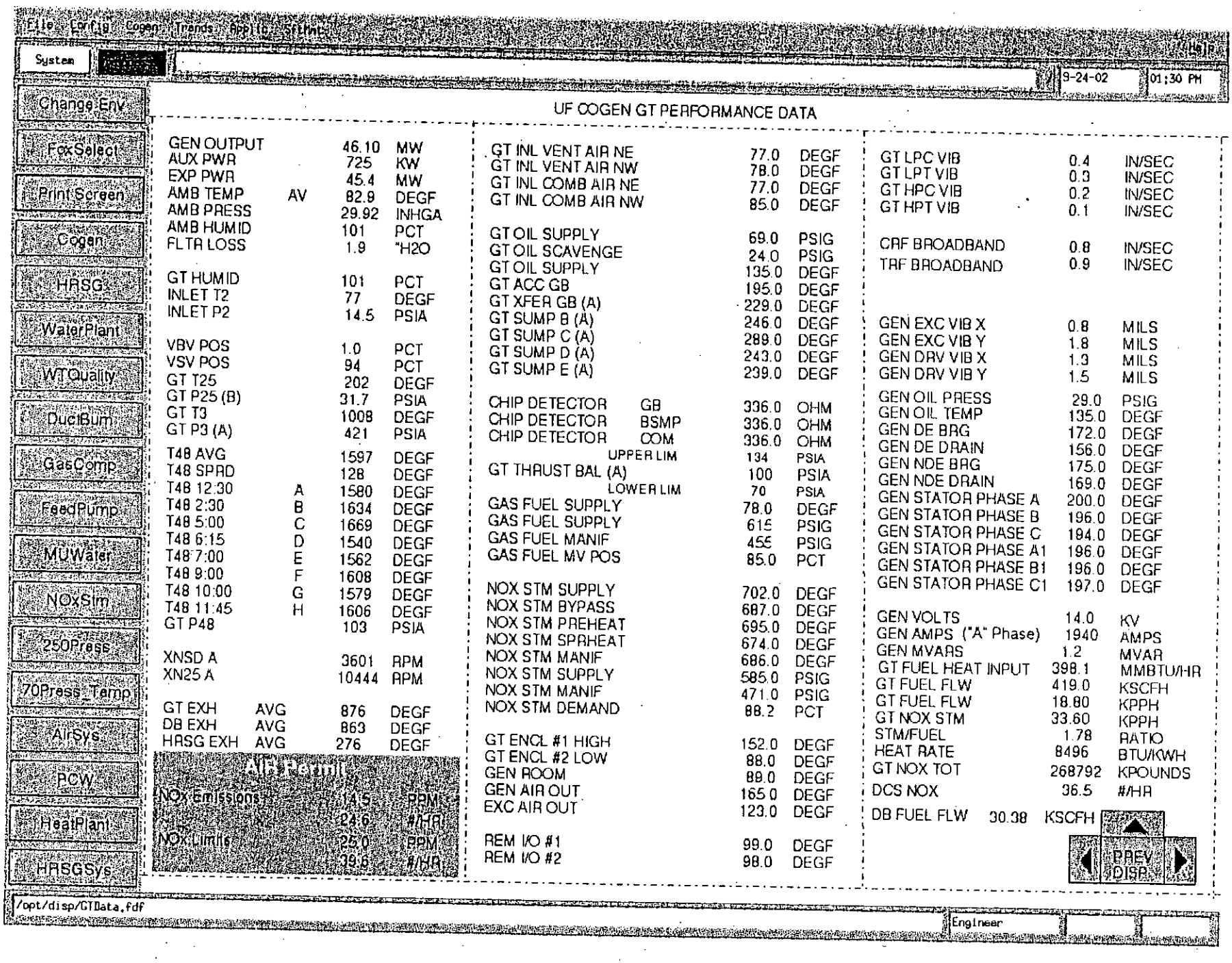
Engineer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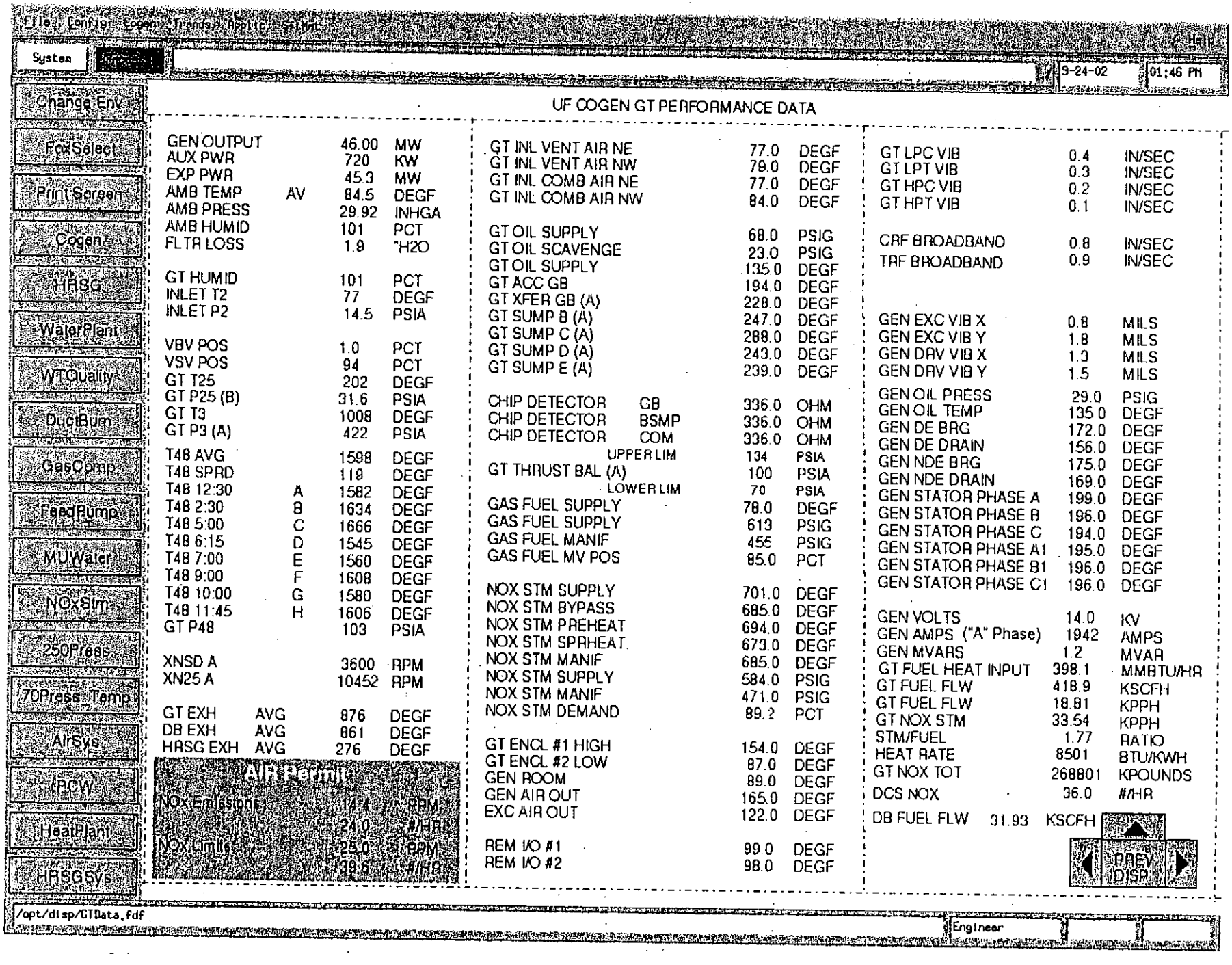
FoxSelect
Print Screen
Cogen
HRSG
WaterPlant
WTQuality
DuctBurn
GasComp
FeedPump
MUWater
NOxSim
250Press
70Press Temp
AirSys
PCW
HeatPlant
HRSGSys
UF COGEN GT PERFORMANCE DATA
GEN OUTPUT 46.10 MW
AUX PWR 725 KW
EXP PWR 45.4 MW
AMB TEMP AV 82.9 DEGF
AMB PRESS 29.92 INHGA
AMB HUMID 101 PCT
FLTR LOSS 1.9 "H2O
GT HUMID 101 PCT
INLET T2 77 DEGF
INLET P2 14.5 PSIA
VBV POS 1.0 PCT
VSV POS 94 PCT
GT T25 202 DEGF
GT P25 (B) 31.7 PSIA
GT T3 1008 DEGF
GT P3 (A) 421 PSIA
T48 AVG 1597 DEGF
T48 SPRD 128 DEGF
T48 12:30 A 1580 DEGF
T48 2:30 B 1634 DEGF
T48 5:00 C 1669 DEGF
T48 6:15 D 1540 DEGF
T48 7:00 E 1562 DEGF
T48 9:00 F 1608 DEGF
T48 10:00 G 1579 DEGF
T48 11:45 H 1606 DEGF
GT P48 103 PSIA
XNSD A 3601 RPM
XN25 A 10444 RPM
GT EXH AVG 876 DEGF
DB EXH AVG 863 DEGF
HRSG EXH AVG 276 DEGF
NOx Emissions 14.5 PPM
24.6 #/HR
NOx Limits 25.0 PPM
39.6 #/HR
GT INL VENT AIR NE 77.0 DEGF
GT INL VENT AIR NW 78.0 DEGF
GT INL COMB AIR NE 77.0 DEGF
GT INL COMB AIR NW 85.0 DEGF
GT OIL SUPPLY 69.0 PSIG
GT OIL SCAVENGE 24.0 PSIG
GT OIL SUPPLY 135.0 DEGF
GT ACC GB 195.0 DEGF
GT XFER GB (A) 229.0 DEGF
GT SUMP B (A) 246.0 DEGF
GT SUMP C (A) 289.0 DEGF
GT SUMP D (A) 243.0 DEGF
GT SUMP E (A) 239.0 DEGF
CHIP DETECTOR GB 336.0 OHM
CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
UPPER LIM 134 PSIA
GT THRUST BAL (A) 100 PSIA
LOWER LIM 70 PSIA
GAS FUEL SUPPLY 78.0 DEGF
GAS FUEL SUPPLY 615 PSIG
GAS FUEL MANIF 455 PSIG
GAS FUEL MV POS 85.0 PCT
NOX STM SUPPLY 702.0 DEGF
NOX STM BYPASS 687.0 DEGF
NOX STM PREHEAT 695.0 DEGF
NOX STM SPRHEAT 674.0 DEGF
NOX STM MANIF 686.0 DEGF
NOX STM SUPPLY 585.0 PSIG
NOX STM MANIF 471.0 PSIG
NOX STM DEMAND 88.2 PCT
GT ENCL #1 HIGH 152.0 DEGF
GT ENCL #2 LOW 88.0 DEGF
GEN ROOM 89.0 DEGF
GEN AIR OUT 165.0 DEGF
EXC AIR OUT 123.0 DEGF
REM I/O #1 99.0 DEGF
REM I/O #2 98.0 DEGF
GT LPC VIB 0.4 IN/SEC
GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 0.8 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.8 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
GEN OIL PRESS 29.0 PSIG
GEN OIL TEMP 135.0 DEGF
GEN DE BRG 172.0 DEGF
GEN DE DRAIN 156.0 DEGF
GEN NDE BRG 175.0 DEGF
GEN NDE DRAIN 169.0 DEGF
GEN STATOR PHASE A 200.0 DEGF
GEN STATOR PHASE B 196.0 DEGF
GEN STATOR PHASE C 194.0 DEGF
GEN STATOR PHASE A1 196.0 DEGF
GEN STATOR PHASE B1 196.0 DEGF
GEN STATOR PHASE C1 197.0 DEGF
GEN VOLTS 14.0 KV
GEN AMPS ("A" Phase) 1940 AMPS
GEN MVARS 1.2 MVAR
GT FUEL HEAT INPUT 398.1 MMBTU/HR
GT FUEL FLW 419.0 KSCFH
GT FUEL FLW 18.80 KPPH
GT NOX STM 33.60 KPPH
STM/FUEL 1.78 RATIO
HEAT RATE 8496 BTU/KWH
GT NOX TOT 268792 KPOUNDS
DCS NOX 36.5 #/HR
DB FUEL FLW 30.38 KSCFH
PREV DISP
/opt/disp/GTData.fdf
Engineer


File Config Cogen Trends Applic Setup Help
System
9-24-02
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Change Env
FoxSelect
Print Screen
Cogen
HRSG
WaterPlant
WTQuality
DuctBurn
GasComp
FeedPump
MUWater
NOxStm
250Press
70Press Temp
AirSys
PCW
HeatPlant
HRSGSys
UF COGEN GT PERFORMANCE DATA
GEN OUTPUT 46.00 MW
AUX PWR 720 KW
EXP PWR 45.3 MW
AMB TEMP AV 84.5 DEGF
AMB PRESS 29.92 INHGA
AMB HUMID 101 PCT
FLTR LOSS 1.9 "H2O
GT HUMID 101 PCT
INLET T2 77 DEGF
INLET P2 14.5 PSIA
VBV POS 1.0 PCT
VSV POS 94 PCT
GT T25 202 DEGF
GT P25 (B) 31.6 PSIA
GT T3 1008 DEGF
GT P3 (A) 422 PSIA
T48 AVG 1598 DEGF
T48 SPRD 119 DEGF
T48 12:30 A 1582 DEGF
T48 2:30 B 1634 DEGF
T48 5:00 C 1666 DEGF
T48 6:15 D 1545 DEGF
T48 7:00 E 1560 DEGF
T48 9:00 F 1608 DEGF
T48 10:00 G 1580 DEGF
T48 11:45 H 1606 DEGF
GT P48 103 PSIA
XNSD A 3600 RPM
XN25 A 10452 RPM
GT EXH AVG 876 DEGF
DB EXH AVG 861 DEGF
HRSG EXH AVG 276 DEGF
APB Permit
NOx Emissions 14.4 PPM
24.0 #/HR
NOx Limits 25.0 PPM
39.6 #/HR
GT INL VENT AIR NE 77.0 DEGF
GT INL VENT AIR NW 79.0 DEGF
GT INL COMB AIR NE 77.0 DEGF
GT INL COMB AIR NW 84.0 DEGF
GT OIL SUPPLY 68.0 PSIG
GT OIL SCAVENGE 23.0 PSIG
GT OIL SUPPLY 135.0 DEGF
GT ACC GB 194.0 DEGF
GT XFER GB (A) 228.0 DEGF
GT SUMP B (A) 247.0 DEGF
GT SUMP C (A) 288.0 DEGF
GT SUMP D (A) 243.0 DEGF
GT SUMP E (A) 239.0 DEGF
CHIP DETECTOR GB 336.0 OHM
CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
UPPER LIM 134 PSIA
GT THRUST BAL (A) 100 PSIA
LOWER LIM 70 PSIA
GAS FUEL SUPPLY 78.0 DEGF
GAS FUEL SUPPLY 613 PSIG
GAS FUEL MANIF 455 PSIG
GAS FUEL MV POS 85.0 PCT
NOX STM SUPPLY 701.0 DEGF
NOX STM BYPASS 685.0 DEGF
NOX STM PREHEAT 694.0 DEGF
NOX STM SPRHEAT 673.0 DEGF
NOX STM MANIF 685.0 DEGF
NOX STM SUPPLY 584.0 PSIG
NOX STM MANIF 471.0 PSIG
NOX STM DEMAND 89.2 PCT
GT ENCL #1 HIGH 154.0 DEGF
GT ENCL #2 LOW 87.0 DEGF
GEN ROOM 89.0 DEGF
GEN AIR OUT 165.0 DEGF
EXC AIR OUT 122.0 DEGF
REM I/O #1 99.0 DEGF
REM I/O #2 98.0 DEGF
GT LPC VIB 0.4 IN/SEC
GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 0.8 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.8 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
GEN OIL PRESS 29.0 PSIG
GEN OIL TEMP 135.0 DEGF
GEN DE BRG 172.0 DEGF
GEN DE DRAIN 156.0 DEGF
GEN NDE BRG 175.0 DEGF
GEN NDE DRAIN 169.0 DEGF
GEN STATOR PHASE A 199.0 DEGF
GEN STATOR PHASE B 196.0 DEGF
GEN STATOR PHASE C 194.0 DEGF
GEN STATOR PHASE A1 195.0 DEGF
GEN STATOR PHASE B1 196.0 DEGF
GEN STATOR PHASE C1 196.0 DEGF
GEN VOLTS 14.0 KV
GEN AMPS ("A" Phase) 1942 AMPS
GEN MVARS 1.2 MVAR
GT FUEL HEAT INPUT 398.1 MMBTU/HR
GT FUEL FLW 418.9 KSCFH
GT FUEL FLW 18.81 KPPH
GT NOX STM 33.54 KPPH
STM/FUEL 1.77 RATIO
HEAT RATE 8501 BTU/KWH
GT NOX TOT 268801 KPOUNDS
DCS NOX 36.0 #/HR
DB FUEL FLW 31.93 KSCFH
PREV DISP
/opt/disp/GTData.fdf
Engineer

Stop Run #3

File Config Copen Trends Applic Status

System

9-24-02 02:00 PM

Change Env
FoxSelect
Print Screen
Cogen
HRSG
WaterPlant
WTQuality
DuctBurn
GasComp
FeedPump
MUWater
NOxSim
250Press
70Press Temp
AirSys
PCW
HeatPlant
HRSGSys

UF COGEN GT PERFORMANCE DATA

GEN OUTPUT		45.90	MW
AUX PWR		720	KW
EXP PWR		45.2	MW
AMB TEMP	AV	84.6	DEGF
AMB PRESS		29.92	INHGA
AMB HUMID		101	PCT
FLTR LOSS		1.9	"H2O
GT HUMID		101	PCT
INLET T2		78	DEGF
INLET P2		14.5	PSIA
VBV POS		1.0	PCT
VSV POS		93	PCT
GT T25		203	DEGF
GT P25 (B)		31.7	PSIA
GT T3		1007	DEGF
GT P3 (A)		420	PSIA
T48 AVG		1596	DEGF
T48 SPRD		130	DEGF
T48 12:30	A	1578	DEGF
T48 2:30	B	1639	DEGF
T48 5:00	C	1668	DEGF
T48 6:15	D	1541	DEGF
T48 7:00	E	1560	DEGF
T48 9:00	F	1607	DEGF
T48 10:00	G	1577	DEGF
T48 11:45	H	1600	DEGF
GT P48		102	PSIA
XNSD A		3601	RPM
XN25 A		10437	RPM
GT EXH	AVG	876	DEGF
DB EXH	AVG	856	DEGF
HRSG EXH	AVG	276	DEGF

Alt Permit

NOx Emissions	14.2	PPM
	20.4	#/HR
NOx Limits	25.0	PPM
	39.6	#/HR

GT INL VENT AIR NE	78.0	DEGF
GT INL VENT AIR NW	81.0	DEGF
GT INL COMB AIR NE	79.0	DEGF
GT INL COMB AIR NW	86.0	DEGF
GT OIL SUPPLY	69.0	PSIG
GT OIL SCAVENGE	23.0	PSIG
GT OIL SUPPLY	135.0	DEGF
GT ACC GB	194.0	DEGF
GT XFER GB (A)	229.0	DEGF
GT SUMP B (A)	246.0	DEGF
GT SUMP C (A)	289.0	DEGF
GT SUMP D (A)	243.0	DEGF
GT SUMP E (A)	238.0	DEGF
CHIP DETECTOR GB	336.0	OHM
CHIP DETECTOR BSMP	336.0	OHM
CHIP DETECTOR COM	336.0	OHM
UPPER LIM	134	PSIA
GT THRUST BAL (A)	99.9	PSIA
LOWER LIM	70	PSIA
GAS FUEL SUPPLY	78.0	DEGF
GAS FUEL SUPPLY	614	PSIG
GAS FUEL MANIF	454	PSIG
GAS FUEL MV POS	85.0	PCT
NOX STM SUPPLY	700.0	DEGF
NOX STM BYPASS	686.0	DEGF
NOX STM PREHEAT	693.0	DEGF
NOX STM SPRHEAT	673.0	DEGF
NOX STM MANIF	685.0	DEGF
NOX STM SUPPLY	582.0	PSIG
NOX STM MANIF	470.0	PSIG
NOX STM DEMAND	88.8	PCT
GT ENCL #1 HIGH	152.0	DEGF
GT ENCL #2 LOW	88.0	DEGF
GEN ROOM	89.0	DEGF
GEN AIR OUT	164.0	DEGF
EXC AIR OUT	122.0	DEGF
REM I/O #1	98.0	DEGF
REM I/O #2	98.0	DEGF

GT LPC VIB	0.4	IN/SEC
GT LPT VIB	0.3	IN/SEC
GT HPC VIB	0.2	IN/SEC
GT HPT VIB	0.1	IN/SEC
CRF BROADBAND	0.9	IN/SEC
TRF BROADBAND	0.9	IN/SEC
GEN EXC VIB X	0.8	MILS
GEN EXC VIB Y	1.8	MILS
GEN DRV VIB X	1.3	MILS
GEN DRV VIB Y	1.5	MILS
GEN OIL PRESS	29.0	PSIG
GEN OIL TEMP	135.0	DEGF
GEN DE BRG	172.0	DEGF
GEN DE DRAIN	156.0	DEGF
GEN NDE BRG	174.0	DEGF
GEN NDE DRAIN	169.0	DEGF
GEN STATOR PHASE A	199.0	DEGF
GEN STATOR PHASE B	194.0	DEGF
GEN STATOR PHASE C	193.0	DEGF
GEN STATOR PHASE A1	195.0	DEGF
GEN STATOR PHASE B1	196.0	DEGF
GEN STATOR PHASE C1	196.0	DEGF
GEN VOLTS	14.0	KV
GEN AMPS ("A" Phase)	1932	AMPS
GEN MVARS	1.2	MVAR
GT FUEL HEAT INPUT	396.2	MMBTU/HR
GT FUEL FLW	417.6	KSCFH
GT FUEL FLW	18.74	KPPH
GT NOX STM	33.39	KPPH
STM/FUEL	1.78	RATIO
HEAT RATE	8494	BTU/KWH
GT NOX TOT	268808	KPOUNDS
DCS NOX	36.0	#/HR
DB FUEL FLW	28.52	KSCFH

PREV DISP

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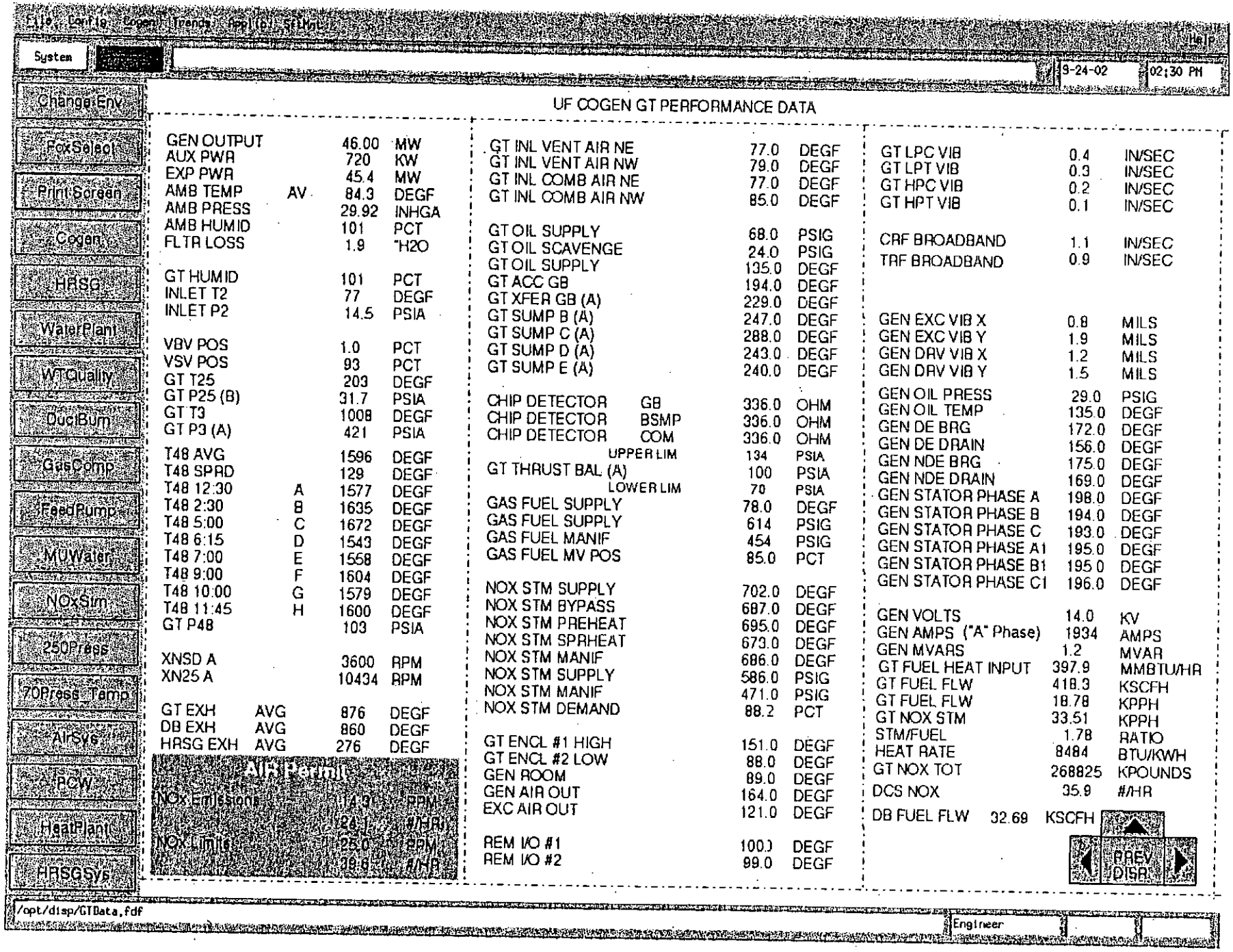
Engineer


File Config Cogen Trends Applic(s) Setup Help
System
9-24-02
02:30 PM
Change Env
FoxSelect
Print Screen
Cogen
HRSG
WaterPlant
WTQuality
DuctBurn
GasComp
FeedPump
MUWater
NOxSim
250Press
70Press Temp
AirSys
PCW
HeatPlant
HRSGSys
UF COGEN GT PERFORMANCE DATA
GEN OUTPUT 46.00 MW
AUX PWR 720 KW
EXP PWR 45.4 MW
AMB TEMP AV 84.3 DEGF
AMB PRESS 29.92 INHGA
AMB HUMID 101 PCT
FLTR LOSS 1.9 "H2O
GT HUMID 101 PCT
INLET T2 77 DEGF
INLET P2 14.5 PSIA
VBV POS 1.0 PCT
VSV POS 93 PCT
GT T25 203 DEGF
GT P25 (B) 31.7 PSIA
GT T3 1008 DEGF
GT P3 (A) 421 PSIA
T48 AVG 1596 DEGF
T48 SPRD 129 DEGF
T48 12:30 A 1577 DEGF
T48 2:30 B 1635 DEGF
T48 5:00 C 1672 DEGF
T48 6:15 D 1543 DEGF
T48 7:00 E 1568 DEGF
T48 9:00 F 1604 DEGF
T48 10:00 G 1579 DEGF
T48 11:45 H 1600 DEGF
GT P48 103 PSIA
XNSD A 3600 RPM
XN25 A 10434 RPM
GT EXH AVG 876 DEGF
DB EXH AVG 860 DEGF
HRSG EXH AVG 276 DEGF
NOx Emissions 14.31 PPM
124.1 #/HR
NOx Limit 25.0 PPM
39.6 #/HR
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GT INL VENT AIR NW 79.0 DEGF
GT INL COMB AIR NE 77.0 DEGF
GT INL COMB AIR NW 85.0 DEGF
GT OIL SUPPLY 68.0 PSIG
GT OIL SCAVENGE 24.0 PSIG
GT OIL SUPPLY 135.0 DEGF
GT ACC GB 194.0 DEGF
GT XFER GB (A) 229.0 DEGF
GT SUMP B (A) 247.0 DEGF
GT SUMP C (A) 288.0 DEGF
GT SUMP D (A) 243.0 DEGF
GT SUMP E (A) 240.0 DEGF
CHIP DETECTOR GB 336.0 OHM
CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
UPPER LIM 134 PSIA
GT THRUST BAL (A) 100 PSIA
LOWER LIM 70 PSIA
GAS FUEL SUPPLY 78.0 DEGF
GAS FUEL SUPPLY 614 PSIG
GAS FUEL MANIF 454 PSIG
GAS FUEL MV POS 85.0 PCT
NOX STM SUPPLY 702.0 DEGF
NOX STM BYPASS 687.0 DEGF
NOX STM PREHEAT 695.0 DEGF
NOX STM SPRHEAT 673.0 DEGF
NOX STM MANIF 686.0 DEGF
NOX STM SUPPLY 586.0 PSIG
NOX STM MANIF 471.0 PSIG
NOX STM DEMAND 88.2 PCT
GT ENCL #1 HIGH 151.0 DEGF
GT ENCL #2 LOW 88.0 DEGF
GEN ROOM 89.0 DEGF
GEN AIR OUT 164.0 DEGF
EXC AIR OUT 121.0 DEGF
REM I/O #1 100.0 DEGF
REM I/O #2 99.0 DEGF
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GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 1.1 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.2 MILS
GEN DRV VIB Y 1.5 MILS
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GEN OIL TEMP 135.0 DEGF
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GEN DE DRAIN 156.0 DEGF
GEN NDE BRG 175.0 DEGF
GEN NDE DRAIN 169.0 DEGF
GEN STATOR PHASE A 198.0 DEGF
GEN STATOR PHASE B 194.0 DEGF
GEN STATOR PHASE C 193.0 DEGF
GEN STATOR PHASE A1 195.0 DEGF
GEN STATOR PHASE B1 195.0 DEGF
GEN STATOR PHASE C1 196.0 DEGF
GEN VOLTS 14.0 KV
GEN AMPS ("A" Phase) 1934 AMPS
GEN MVARS 1.2 MVAR
GT FUEL HEAT INPUT 397.9 MMBTU/HR
GT FUEL FLW 418.3 KSCFH
GT FUEL FLW 18.78 KPPH
GT NOX STM 33.51 KPPH
STM/FUEL 1.78 RATIO
HEAT RATE 8484 BTU/KWH
GT NOX TOT 268825 KPOUNDS
DCS NOX 35.9 #/HR
DB FUEL FLW 32.69 KSCFH
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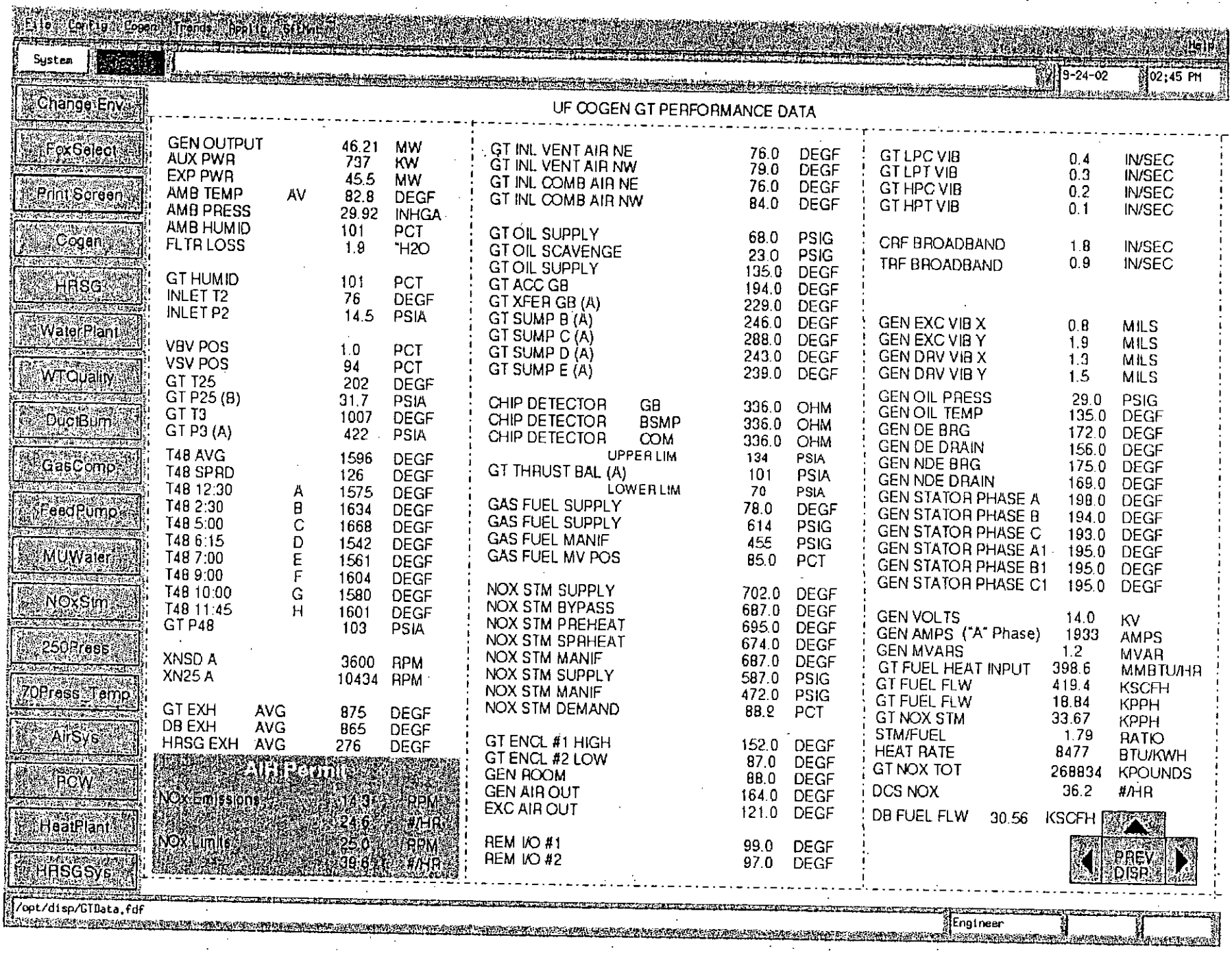
Engineer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WTQuality
DuctBurn
GasComp
FeedPump
MUWater
NOxSim
250Press
70Press Temp
AirSys
RCW
HeatPlant
HRSGSys
UF COGEN GT PERFORMANCE DATA
GEN OUTPUT 46.21 MW
AUX PWR 737 KW
EXP PWR 45.5 MW
AMB TEMP AV 82.8 DEGF
AMB PRESS 29.92 INHGA
AMB HUMID 101 PCT
FLTR LOSS 1.9 "H2O
GT HUMID 101 PCT
INLET T2 76 DEGF
INLET P2 14.5 PSIA
VBV POS 1.0 PCT
VSV POS 94 PCT
GT T25 202 DEGF
GT P25 (B) 31.7 PSIA
GT T3 1007 DEGF
GT P3 (A) 422 PSIA
T48 AVG 1596 DEGF
T48 SPRD 126 DEGF
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T48 6:15 D 1542 DEGF
T48 7:00 E 1561 DEGF
T48 9:00 F 1604 DEGF
T48 10:00 G 1580 DEGF
T48 11:45 H 1601 DEGF
GT P48 103 PSIA
XNSD A 3600 RPM
XN25 A 10434 RPM
GT EXH AVG 875 DEGF
DB EXH AVG 865 DEGF
HRSG EXH AVG 276 DEGF
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24.6 #/HR
NOX Limits 25.0 RPM
99.6 #/HR
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GT INL COMB AIR NE 76.0 DEGF
GT INL COMB AIR NW 84.0 DEGF
GT OIL SUPPLY 68.0 PSIG
GT OIL SCAVENGE 23.0 PSIG
GT OIL SUPPLY 135.0 DEGF
GT ACC GB 194.0 DEGF
GT XFER GB (A) 229.0 DEGF
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CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
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GT THRUST BAL (A) 101 PSIA
LOWER LIM 70 PSIA
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GAS FUEL SUPPLY 614 PSIG
GAS FUEL MANIF 455 PSIG
GAS FUEL MV POS 85.0 PCT
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NOX STM BYPASS 687.0 DEGF
NOX STM PREHEAT 695.0 DEGF
NOX STM SPRHEAT 674.0 DEGF
NOX STM MANIF 687.0 DEGF
NOX STM SUPPLY 587.0 PSIG
NOX STM MANIF 472.0 PSIG
NOX STM DEMAND 88.2 PCT
GT ENCL #1 HIGH 152.0 DEGF
GT ENCL #2 LOW 87.0 DEGF
GEN ROOM 88.0 DEGF
GEN AIR OUT 164.0 DEGF
EXC AIR OUT 121.0 DEGF
REM I/O #1 99.0 DEGF
REM I/O #2 97.0 DEGF
GT LPC VIB 0.4 IN/SEC
GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 1.8 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
GEN OIL PRESS 29.0 PSIG
GEN OIL TEMP 135.0 DEGF
GEN DE BRG 172.0 DEGF
GEN DE DRAIN 156.0 DEGF
GEN NDE BRG 175.0 DEGF
GEN NDE DRAIN 169.0 DEGF
GEN STATOR PHASE A 198.0 DEGF
GEN STATOR PHASE B 194.0 DEGF
GEN STATOR PHASE C 193.0 DEGF
GEN STATOR PHASE A1 195.0 DEGF
GEN STATOR PHASE B1 195.0 DEGF
GEN STATOR PHASE C1 195.0 DEGF
GEN VOLTS 14.0 KV
GEN AMPS ("A" Phase) 1933 AMPS
GEN MVARS 1.2 MVAR
GT FUEL HEAT INPUT 398.6 MMBTU/HR
GT FUEL FLW 419.4 KSCFH
GT FUEL FLW 18.84 KPPH
GT NOX STM 33.67 KPPH
STM/FUEL 1.79 RATIO
HEAT RATE 8477 BTU/KWH
GT NOX TOT 268834 KPOUNDS
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DB FUEL FLW 30.56 KSCFH
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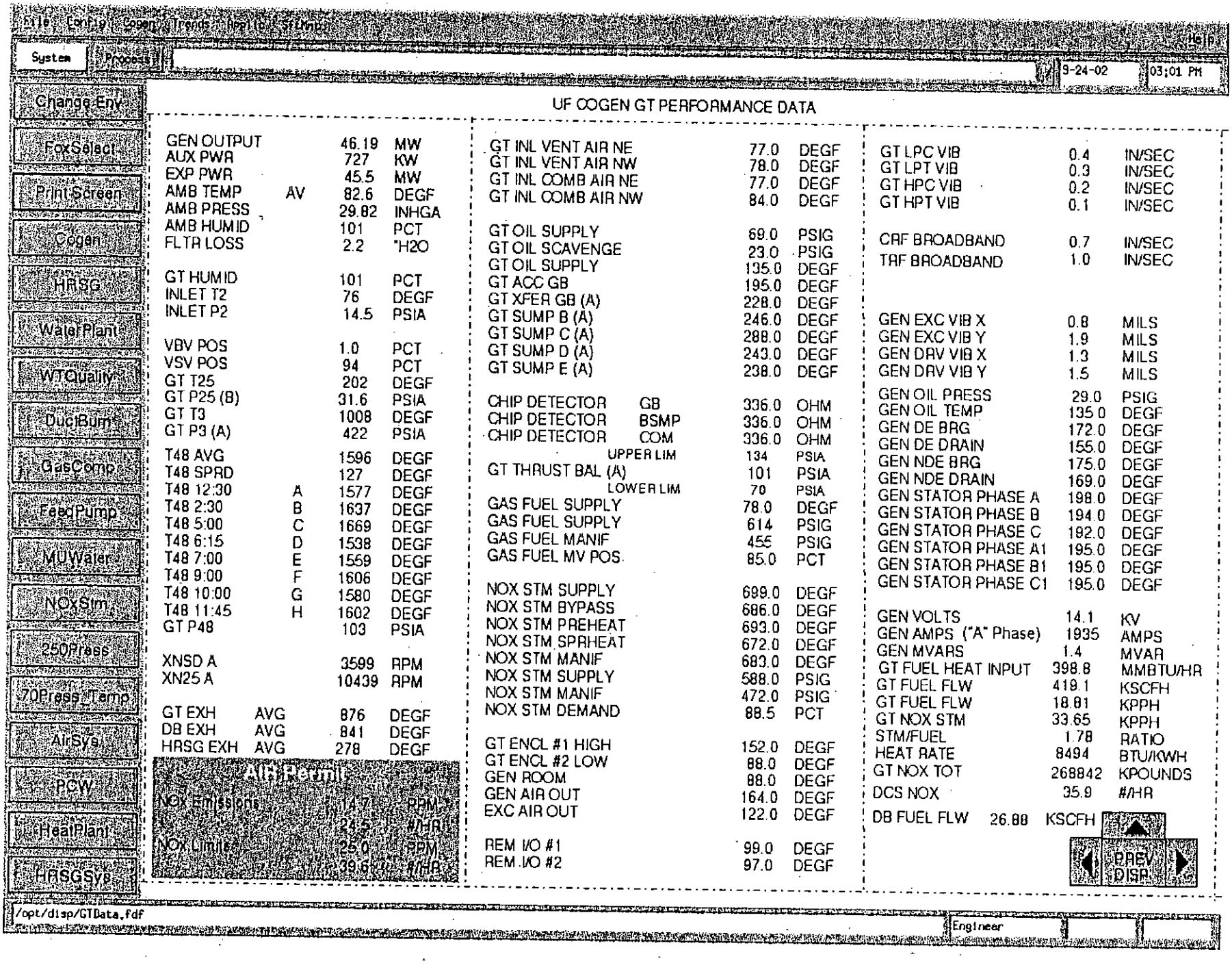
Engineer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GasComp
FeedPump
MUWater
NOxStm
250Press
70Press Temp
AirSys
PCW
HeatPlant
HRSGSys
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AUX PWR 727 KW
EXP PWR 45.5 MW
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GT HUMID 101 PCT
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VSV POS 94 PCT
GT T25 202 DEGF
GT P25 (B) 31.6 PSIA
GT T3 1008 DEGF
GT P3 (A) 422 PSIA
T48 AVG 1596 DEGF
T48 SPRD 127 DEGF
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T48 2:30 B 1637 DEGF
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T48 6:15 D 1538 DEGF
T48 7:00 E 1569 DEGF
T48 9:00 F 1606 DEGF
T48 10:00 G 1580 DEGF
T48 11:45 H 1602 DEGF
GT P48 103 PSIA
XNSD A 3599 RPM
XN25 A 10439 RPM
GT EXH AVG 876 DEGF
DB EXH AVG 841 DEGF
HRSG EXH AVG 278 DEGF
Air Permit
NOx Emissions 14.7 PPM
24.5 #/HR
NOx Limits 25.0 PPM
39.6 #/HR
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GT INL COMB AIR NE 77.0 DEGF
GT INL COMB AIR NW 84.0 DEGF
GT OIL SUPPLY 69.0 PSIG
GT OIL SCAVENGE 23.0 PSIG
GT OIL SUPPLY 135.0 DEGF
GT ACC GB 195.0 DEGF
GT XFER GB (A) 228.0 DEGF
GT SUMP B (A) 246.0 DEGF
GT SUMP C (A) 288.0 DEGF
GT SUMP D (A) 243.0 DEGF
GT SUMP E (A) 238.0 DEGF
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CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
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GT THRUST BAL (A) 101 PSIA
LOWER LIM 70 PSIA
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NOX STM SPRHEAT 672.0 DEGF
NOX STM MANIF 683.0 DEGF
NOX STM SUPPLY 588.0 PSIG
NOX STM MANIF 472.0 PSIG
NOX STM DEMAND 88.5 PCT
GT ENCL #1 HIGH 152.0 DEGF
GT ENCL #2 LOW 88.0 DEGF
GEN ROOM 88.0 DEGF
GEN AIR OUT 164.0 DEGF
EXC AIR OUT 122.0 DEGF
REM I/O #1 99.0 DEGF
REM I/O #2 97.0 DEGF
GT LPC VIB 0.4 IN/SEC
GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 0.7 IN/SEC
TRF BROADBAND 1.0 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
GEN OIL PRESS 29.0 PSIG
GEN OIL TEMP 135.0 DEGF
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GEN DE DRAIN 155.0 DEGF
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GEN STATOR PHASE A 198.0 DEGF
GEN STATOR PHASE B 194.0 DEGF
GEN STATOR PHASE C 192.0 DEGF
GEN STATOR PHASE A1 195.0 DEGF
GEN STATOR PHASE B1 195.0 DEGF
GEN STATOR PHASE C1 195.0 DEGF
GEN VOLTS 14.1 KV
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STM/FUEL 1.78 RATIO
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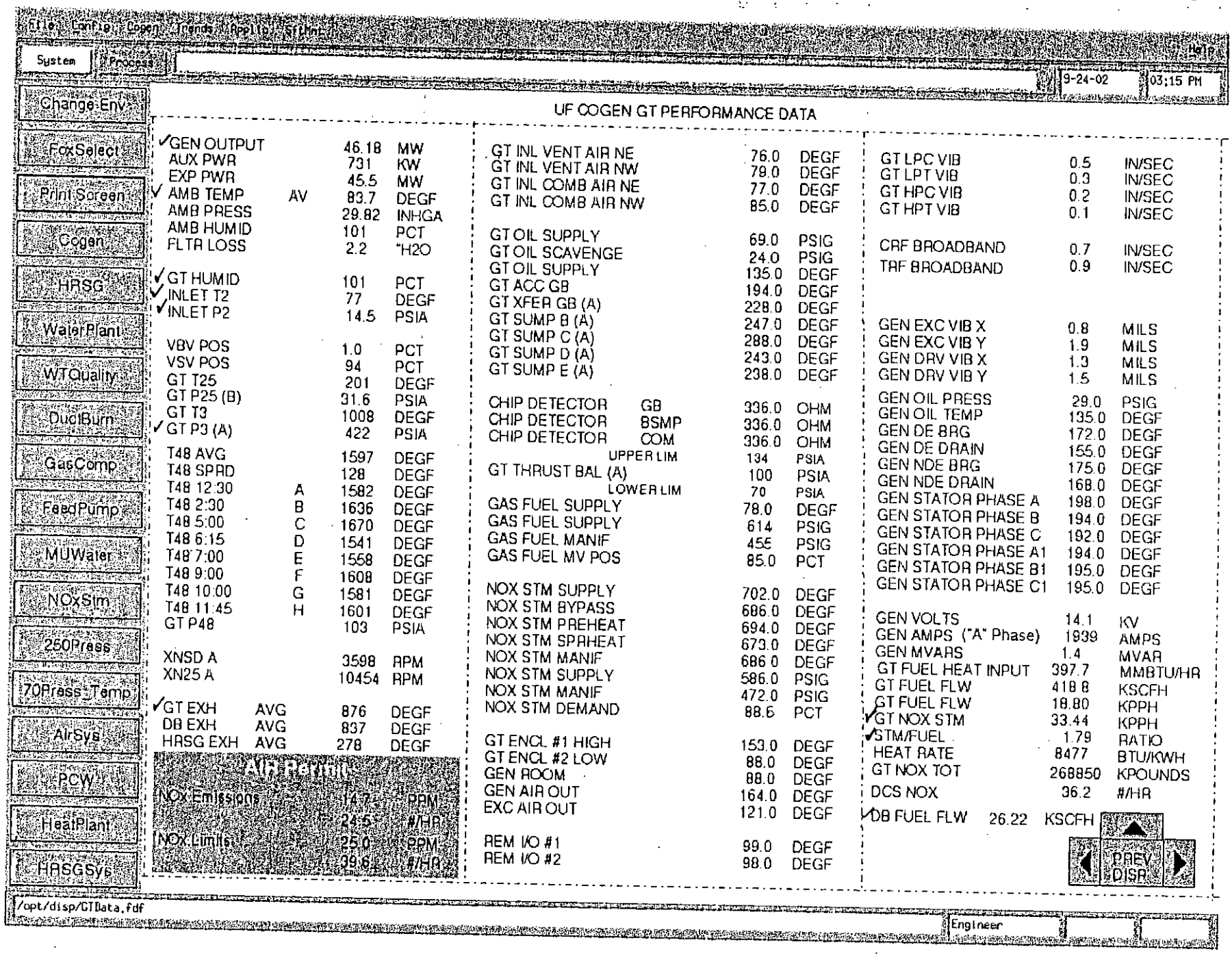
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Print Screen
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DuctBurn
GasComp
FeedPump
MUWater
NOxSim
250Press
70Press Temp
AirSys
PCW
HeatPlant
HRSGSys
UF COGEN GT PERFORMANCE DATA
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EXP PWR 45.5 MW
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FLTR LOSS 2.2 "H2O
GT HUMID 101 PCT
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INLET P2 14.5 PSIA
VBV POS 1.0 PCT
VSV POS 94 PCT
GT T25 201 DEGF
GT P25 (B) 31.6 PSIA
GT T3 1008 DEGF
GT P3 (A) 422 PSIA
T48 AVG 1597 DEGF
T48 SPRD 128 DEGF
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T48 7:00 E 1558 DEGF
T48 9:00 F 1608 DEGF
T48 10:00 G 1581 DEGF
T48 11:45 H 1601 DEGF
GT P48 103 PSIA
XNSD A 3598 RPM
XN25 A 10454 RPM
GT EXH AVG 876 DEGF
DB EXH AVG 837 DEGF
HRSG EXH AVG 278 DEGF
Air Permit
NOx Emissions 14.7 PPM
24.5 #/HR
NOx Limits 25.0 PPM
39.6 #/HR
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GT INL VENT AIR NW 79.0 DEGF
GT INL COMB AIR NE 77.0 DEGF
GT INL COMB AIR NW 85.0 DEGF
GT OIL SUPPLY 69.0 PSIG
GT OIL SCAVENGE 24.0 PSIG
GT OIL SUPPLY 135.0 DEGF
GT ACC GB 194.0 DEGF
GT XFER GB (A) 228.0 DEGF
GT SUMP B (A) 247.0 DEGF
GT SUMP C (A) 288.0 DEGF
GT SUMP D (A) 243.0 DEGF
GT SUMP E (A) 238.0 DEGF
CHIP DETECTOR GB 336.0 OHM
CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
UPPER LIM 134 PSIA
GT THRUST BAL (A) 100 PSIA
LOWER LIM 70 PSIA
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GAS FUEL SUPPLY 614 PSIG
GAS FUEL MANIF 455 PSIG
GAS FUEL MV POS 85.0 PCT
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NOX STM BYPASS 686.0 DEGF
NOX STM PREHEAT 694.0 DEGF
NOX STM SPRHEAT 673.0 DEGF
NOX STM MANIF 686.0 DEGF
NOX STM SUPPLY 586.0 PSIG
NOX STM MANIF 472.0 PSIG
NOX STM DEMAND 88.6 PCT
GT ENCL #1 HIGH 153.0 DEGF
GT ENCL #2 LOW 88.0 DEGF
GEN ROOM 88.0 DEGF
GEN AIR OUT 164.0 DEGF
EXC AIR OUT 121.0 DEGF
REM I/O #1 99.0 DEGF
REM I/O #2 98.0 DEGF
GT LPC VIB 0.5 IN/SEC
GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 0.7 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
GEN OIL PRESS 29.0 PSIG
GEN OIL TEMP 135.0 DEGF
GEN DE BRG 172.0 DEGF
GEN DE DRAIN 155.0 DEGF
GEN NDE BRG 175.0 DEGF
GEN NDE DRAIN 168.0 DEGF
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GEN VOLTS 14.1 KV
GEN AMPS ("A" Phase) 1939 AMPS
GEN MVARS 1.4 MVAR
GT FUEL HEAT INPUT 397.7 MMBTU/HR
GT FUEL FLW 418.8 KSCFH
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STM/FUEL 1.79 RATIO
HEAT RATE 8477 BTU/KWH
GT NOX TOT 268850 KPOUNDS
DCS NOX 36.2 #/HR
DB FUEL FLW 26.22 KSCFH
PREV DISP
/opt/disp/GTData.fdf
Engineer

APPENDIX G

Test Run Data

Florida Power Air Emissions Test Team

IDLE

30 seconds

Complaince & RATA

24-Sep-02 Florida Power University of Florida Unit # CT 001 & DB 002

	Parameter	O2	CO2	CO	NOx	SO2	NOx	NOx	CO	Comments
	Units	%V	%V	ppmV	ppmV	ppmV	lb/Mmbtu	@15%O2	@15%O2	
INSTANTANEOUS:		**14.082**	**3.935**	**27.676**	**16.750 N/A**		**0.0529**	**14.496**	**23.950 pt 4-9**	
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24-Sep-02	8:48:02	14.001	3.896	23.369	17.134 N/A		0.0546	14.652	19.983 pt 1-1	
24-Sep-02	8:48:32	14.001	3.898	23.669	17.138 N/A		0.0546	14.655	20.240 pt 1-1	
24-Sep-02	8:49:02	14.001	3.898	23.767	17.222 N/A		0.0549	14.727	20.324 pt 1-1	
24-Sep-02	8:49:32	14.013	3.896	23.767	17.263 N/A		0.0550	14.789	20.360 pt 1-1	
24-Sep-02	8:49:59	14.013	3.898	23.619	17.180 N/A		0.0547	14.717	20.234 pt 1-2	
24-Sep-02	8:50:29	14.013	3.898	23.467	17.263 N/A		0.0550	14.789	20.103 pt 1-2	
24-Sep-02	8:50:59	13.878	3.898	23.619	17.180 N/A		0.0547	14.434	19.844 pt 1-2	
24-Sep-02	8:51:29	14.001	3.896	23.713	17.222 N/A		0.0549	14.727	20.278 pt 1-2	
24-Sep-02	8:51:59	13.934	3.900	23.624	17.176 N/A		0.0547	14.547	20.009 pt 1-2	
24-Sep-02	8:52:21	14.001	3.900	23.565	17.180 N/A		0.0547	14.691	20.151 pt 1-3	
24-Sep-02	8:52:51	14.013	3.906	23.674	17.176 N/A		0.0546	14.714	20.280 pt 1-3	
24-Sep-02	8:53:21	14.003	3.906	23.619	17.259 N/A		0.0549	14.764	20.205 pt 1-3	
24-Sep-02	8:53:51	14.001	3.908	23.413	17.305 N/A		0.0550	14.798	20.021 pt 1-3	
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24-Sep-02	8:54:35	14.001	3.921	23.472	17.263 N/A		0.0547	14.762	20.072 pt 1-4	
24-Sep-02	8:55:05	13.944	3.923	23.674	17.222 N/A		0.0545	14.607	20.079 pt 1-4	
24-Sep-02	8:55:35	13.878	3.947	23.865	17.305 N/A		0.0544	14.539	20.051 pt 1-4	
24-Sep-02	8:56:05	14.001	3.959	27.957	16.925 N/A		0.0531	14.473	23.907 pt 1-4	
24-Sep-02	8:56:35	13.946	3.943	32.422	16.879 N/A		0.0532	14.321	27.509 pt 1-4	
24-Sep-02	8:56:47	13.934	3.943	32.417	16.925 N/A		0.0533	14.335	27.457 pt 1-5	
24-Sep-02	8:57:17	14.003	3.937	30.971	16.921 N/A		0.0534	14.475	26.494 pt 1-5	
24-Sep-02	8:57:47	14.013	3.925	31.320	16.921 N/A		0.0535	14.495	26.831 pt 1-5	
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24-Sep-02	9:02:44	14.067	3.899	23.562	17.394 N/A		0.0554	15.020	20.346 pt 1-7	

24-Sep-02	9:03:14	14.023	3.895	23.473	17.348	N/A	0.0553	14.884	20.139 pt 1-7
24-Sep-02	9:03:39	14.013	3.877	23.419	17.436	N/A	0.0558	14.938	20.064 pt 1-8
24-Sep-02	9:04:09	14.070	3.877	23.468	16.985	N/A	0.0544	14.672	20.272 pt 1-8
24-Sep-02	9:04:39	14.080	3.877	23.468	16.899	N/A	0.0541	14.619	20.302 pt 1-8
24-Sep-02	9:05:09	14.136	3.879	23.513	16.858	N/A	0.0540	14.706	20.510 pt 1-8
24-Sep-02	9:05:39	14.080	3.877	23.468	16.858	N/A	0.0540	14.584	20.302 pt 1-8
24-Sep-02	9:05:57	14.080	3.877	23.419	16.940	N/A	0.0543	14.654	20.259 pt 1-9
24-Sep-02	9:06:27	14.149	3.877	23.468	16.813	N/A	0.0539	14.693	20.509 pt 1-9
24-Sep-02	9:06:57	14.149	3.875	23.365	16.818	N/A	0.0539	14.697	20.419 pt 1-9
24-Sep-02	9:07:27	14.080	3.879	23.114	16.818	N/A	0.0538	14.548	19.995 pt 1-9
24-Sep-02	9:07:57	14.136	3.877	23.316	16.777	N/A	0.0537	14.634	20.338 pt 1-9
24-Sep-02	9:08:08	14.067	3.877	23.316	16.818	N/A	0.0539	14.522	20.133 pt 2-1
24-Sep-02	9:08:38	14.134	3.877	23.316	16.858	N/A	0.0540	14.700	20.331 pt 2-1
24-Sep-02	9:09:08	14.149	3.875	23.114	16.813	N/A	0.0539	14.693	20.199 pt 2-1
24-Sep-02	9:09:38	14.146	3.873	23.163	16.773	N/A	0.0538	14.652	20.235 pt 2-1
24-Sep-02	9:10:08	14.055	3.875	23.316	16.732	N/A	0.0536	14.422	20.097 pt 2-1
24-Sep-02	9:10:18	14.136	3.877	23.414	16.695	N/A	0.0535	14.563	20.424 pt 2-2
24-Sep-02	9:10:48	14.070	3.877	23.675	16.569	N/A	0.0531	14.312	20.451 pt 2-2
24-Sep-02	9:11:18	14.080	3.877	23.468	16.650	N/A	0.0533	14.404	20.302 pt 2-2
24-Sep-02	9:11:48	13.935	3.936	24.624	16.442	N/A	0.0519	13.927	20.857 pt 2-2
24-Sep-02	9:12:18	14.001	3.928	31.026	16.107	N/A	0.0509	13.775	26.534 pt 2-2
24-Sep-02	9:12:30	14.001	3.928	31.680	16.111	N/A	0.0509	13.778	27.093 pt 2-3
24-Sep-02	9:13:00	14.013	3.922	31.277	16.071	N/A	0.0509	13.768	26.796 pt 2-3
24-Sep-02	9:13:30	14.001	3.924	30.559	17.082	N/A	0.0541	14.608	26.134 pt 2-3
24-Sep-02	9:14:00	14.011	3.922	30.067	16.888	N/A	0.0535	14.463	25.750 pt 2-3
24-Sep-02	9:14:30	13.945	3.924	30.707	16.884	N/A	0.0534	14.322	26.047 pt 2-3
24-Sep-02	9:14:41	13.957	3.924	30.702	16.935	N/A	0.0536	14.391	26.089 pt 2-4
24-Sep-02	9:15:11	13.945	3.924	30.161	16.931	N/A	0.0536	14.361	25.584 pt 2-4
24-Sep-02	9:15:41	14.001	3.922	30.161	17.059	N/A	0.0540	14.589	25.793 pt 2-4
24-Sep-02	9:16:11	14.011	3.924	29.615	17.106	N/A	0.0541	14.650	25.363 pt 2-4
24-Sep-02	9:16:41	14.067	3.916	29.861	17.102	N/A	0.0542	14.768	25.785 pt 2-4
24-Sep-02	9:16:54	14.080	3.904	29.408	17.192	N/A	0.0547	14.872	25.440 pt 2-5
24-Sep-02	9:17:24	14.011	3.904	23.621	17.277	N/A	0.0549	14.797	20.229 pt 2-5
24-Sep-02	9:17:54	14.080	3.899	23.277	17.367	N/A	0.0553	15.024	20.136 pt 2-5
24-Sep-02	9:18:24	14.067	3.899	23.222	17.542	N/A	0.0559	15.148	20.053 pt 2-5
24-Sep-02	9:18:54	14.080	3.899	23.316	17.453	N/A	0.0556	15.098	20.170 pt 2-5
24-Sep-02	9:19:08	14.067	3.893	23.468	17.538	N/A	0.0559	15.144	20.265 pt 2-6
24-Sep-02	9:19:38	14.001	3.916	23.714	17.628	N/A	0.0559	15.075	20.280 pt 2-6
24-Sep-02	9:20:08	13.958	3.953	25.924	17.370	N/A	0.0546	14.762	22.033 pt 2-6
24-Sep-02	9:20:38	13.936	3.955	30.020	17.455	N/A	0.0548	14.788	25.432 pt 2-6
24-Sep-02	9:21:08	13.879	3.953	29.710	17.588	N/A	0.0552	14.780	24.967 pt 2-6

24-Sep-02	9:21:20	13.867	3.955	29.312	17.545 N/A	0.0551	14.718	24.590 pt 2-7
24-Sep-02	9:21:50	13.813	3.961	28.417	17.583 N/A	0.0551	14.638	23.657 pt 2-7
24-Sep-02	9:22:20	13.810	3.967	28.471	17.588 N/A	0.0551	14.637	23.694 pt 2-7
24-Sep-02	9:22:50	13.855	3.969	28.309	17.583 N/A	0.0550	14.725	23.707 pt 2-7
24-Sep-02	9:23:20	13.879	3.969	28.516	17.583 N/A	0.0550	14.776	23.963 pt 2-7
24-Sep-02	9:23:34	13.879	3.969	28.668	17.588 N/A	0.0550	14.780	24.091 pt 2-8
24-Sep-02	9:24:04	13.879	3.969	28.761	17.502 N/A	0.0548	14.708	24.170 pt 2-8
24-Sep-02	9:24:34	13.879	3.967	28.619	17.588 N/A	0.0551	14.780	24.050 pt 2-8
24-Sep-02	9:25:04	13.879	3.969	29.111	17.583 N/A	0.0550	14.776	24.463 pt 2-8
24-Sep-02	9:25:34	13.936	3.969	29.460	17.541 N/A	0.0549	14.860	24.958 pt 2-8
24-Sep-02	9:25:48	13.933	3.959	29.710	17.498 N/A	0.0549	14.819	25.161 pt 2-9
24-Sep-02	9:26:18	13.936	3.959	29.863	17.498 N/A	0.0549	14.824	25.299 pt 2-9
24-Sep-02	9:26:48	13.946	3.959	29.760	17.502 N/A	0.0549	14.849	25.248 pt 2-9
24-Sep-02	9:27:18	13.882	3.961	30.109	17.323 N/A	0.0543	14.562	25.311 pt 2-9
24-Sep-02	9:27:48	13.933	3.959	31.077	17.327 N/A	0.0543	14.674	26.319 pt 2-9
24-Sep-02	9:31:44	13.936	3.924	30.763	17.151 N/A	0.0543	14.530	26.061 pt 3-1
24-Sep-02	9:32:14	14.002	3.930	30.109	17.151 N/A	0.0542	14.670	25.753 pt 3-1
24-Sep-02	9:32:44	13.948	3.937	30.305	17.199 N/A	0.0542	14.596	25.719 pt 3-1
24-Sep-02	9:33:14	13.869	3.945	30.064	17.151 N/A	0.0540	14.393	25.230 pt 3-1
24-Sep-02	9:33:44	13.948	3.949	29.765	17.151 N/A	0.0539	14.556	25.260 pt 3-1
24-Sep-02	9:33:53	14.002	3.951	29.760	17.151 N/A	0.0539	14.670	25.454 pt 3-2
24-Sep-02	9:34:23	13.960	3.959	30.109	17.284 N/A	0.0542	14.695	25.598 pt 3-2
24-Sep-02	9:34:53	13.936	3.961	29.411	17.412 N/A	0.0546	14.751	24.916 pt 3-2
24-Sep-02	9:35:23	13.882	3.963	29.111	17.545 N/A	0.0550	14.749	24.472 pt 3-2
24-Sep-02	9:35:53	13.879	3.969	29.066	17.673 N/A	0.0553	14.852	24.426 pt 3-2
24-Sep-02	9:36:04	13.882	3.971	29.012	17.673 N/A	0.0553	14.857	24.389 pt 3-3
24-Sep-02	9:36:34	13.936	3.971	29.361	17.806 N/A	0.0557	15.085	24.874 pt 3-3
24-Sep-02	9:37:04	13.879	3.973	29.666	17.840 N/A	0.0558	14.992	24.930 pt 3-3
24-Sep-02	9:37:34	13.936	3.971	29.361	17.438 N/A	0.0545	14.773	24.874 pt 3-3
24-Sep-02	9:38:04	13.869	3.971	29.706	17.267 N/A	0.0540	14.490	24.929 pt 3-3
24-Sep-02	9:38:17	13.869	3.969	29.710	17.309 N/A	0.0542	14.525	24.933 pt 3-4
24-Sep-02	9:38:47	13.938	3.971	30.610	17.267 N/A	0.0540	14.634	25.942 pt 3-4
24-Sep-02	9:39:17	13.948	3.973	30.827	17.309 N/A	0.0541	14.690	26.162 pt 3-4
24-Sep-02	9:39:47	13.992	3.969	30.610	17.225 N/A	0.0539	14.712	26.145 pt 3-4
24-Sep-02	9:40:17	13.947	3.974	30.353	17.306 N/A	0.0541	14.685	25.755 pt 3-4
24-Sep-02	9:40:29	13.947	3.970	30.353	17.265 N/A	0.0540	14.650	25.755 pt 3-5
24-Sep-02	9:40:59	13.937	3.970	30.505	17.311 N/A	0.0541	14.668	25.848 pt 3-5
24-Sep-02	9:41:29	13.881	3.972	30.554	17.223 N/A	0.0538	14.476	25.682 pt 3-5
24-Sep-02	9:41:59	13.935	3.972	31.316	17.181 N/A	0.0537	14.553	26.526 pt 3-5
24-Sep-02	9:42:29	13.937	3.974	31.016	17.348 N/A	0.0542	14.700	26.282 pt 3-5
24-Sep-02	9:42:41	13.937	3.972	30.820	17.265 N/A	0.0540	14.629	26.115 pt 3-6

24-Sep-02	9:43:11	13.937	3.974	30.874	17.306	N/A	0.0541	14.664	26.161 pt 3-6
24-Sep-02	9:43:41	13.949	3.970	30.461	17.265	N/A	0.0540	14.655	25.857 pt 3-6
24-Sep-02	9:44:11	13.949	3.974	31.316	17.265	N/A	0.0539	14.655	26.583 pt 3-6
24-Sep-02	9:44:41	13.947	3.972	31.621	17.181	N/A	0.0537	14.579	26.832 pt 3-6
24-Sep-02	9:44:53	13.935	3.974	31.513	17.181	N/A	0.0537	14.553	26.693 pt 3-7
24-Sep-02	9:45:23	13.937	3.976	29.895	17.181	N/A	0.0537	14.558	25.332 pt 3-7
24-Sep-02	9:45:53	13.949	3.974	29.708	17.181	N/A	0.0537	14.584	25.218 pt 3-7
24-Sep-02	9:46:23	13.937	3.970	30.180	17.223	N/A	0.0539	14.594	25.573 pt 3-7
24-Sep-02	9:46:53	13.949	3.974	30.512	17.181	N/A	0.0537	14.584	25.900 pt 3-7
24-Sep-02	9:47:04	13.972	3.972	30.559	17.135	N/A	0.0536	14.591	26.022 pt 3-8
24-Sep-02	9:47:34	13.937	3.972	28.548	17.139	N/A	0.0536	14.523	24.190 pt 3-8
24-Sep-02	9:48:04	13.949	3.972	28.995	17.139	N/A	0.0536	14.549	24.612 pt 3-8
24-Sep-02	9:48:34	14.004	3.970	29.083	17.093	N/A	0.0535	14.623	24.881 pt 3-8
24-Sep-02	9:49:04	14.016	3.964	29.304	16.968	N/A	0.0531	14.542	25.115 pt 3-8
24-Sep-02	9:49:16	14.004	3.959	29.309	16.968	N/A	0.0532	14.516	25.074 pt 3-9
24-Sep-02	9:49:46	14.004	3.959	29.667	16.964	N/A	0.0532	14.512	25.381 pt 3-9
24-Sep-02	9:50:16	13.949	3.959	29.353	17.051	N/A	0.0535	14.474	24.916 pt 3-9
24-Sep-02	9:50:46	13.881	3.959	28.680	17.056	N/A	0.0535	14.336	24.107 pt 3-9
24-Sep-02	9:51:16	13.871	3.957	28.508	16.968	N/A	0.0533	14.242	23.928 pt 3-9
24-Sep-02	9:51:29	13.949	3.957	28.503	17.010	N/A	0.0534	14.439	24.195 pt 4-1
24-Sep-02	9:51:59	13.962	3.960	27.999	16.968	N/A	0.0532	14.429	23.809 pt 4-1
24-Sep-02	9:52:29	13.937	3.959	28.145	17.051	N/A	0.0535	14.448	23.849 pt 4-1
24-Sep-02	9:52:59	14.004	3.960	27.959	17.010	N/A	0.0533	14.552	23.919 pt 4-1
24-Sep-02	9:53:29	13.949	3.959	27.915	16.926	N/A	0.0531	14.368	23.695 pt 4-1
24-Sep-02	9:53:42	14.072	3.959	28.043	16.968	N/A	0.0532	14.662	24.233 pt 4-2
24-Sep-02	9:54:12	14.072	3.960	28.096	17.010	N/A	0.0533	14.698	24.279 pt 4-2
24-Sep-02	9:54:42	14.018	3.947	27.999	16.926	N/A	0.0533	14.511	24.004 pt 4-2
24-Sep-02	9:55:12	14.072	3.945	27.229	16.968	N/A	0.0534	14.662	23.529 pt 4-2
24-Sep-02	9:55:42	14.085	3.943	26.777	16.926	N/A	0.0533	14.653	23.181 pt 4-2
24-Sep-02	9:55:56	14.072	3.939	26.733	16.926	N/A	0.0534	14.626	23.101 pt 4-3
24-Sep-02	9:56:26	14.006	3.939	27.229	16.838	N/A	0.0531	14.410	23.303 pt 4-3
24-Sep-02	9:56:56	14.018	3.939	27.269	16.713	N/A	0.0527	14.329	23.378 pt 4-3
24-Sep-02	9:57:26	14.006	3.941	27.676	16.796	N/A	0.0529	14.374	23.685 pt 4-3
24-Sep-02	9:57:56	13.949	3.939	27.233	16.838	N/A	0.0531	14.293	23.117 pt 4-3
24-Sep-02	9:58:07	14.072	3.941	27.136	16.842	N/A	0.0531	14.554	23.449 pt 4-4
24-Sep-02	9:58:37	13.949	3.939	26.959	16.922	N/A	0.0533	14.364	22.884 pt 4-4
24-Sep-02	9:59:07	14.016	3.935	26.822	16.838	N/A	0.0531	14.431	22.987 pt 4-4
24-Sep-02	9:59:37	14.072	3.933	27.185	16.796	N/A	0.0530	14.514	23.491 pt 4-4
24-Sep-02	10:00:07	14.085	3.935	27.410	16.834	N/A	0.0531	14.573	23.729 pt 4-4
24-Sep-02	10:00:18	14.006	3.933	27.499	16.884	N/A	0.0533	14.450	23.534 pt 4-5
24-Sep-02	10:00:48	14.072	3.935	27.366	16.968	N/A	0.0535	14.662	23.648 pt 4-5

24-Sep-02	10:01:18	14.016	3.933	27.229	16.968	N/A	0.0536	14.542	23.336 pt 4-5
24-Sep-02	10:01:48	13.881	3.935	27.185	16.880	N/A	0.0533	14.188	22.849 pt 4-5
24-Sep-02	10:02:18	13.871	3.933	27.185	16.926	N/A	0.0534	14.207	22.817 pt 4-5
24-Sep-02	10:02:33	14.006	3.933	26.910	16.884	N/A	0.0533	14.450	23.030 pt 4-6
24-Sep-02	10:03:03	14.004	3.931	26.693	17.010	N/A	0.0537	14.552	22.836 pt 4-6
24-Sep-02	10:03:33	13.949	3.935	26.782	17.051	N/A	0.0538	14.474	22.734 pt 4-6
24-Sep-02	10:04:03	14.004	3.933	26.826	17.010	N/A	0.0537	14.552	22.950 pt 4-6
24-Sep-02	10:04:33	14.016	3.935	26.782	17.010	N/A	0.0537	14.578	22.953 pt 4-6
24-Sep-02	10:04:49	14.004	3.937	26.777	16.968	N/A	0.0535	14.516	22.908 pt 4-7
24-Sep-02	10:05:19	14.004	3.937	26.782	17.051	N/A	0.0538	14.588	22.912 pt 4-7
24-Sep-02	10:05:49	13.949	3.935	26.693	16.926	N/A	0.0534	14.368	22.659 pt 4-7
24-Sep-02	10:06:19	14.008	3.939	27.185	16.796	N/A	0.0530	14.380	23.273 pt 4-7
24-Sep-02	10:06:49	13.937	3.937	27.092	16.884	N/A	0.0533	14.307	22.956 pt 4-7
24-Sep-02	10:07:10	13.949	3.935	26.910	16.838	N/A	0.0531	14.293	22.843 pt 4-8
24-Sep-02	10:07:40	14.016	3.935	26.468	16.926	N/A	0.0534	14.506	22.684 pt 4-8
24-Sep-02	10:08:10	13.937	3.933	26.822	16.926	N/A	0.0534	14.342	22.727 pt 4-8
24-Sep-02	10:08:40	13.949	3.935	26.693	17.010	N/A	0.0537	14.439	22.659 pt 4-8
24-Sep-02	10:09:10	13.883	3.933	27.136	16.838	N/A	0.0532	14.158	22.816 pt 4-8
24-Sep-02	10:09:20	13.937	3.935	27.136	16.796	N/A	0.0530	14.232	22.994 pt 4-9
24-Sep-02	10:09:50	13.959	3.935	27.370	16.755	N/A	0.0529	14.242	23.266 pt 4-9
24-Sep-02	10:10:20	14.016	3.935	27.592	16.796	N/A	0.0530	14.395	23.647 pt 4-9
24-Sep-02	10:10:50	14.070	3.935	27.680	16.759	N/A	0.0529	14.477	23.911 pt 4-9
24-Sep-02	10:11:20	14.018	3.933	27.871	16.755	N/A	0.0529	14.364	23.894 pt 4-9

Florida Power Air Emissions Test Team

Emissions Monitoring Data

Summary of Emissions Testing Results

Gainesville, Florida

IDLE

24/Sep/02 Florida Power University of Florida Unit # CT 001 & DB 002

Date	Start Time	End Time	O2 %V	CO2 %V	CO ppmV	NOx ppmV	SO2 ppmV	NOx lb/Mmbtu	NOx @15%O2	CO @15%O2	Comments
24/Sep/02	10:09:16	10:11:20	14.000	3.934	27.530	16.772	#DIV/0!	0.0529	14.342	23.542	Avg So Far: pt 4-9
24/Sep/02	08:47:27	08:49:32	14.003	3.897	23.648	17.179	#DIV/0!	0.0547	14.696	20.229	pt 1-1
24/Sep/02	08:49:54	08:51:59	13.968	3.898	23.609	17.204	#DIV/0!	0.0548	14.643	20.094	pt 1-2
24/Sep/02	08:52:17	08:54:21	13.993	3.907	23.548	17.237	#DIV/0!	0.0548	14.723	20.114	pt 1-3
24/Sep/02	08:54:31	08:56:35	13.954	3.939	26.278	17.119	#DIV/0!	0.0540	14.541	22.324	pt 1-4
24/Sep/02	08:56:43	08:58:47	14.006	3.928	30.938	16.982	#DIV/0!	0.0537	14.536	26.472	pt 1-5
24/Sep/02	08:58:55	09:00:59	14.075	3.898	24.256	17.256	#DIV/0!	0.0550	14.917	20.973	pt 1-6
24/Sep/02	09:01:09	09:03:14	14.064	3.897	23.689	17.415	#DIV/0!	0.0555	15.032	20.447	pt 1-7
24/Sep/02	09:03:33	09:05:39	14.076	3.877	23.467	17.007	#DIV/0!	0.0545	14.704	20.290	pt 1-8
24/Sep/02	09:05:53	09:07:57	14.119	3.877	23.336	16.833	#DIV/0!	0.0539	14.645	20.304	pt 1-9
24/Sep/02	09:08:04	09:10:08	14.110	3.875	23.245	16.799	#DIV/0!	0.0538	14.598	20.199	pt 2-1
24/Sep/02	09:10:14	09:12:18	14.044	3.899	25.241	16.493	#DIV/0!	0.0525	14.196	21.714	pt 2-2
24/Sep/02	09:12:25	09:14:30	13.994	3.924	30.858	16.607	#DIV/0!	0.0526	14.188	26.364	pt 2-3
24/Sep/02	09:14:36	09:16:41	13.996	3.922	30.100	17.027	#DIV/0!	0.0539	14.552	25.723	pt 2-4
24/Sep/02	09:16:49	09:18:54	14.063	3.901	24.569	17.366	#DIV/0!	0.0553	14.988	21.206	pt 2-5
24/Sep/02	09:19:03	09:21:08	13.968	3.934	26.567	17.516	#DIV/0!	0.0553	14.910	22.596	pt 2-6
24/Sep/02	09:21:16	09:23:20	13.845	3.964	28.605	17.577	#DIV/0!	0.0551	14.699	23.922	pt 2-7
24/Sep/02	09:23:28	09:25:34	13.891	3.969	28.924	17.560	#DIV/0!	0.0549	14.781	24.346	pt 2-8
24/Sep/02	09:25:41	09:27:48	13.926	3.959	30.104	17.430	#DIV/0!	0.0547	14.745	25.468	pt 2-9
24/Sep/02	09:31:40	09:33:44	13.941	3.937	30.201	17.161	#DIV/0!	0.0541	14.549	25.605	pt 3-1
24/Sep/02	09:33:50	09:35:53	13.932	3.961	29.491	17.413	#DIV/0!	0.0546	14.743	24.973	pt 3-2
24/Sep/02	09:35:59	09:38:04	13.900	3.971	29.421	17.605	#DIV/0!	0.0550	14.840	24.799	pt 3-3
24/Sep/02	09:38:11	09:40:17	13.939	3.971	30.422	17.283	#DIV/0!	0.0540	14.649	25.787	pt 3-4
24/Sep/02	09:40:24	09:42:29	13.927	3.972	30.749	17.265	#DIV/0!	0.0540	14.609	26.019	pt 3-5
24/Sep/02	09:42:36	09:44:41	13.944	3.973	31.018	17.256	#DIV/0!	0.0539	14.636	26.309	pt 3-6
24/Sep/02	09:44:47	09:46:53	13.942	3.974	30.362	17.189	#DIV/0!	0.0537	14.575	25.743	pt 3-7
24/Sep/02	09:47:00	09:49:04	13.975	3.970	29.298	17.095	#DIV/0!	0.0535	14.566	24.964	pt 3-8
24/Sep/02	09:49:10	09:51:16	13.942	3.958	29.104	17.001	#DIV/0!	0.0533	14.416	24.681	pt 3-9
24/Sep/02	09:51:25	09:53:29	13.960	3.959	28.104	16.993	#DIV/0!	0.0533	14.447	23.893	pt 4-1
24/Sep/02	09:53:37	09:55:42	14.064	3.951	27.629	16.959	#DIV/0!	0.0533	14.637	23.845	pt 4-2

24/Sep/02	09:55:49	09:57:56	14.010	3.939	27.228	16.822	#DIV/0!	0.0530	14.407	23.317 pt 4-3
24/Sep/02	09:58:04	10:00:07	14.039	3.936	27.102	16.847	#DIV/0!	0.0531	14.487	23.308 pt 4-4
24/Sep/02	10:00:14	10:02:18	13.969	3.934	27.293	16.925	#DIV/0!	0.0534	14.410	23.237 pt 4-5
24/Sep/02	10:02:28	10:04:33	13.996	3.933	26.799	16.993	#DIV/0!	0.0536	14.521	22.901 pt 4-6
24/Sep/02	10:04:41	10:06:49	13.980	3.937	26.906	16.925	#DIV/0!	0.0534	14.432	22.942 pt 4-7
24/Sep/02	10:07:04	10:09:10	13.947	3.934	26.806	16.908	#DIV/0!	0.0534	14.348	22.746 pt 4-8
24/Sep/02	10:09:16	10:11:20	14.000	3.934	27.530	16.772	#DIV/0!	0.0529	14.342	23.542 pt 4-9

Florida Power Air Emissions Test Team

IDLE

1 minute

Complaince & RATA

24-Sep-02 Florida Power University of Florida Unit # CT 001 & DB 002

	Parameter	O2	CO2	CO	NOx	SO2	NOx	NOx	CO	Comments
	Units	%V	%V	ppmV	ppmV	ppmV	lb/Mmbtu	@15%O2	@15%O2	
INSTANTANEOUS:		**13.938**	**3.925**	**29.080**	**16.710**	**N/A**	**0.0529**	**14.160**	**24.643**	**run 1 pt 8**
24-Sep-02	10:20:57	14.018	3.935	27.455	16.838	N/A	0.0531	14.436	23.539	run 1 pt 1
24-Sep-02	10:21:57	14.073	3.933	27.632	16.666	N/A	0.0526	14.402	23.878	run 1 pt 1
24-Sep-02	10:22:57	14.043	3.933	27.783	16.671	N/A	0.0526	14.344	23.905	run 1 pt 1
24-Sep-02	10:23:57	13.937	3.933	27.185	16.671	N/A	0.0526	14.126	23.036	run 1 pt 1
24-Sep-02	10:24:57	14.006	3.939	27.052	16.884	N/A	0.0532	14.450	23.152	run 1 pt 1
24-Sep-02	10:25:57	13.883	3.939	26.596	16.884	N/A	0.0532	14.197	22.363	run 1 pt 1
24-Sep-02	10:26:57	13.940	3.939	26.331	16.926	N/A	0.0534	14.347	22.320	run 1 pt 1
24-Sep-02	10:27:57	13.937	3.941	26.596	16.884	N/A	0.0532	14.307	22.537	run 1 pt 1
24-Sep-02	10:28:57	13.977	3.939	27.366	16.712	N/A	0.0527	14.242	23.321	run 1 pt 1
24-Sep-02	10:29:22	14.004	3.939	27.318	16.712	N/A	0.0527	14.298	23.371	run 1 pt 2
24-Sep-02	10:30:22	14.004	3.939	28.048	16.671	N/A	0.0526	14.262	23.996	run 1 pt 2
24-Sep-02	10:31:22	14.006	3.929	27.822	16.671	N/A	0.0527	14.267	23.811	run 1 pt 2
24-Sep-02	10:32:22	14.018	3.923	28.230	16.712	N/A	0.0529	14.329	24.203	run 1 pt 2
24-Sep-02	10:33:22	14.073	3.925	28.048	16.708	N/A	0.0529	14.438	24.238	run 1 pt 2
24-Sep-02	10:34:22	14.073	3.925	27.544	16.754	N/A	0.0530	14.478	23.802	run 1 pt 2
24-Sep-02	10:35:22	14.006	3.925	27.371	16.817	N/A	0.0532	14.392	23.425	run 1 pt 2
24-Sep-02	10:36:22	14.016	3.923	27.269	16.884	N/A	0.0534	14.470	23.371	run 1 pt 2
24-Sep-02	10:37:22	13.950	3.937	26.729	16.796	N/A	0.0530	14.257	22.689	run 1 pt 2
24-Sep-02	10:37:41	14.006	3.941	26.596	16.754	N/A	0.0528	14.339	22.762	run 1 pt 3
24-Sep-02	10:38:41	14.006	3.945	26.778	16.800	N/A	0.0529	14.378	22.917	run 1 pt 3
24-Sep-02	10:39:41	14.004	3.949	26.238	16.838	N/A	0.0529	14.405	22.447	run 1 pt 3
24-Sep-02	10:40:41	13.949	3.949	26.512	16.842	N/A	0.0530	14.297	22.505	run 1 pt 3
24-Sep-02	10:41:41	14.018	3.947	27.052	16.629	N/A	0.0523	14.257	23.192	run 1 pt 3
24-Sep-02	10:42:41	13.952	3.945	27.782	16.500	N/A	0.0519	14.011	23.591	run 1 pt 3
24-Sep-02	10:43:41	14.018	3.945	27.866	16.454	N/A	0.0518	14.106	23.891	run 1 pt 3
24-Sep-02	10:44:41	14.072	3.925	28.229	16.546	N/A	0.0523	14.298	24.393	run 1 pt 3
24-Sep-02	10:45:41	14.208	3.888	24.401	16.755	N/A	0.0535	14.771	21.512	run 1 pt 3
24-Sep-02	10:46:01	14.085	3.890	24.401	16.796	N/A	0.0536	14.540	21.123	run 1 pt 4
24-Sep-02	10:47:01	14.151	3.888	21.661	16.842	N/A	0.0538	14.724	18.936	run 1 pt 4
24-Sep-02	10:48:01	14.154	3.886	21.794	16.801	N/A	0.0537	14.693	19.060	run 1 pt 4
24-Sep-02	10:49:01	14.006	3.927	22.113	16.842	N/A	0.0533	14.414	18.924	run 1 pt 4
24-Sep-02	10:50:01	14.072	3.949	29.663	16.542	N/A	0.0520	14.294	25.633	run 1 pt 4
24-Sep-02	10:51:01	13.937	3.949	28.588	16.500	N/A	0.0519	13.981	24.224	run 1 pt 4
24-Sep-02	10:52:01	13.940	3.951	28.185	16.500	N/A	0.0519	13.986	23.891	run 1 pt 4

24-Sep-02	10:53:01	13.952	3.953	27.317	16.583 N/A	0.0521	14.082	23.197 run 1 pt 4
24-Sep-02	10:54:01	14.016	3.953	27.269	16.587 N/A	0.0521	14.216	23.370 run 1 pt 4
24-Sep-02	10:54:50	13.952	3.951	27.370	16.671 N/A	0.0524	14.156	23.242 run 1 pt 5
24-Sep-02	10:55:50	14.018	3.953	28.636	16.546 N/A	0.0520	14.185	24.551 run 1 pt 5
24-Sep-02	10:56:50	14.018	3.951	28.229	16.667 N/A	0.0524	14.289	24.202 run 1 pt 5
24-Sep-02	10:57:50	14.008	3.949	27.871	16.671 N/A	0.0524	14.272	23.860 run 1 pt 5
24-Sep-02	10:58:50	14.018	3.937	27.915	16.755 N/A	0.0528	14.364	23.932 run 1 pt 5
24-Sep-02	10:59:50	14.072	3.931	28.273	16.671 N/A	0.0527	14.406	24.432 run 1 pt 5
24-Sep-02	11:00:50	14.054	3.899	26.195	16.839 N/A	0.0536	14.728	22.910 run 1 pt 5
24-Sep-02	11:01:50	14.042	3.899	21.747	16.843 N/A	0.0536	14.705	18.985 run 1 pt 5
24-Sep-02	11:02:50	13.953	3.924	22.065	16.839 N/A	0.0533	14.300	18.738 run 1 pt 5
24-Sep-02	11:03:30	14.019	3.944	27.544	16.630 N/A	0.0524	14.259	23.617 run 1 pt 6
24-Sep-02	11:04:30	14.007	3.940	29.797	16.500 N/A	0.0520	14.123	25.508 run 1 pt 6
24-Sep-02	11:05:30	14.007	3.934	28.593	16.714 N/A	0.0528	14.305	24.473 run 1 pt 6
24-Sep-02	11:06:30	14.007	3.934	28.230	16.630 N/A	0.0525	14.234	24.162 run 1 pt 6
24-Sep-02	11:07:30	14.007	3.932	28.230	16.714 N/A	0.0528	14.305	24.162 run 1 pt 6
24-Sep-02	11:08:30	14.007	3.932	27.916	16.755 N/A	0.0529	14.341	23.898 run 1 pt 6
24-Sep-02	11:09:30	14.007	3.934	27.270	16.797 N/A	0.0530	14.377	23.340 run 1 pt 6
24-Sep-02	11:10:30	14.019	3.934	27.589	16.755 N/A	0.0529	14.366	23.655 run 1 pt 6
24-Sep-02	11:11:30	13.953	3.932	27.739	16.714 N/A	0.0528	14.194	23.557 run 1 pt 6
24-Sep-02	11:11:47	14.007	3.932	27.823	16.714 N/A	0.0528	14.305	23.814 run 1 pt 7
24-Sep-02	11:12:47	14.019	3.934	28.049	16.668 N/A	0.0526	14.291	24.050 run 1 pt 7
24-Sep-02	11:13:47	14.007	3.934	28.868	16.672 N/A	0.0526	14.269	24.708 run 1 pt 7
24-Sep-02	11:14:47	14.007	3.932	28.722	16.755 N/A	0.0529	14.341	24.588 run 1 pt 7
24-Sep-02	11:15:47	13.950	3.932	28.868	16.885 N/A	0.0533	14.334	24.507 run 1 pt 7
24-Sep-02	11:16:47	14.019	3.930	29.045	16.843 N/A	0.0532	14.442	24.904 run 1 pt 7
24-Sep-02	11:17:47	13.940	3.928	28.996	16.885 N/A	0.0534	14.314	24.581 run 1 pt 7
24-Sep-02	11:18:47	13.940	3.930	28.230	16.881 N/A	0.0533	14.311	23.932 run 1 pt 7
24-Sep-02	11:19:47	14.019	3.928	28.722	16.885 N/A	0.0534	14.478	24.627 run 1 pt 7
24-Sep-02	11:19:59	14.031	3.928	28.722	16.839 N/A	0.0532	14.464	24.671 run 1 pt 8
24-Sep-02	11:20:59	14.073	3.927	28.818	16.798 N/A	0.0531	14.517	24.906 run 1 pt 8
24-Sep-02	11:21:59	14.007	3.927	28.818	16.631 N/A	0.0526	14.234	24.666 run 1 pt 8
24-Sep-02	11:22:59	14.007	3.925	29.305	16.585 N/A	0.0525	14.194	25.082 run 1 pt 8
24-Sep-02	11:23:59	13.940	3.927	29.757	16.585 N/A	0.0524	14.059	25.225 run 1 pt 8
24-Sep-02	11:24:59	13.940	3.927	29.349	16.714 N/A	0.0529	14.169	24.880 run 1 pt 8
24-Sep-02	11:25:59	14.016	3.927	29.261	16.668 N/A	0.0527	14.286	25.080 run 1 pt 8
24-Sep-02	11:26:59	14.019	3.927	29.305	16.631 N/A	0.0526	14.259	25.127 run 1 pt 8
24-Sep-02	11:27:59	14.019	3.927	29.535	16.798 N/A	0.0531	14.402	25.324 run 1 pt 8

Florida Power Air Emissions Test Team

Emissions Monitoring Data

Summary of Emissions Testing Results

Gainesville, Florida

IDLE

24/Sep/02 — Florida Power — University of Florida — Unit # CT 001 & DB 002

Date	Start Time	End Time	O2 %V	CO2 %V	CO ppmV	NOx ppmV	SO2 ppmV	NOx lb/Mmbtu	NOx @15%O2	CO @15%O2	Comments
24/Sep/02	11:19:52	11:27:59	14.006	3.927	29.208	16.694	#DIV/0!	0.0528	14.287	24.995	Avg Sq Far: run 1 pt 8
24/Sep/02	10:20:43	10:28:57	13.979	3.937	27.111	16.793	#DIV/0!	0.0530	14.317	23.117	run 1 pt 1
24/Sep/02	10:29:12	10:37:22	14.016	3.930	27.598	16.747	#DIV/0!	0.0529	14.355	23.656	run 1 pt 2
24/Sep/02	10:37:34	10:45:41	14.026	3.937	26.828	16.680	#DIV/0!	0.0526	14.318	23.023	run 1 pt 3
24/Sep/02	10:45:50	10:54:01	14.035	3.927	25.666	16.666	#DIV/0!	0.0527	14.325	22.040	run 1 pt 4
24/Sep/02	10:54:15	11:02:50	14.037	3.932	26.478	16.722	#DIV/0!	0.0528	14.378	22.761	run 1 pt 5
24/Sep/02	11:03:25	11:11:30	14.003	3.935	28.101	16.690	#DIV/0!	0.0527	14.278	24.040	run 1 pt 6
24/Sep/02	11:11:42	11:19:47	13.990	3.931	28.591	16.799	#DIV/0!	0.0531	14.343	24.412	run 1 pt 7
24/Sep/02	11:19:52	11:27:59	14.006	3.927	29.208	16.694	#DIV/0!	0.0528	14.287	24.995	run 1 pt 8

Florida Power Air Emissions Test Team

IDLE

1 minute

Complaince & RATA

24-Sep-02 Florida Power University of Florida Unit # CT 001 & DB 002

	Parameter	O2	CO2	CO	NOx	SO2	NOx	NOx	CO	Comments
	Units	%V	%V	ppmV	ppmV	ppmV	lb/Mmbtu	@15%O2	@15%O2	
INSTANTANEOUS:		**14.085**	**3.930**	**26.870**	**16.727**	**N/A**	**0.0529**	**14.480**	**23.261**	**run 2 pt 8**
24-Sep-02	11:39:32	13.884	3.911	27.916	16.802	N/A	0.0533	14.128	23.474	run 2 pt 1
24-Sep-02	11:40:32	13.951	3.918	28.507	16.837	N/A	0.0534	14.296	24.205	run 2 pt 1
24-Sep-02	11:41:32	13.951	3.918	28.361	16.799	N/A	0.0532	14.264	24.081	run 2 pt 1
24-Sep-02	11:42:32	13.951	3.920	28.233	16.879	N/A	0.0535	14.331	23.972	run 2 pt 1
24-Sep-02	11:43:32	14.015	3.920	28.817	16.879	N/A	0.0535	14.464	24.695	run 2 pt 1
24-Sep-02	11:44:32	14.003	3.920	29.127	16.753	N/A	0.0531	14.332	24.916	run 2 pt 1
24-Sep-02	11:45:32	13.949	3.920	29.127	16.737	N/A	0.0530	14.206	24.722	run 2 pt 1
24-Sep-02	11:46:32	13.961	3.918	28.591	16.795	N/A	0.0532	14.281	24.311	run 2 pt 1
24-Sep-02	11:47:32	14.018	3.920	28.719	16.837	N/A	0.0533	14.434	24.620	run 2 pt 1
24-Sep-02	11:48:04	14.005	3.918	29.078	16.712	N/A	0.0530	14.301	24.883	run 2 pt 2
24-Sep-02	11:49:04	14.015	3.918	28.458	16.837	N/A	0.0534	14.429	24.388	run 2 pt 2
24-Sep-02	11:50:04	14.018	3.918	27.312	16.967	N/A	0.0538	14.545	23.414	run 2 pt 2
24-Sep-02	11:51:04	13.939	3.918	26.546	17.008	N/A	0.0539	14.416	22.500	run 2 pt 2
24-Sep-02	11:52:04	13.880	3.918	26.334	17.096	N/A	0.0542	14.369	22.132	run 2 pt 2
24-Sep-02	11:53:04	14.005	3.918	26.241	17.096	N/A	0.0542	14.630	22.455	run 2 pt 2
24-Sep-02	11:54:04	14.003	3.920	25.794	17.180	N/A	0.0544	14.696	22.065	run 2 pt 2
24-Sep-02	11:55:04	13.949	3.922	25.882	17.092	N/A	0.0541	14.507	21.969	run 2 pt 2
24-Sep-02	11:56:04	13.937	3.928	25.657	17.008	N/A	0.0538	14.411	21.739	run 2 pt 2
24-Sep-02	11:56:15	13.937	3.928	25.657	17.096	N/A	0.0540	14.485	21.739	run 2 pt 3
24-Sep-02	11:57:15	13.937	3.940	24.984	17.092	N/A	0.0539	14.482	21.169	run 2 pt 3
24-Sep-02	11:58:15	13.946	3.938	25.028	17.050	N/A	0.0538	14.467	21.236	run 2 pt 3
24-Sep-02	11:59:15	13.892	3.938	25.161	17.096	N/A	0.0539	14.394	21.184	run 2 pt 3
24-Sep-02	12:00:15	13.951	3.940	25.080	17.141	N/A	0.0540	14.553	21.293	run 2 pt 3
24-Sep-02	12:01:15	13.884	3.942	25.523	17.183	N/A	0.0541	14.450	21.464	run 2 pt 3
24-Sep-02	12:02:15	13.951	3.940	25.983	17.058	N/A	0.0538	14.482	22.059	run 2 pt 3
24-Sep-02	12:03:15	13.938	3.940	25.753	17.099	N/A	0.0539	14.492	21.825	run 2 pt 3
24-Sep-02	12:04:15	13.951	3.940	25.753	17.183	N/A	0.0542	14.588	21.864	run 2 pt 3
24-Sep-02	12:04:43	13.951	3.934	25.580	17.137	N/A	0.0541	14.549	21.717	run 2 pt 4
24-Sep-02	12:05:43	13.870	3.934	25.346	17.225	N/A	0.0544	14.455	21.270	run 2 pt 4
24-Sep-02	12:06:43	13.938	3.932	24.638	17.267	N/A	0.0545	14.633	20.880	run 2 pt 4
24-Sep-02	12:07:43	13.951	3.934	24.682	17.396	N/A	0.0549	14.769	20.955	run 2 pt 4
24-Sep-02	12:08:43	13.936	3.934	24.766	17.350	N/A	0.0548	14.699	20.982	run 2 pt 4
24-Sep-02	12:09:43	14.005	3.934	25.080	17.313	N/A	0.0546	14.814	21.460	run 2 pt 4
24-Sep-02	12:10:43	13.936	3.932	25.164	17.267	N/A	0.0545	14.628	21.319	run 2 pt 4

24-Sep-02	12:11:43	13.951	3.926	25.120	17.225	N/A	0.0545	14.624	21.327 run 2 pt 4
24-Sep-02	12:12:43	14.005	3.926	25.262	17.392	N/A	0.0550	14.882	21.615 run 2 pt 4
24-Sep-02	12:13:00	13.961	3.916	25.164	17.350	N/A	0.0550	14.751	21.395 run 2 pt 5
24-Sep-02	12:14:00	13.936	3.916	25.350	17.354	N/A	0.0550	14.703	21.477 run 2 pt 5
24-Sep-02	12:15:00	14.017	3.916	25.580	17.308	N/A	0.0549	14.837	21.927 run 2 pt 5
24-Sep-02	12:16:00	13.988	3.914	25.753	17.267	N/A	0.0548	14.738	21.981 run 2 pt 5
24-Sep-02	12:17:00	14.017	3.906	25.664	17.267	N/A	0.0549	14.801	21.999 run 2 pt 5
24-Sep-02	12:18:00	14.071	3.904	25.881	17.267	N/A	0.0549	14.918	22.361 run 2 pt 5
24-Sep-02	12:19:00	14.002	3.906	25.757	17.225	N/A	0.0548	14.733	22.032 run 2 pt 5
24-Sep-02	12:20:00	14.013	3.905	25.799	17.219	N/A	0.0547	14.752	22.103 run 2 pt 5
24-Sep-02	12:21:00	14.001	3.905	25.755	17.139	N/A	0.0545	14.657	22.026 run 2 pt 5
24-Sep-02	12:21:16	14.004	3.896	25.755	17.181	N/A	0.0548	14.698	22.034 run 2 pt 6
24-Sep-02	12:22:16	14.004	3.898	26.291	17.135	N/A	0.0546	14.659	22.492 run 2 pt 6
24-Sep-02	12:23:16	13.947	3.896	25.936	17.181	N/A	0.0548	14.579	22.008 run 2 pt 6
24-Sep-02	12:24:16	14.004	3.894	25.574	17.223	N/A	0.0549	14.734	21.878 run 2 pt 6
24-Sep-02	12:25:16	14.013	3.896	26.069	17.181	N/A	0.0548	14.719	22.334 run 2 pt 6
24-Sep-02	12:26:16	14.016	3.898	25.883	17.097	N/A	0.0545	14.653	22.183 run 2 pt 6
24-Sep-02	12:27:16	14.016	3.898	25.936	17.097	N/A	0.0545	14.653	22.228 run 2 pt 6
24-Sep-02	12:28:16	14.001	3.899	25.981	17.051	N/A	0.0543	14.582	22.219 run 2 pt 6
24-Sep-02	12:29:16	14.004	3.899	26.114	17.051	N/A	0.0543	14.588	22.340 run 2 pt 6
24-Sep-02	12:29:33	14.013	3.898	26.198	17.097	N/A	0.0545	14.648	22.444 run 2 pt 7
24-Sep-02	12:30:33	14.001	3.899	26.875	17.010	N/A	0.0542	14.547	22.983 run 2 pt 7
24-Sep-02	12:31:33	14.016	3.898	27.140	17.010	N/A	0.0542	14.578	23.260 run 2 pt 7
24-Sep-02	12:32:33	14.016	3.898	27.419	17.010	N/A	0.0542	14.578	23.499 run 2 pt 7
24-Sep-02	12:33:33	14.070	3.898	27.145	17.010	N/A	0.0542	14.693	23.448 run 2 pt 7
24-Sep-02	12:34:33	14.004	3.898	26.600	17.010	N/A	0.0542	14.552	22.757 run 2 pt 7
24-Sep-02	12:35:33	14.016	3.899	26.738	17.097	N/A	0.0544	14.653	22.915 run 2 pt 7
24-Sep-02	12:36:33	14.004	3.899	26.698	17.097	N/A	0.0544	14.627	22.840 run 2 pt 7
24-Sep-02	12:37:33	14.016	3.899	26.291	17.135	N/A	0.0546	14.685	22.532 run 2 pt 7
24-Sep-02	12:38:01	14.013	3.899	26.065	17.181	N/A	0.0547	14.719	22.330 run 2 pt 8
24-Sep-02	12:39:01	14.016	3.903	26.158	17.139	N/A	0.0545	14.689	22.418 run 2 pt 8
24-Sep-02	12:40:01	14.004	3.906	26.468	16.968	N/A	0.0539	14.516	22.643 run 2 pt 8
24-Sep-02	12:41:03	13.994	3.926	26.733	16.896	N/A	0.0534	14.434	22.838 run 2 pt 8
24-Sep-02	12:42:03	13.937	3.926	26.193	16.768	N/A	0.0530	14.208	22.195 run 2 pt 8
24-Sep-02	12:43:03	14.004	3.936	26.419	16.768	N/A	0.0529	14.345	22.602 run 2 pt 8
24-Sep-02	12:44:03	14.004	3.936	26.291	16.768	N/A	0.0529	14.345	22.492 run 2 pt 8
24-Sep-02	12:45:03	14.004	3.934	26.552	16.727	N/A	0.0528	14.310	22.715 run 2 pt 8
24-Sep-02	12:46:03	14.018	3.934	26.959	16.644	N/A	0.0525	14.270	23.113 run 2 pt 8

Florida Power Air Emissions Test Team

Emissions Monitoring Data

Gainesville, Florida

Summary of Emissions Testing Results

IDLE

24/Sep/02

Florida Power — University of Florida — Unit # CT 001 & DB 002

Date	Start Time	End Time	O2 %V	CO2 %V	CO ppmV	NOx ppmV	SO2 ppmV	NOx lb/Mmbtu	NOx @15%O2	CO @15%O2	Comments
24/Sep/02	12:37:54	12:46:03	13.999	3.922	26.426	16.873	#DIV/0!	0.0534	14.426	22.594	Avg So Far: run 2 pt 8
24/Sep/02	11:39:26	11:47:32	13.965	3.919	28.600	16.813	#DIV/0!	0.0533	14.304	24.333	run 2 pt 1
24/Sep/02	11:47:58	11:56:04	13.972	3.920	26.811	17.000	#DIV/0!	0.0538	14.478	22.838	run 2 pt 2
24/Sep/02	11:56:10	12:04:15	13.932	3.938	25.436	17.111	#DIV/0!	0.0540	14.488	21.537	run 2 pt 3
24/Sep/02	12:04:36	12:12:43	13.949	3.932	25.071	17.286	#DIV/0!	0.0546	14.673	21.281	run 2 pt 4
24/Sep/02	12:12:54	12:21:00	14.001	3.910	25.634	17.266	#DIV/0!	0.0548	14.765	21.922	run 2 pt 5
24/Sep/02	12:21:09	12:29:16	14.001	3.897	25.949	17.133	#DIV/0!	0.0546	14.652	22.191	run 2 pt 6
24/Sep/02	12:29:28	12:37:33	14.017	3.898	26.789	17.053	#DIV/0!	0.0543	14.618	22.964	run 2 pt 7
24/Sep/02	12:37:54	12:46:03	13.999	3.922	26.426	16.873	#DIV/0!	0.0534	14.426	22.594	run 2 pt 8

Florida Power Air Emissions Test Team

IDLE

1 minute

Complaince & RATA

24-Sep-02 Florida Power University of Florida Unit # CT 001 & DB 002

	Parameter	O2	CO2	CO	NOx	SO2	NOx	NOx	CO	Comments
	Units	%V	%V	ppmV	ppmV	ppmV	lb/Mmbtu	@15%O2	@15%O2	
INSTANTANEOUS:		**14.133**	**3.851**	**20.226**	**16.698**	**N/A**	**0.0539**	**14.560**	**17.636**	**run 3 pt 8**
24-Sep-02	12:57:05	13.940	3.914	26.826	16.528	N/A	0.0524	14.010	22.739	run 3 pt 1
24-Sep-02	12:58:05	14.018	3.914	26.468	16.609	N/A	0.0527	14.240	22.692	run 3 pt 1
24-Sep-02	12:59:05	14.016	3.912	26.547	16.609	N/A	0.0527	14.235	22.752	run 3 pt 1
24-Sep-02	13:00:05	14.015	3.912	26.692	16.649	N/A	0.0528	14.268	22.874	run 3 pt 1
24-Sep-02	13:01:05	14.005	3.911	26.909	16.608	N/A	0.0527	14.212	23.027	run 3 pt 1
24-Sep-02	13:02:05	14.015	3.911	26.781	16.649	N/A	0.0529	14.268	22.950	run 3 pt 1
24-Sep-02	13:03:05	13.939	3.911	27.095	16.690	N/A	0.0530	14.146	22.965	run 3 pt 1
24-Sep-02	13:04:05	14.015	3.911	26.595	16.694	N/A	0.0530	14.306	22.791	run 3 pt 1
24-Sep-02	13:05:05	13.951	3.911	26.825	16.408	N/A	0.0521	13.932	22.777	run 3 pt 1
24-Sep-02	13:05:17	14.005	3.911	27.055	16.408	N/A	0.0521	14.041	23.152	run 3 pt 2
24-Sep-02	13:06:17	14.003	3.911	26.422	16.489	N/A	0.0524	14.105	22.603	run 3 pt 2
24-Sep-02	13:07:17	14.005	3.914	25.705	16.614	N/A	0.0527	14.217	21.997	run 3 pt 2
24-Sep-02	13:08:17	13.883	3.912	25.750	16.448	N/A	0.0522	13.829	21.649	run 3 pt 2
24-Sep-02	13:09:17	14.015	3.912	26.064	16.408	N/A	0.0521	14.061	22.336	run 3 pt 2
24-Sep-02	13:10:17	14.003	3.912	26.064	16.388	N/A	0.0520	14.019	22.296	run 3 pt 2
24-Sep-02	13:11:17	13.937	3.914	26.511	16.243	N/A	0.0515	13.762	22.462	run 3 pt 2
24-Sep-02	13:12:17	13.951	3.912	26.551	16.243	N/A	0.0516	13.791	22.544	run 3 pt 2
24-Sep-02	13:13:17	14.072	3.914	26.467	16.327	N/A	0.0518	14.108	22.869	run 3 pt 2
24-Sep-02	13:13:40	14.005	3.914	26.515	16.368	N/A	0.0519	14.007	22.690	run 3 pt 3
24-Sep-02	13:14:40	14.015	3.912	26.737	16.327	N/A	0.0518	13.992	22.912	run 3 pt 3
24-Sep-02	13:15:40	14.003	3.912	27.502	16.368	N/A	0.0519	14.002	23.527	run 3 pt 3
24-Sep-02	13:16:40	14.015	3.912	27.139	16.368	N/A	0.0519	14.027	23.257	run 3 pt 3
24-Sep-02	13:17:40	14.069	3.914	27.268	16.408	N/A	0.0521	14.172	23.552	run 3 pt 3
24-Sep-02	13:18:40	14.018	3.912	27.055	16.368	N/A	0.0519	14.032	23.194	run 3 pt 3
24-Sep-02	13:19:40	14.003	3.912	26.914	16.448	N/A	0.0522	14.071	23.023	run 3 pt 3
24-Sep-02	13:20:40	13.949	3.914	26.707	16.575	N/A	0.0526	14.069	22.670	run 3 pt 3
24-Sep-02	13:21:40	13.937	3.912	26.021	16.571	N/A	0.0526	14.041	22.049	run 3 pt 3
24-Sep-02	13:21:58	13.949	3.912	26.065	16.631	N/A	0.0528	14.117	22.125	run 3 pt 4
24-Sep-02	13:22:58	13.935	3.922	26.158	16.575	N/A	0.0525	14.039	22.157	run 3 pt 4
24-Sep-02	13:23:58	13.871	3.926	25.976	16.700	N/A	0.0528	14.017	21.803	run 3 pt 4
24-Sep-02	13:24:58	13.937	3.926	24.985	16.821	N/A	0.0532	14.253	21.171	run 3 pt 4
24-Sep-02	13:25:58	13.949	3.924	24.941	16.821	N/A	0.0532	14.278	21.171	run 3 pt 4
24-Sep-02	13:26:58	13.947	3.922	25.118	16.780	N/A	0.0531	14.239	21.313	run 3 pt 4
24-Sep-02	13:27:58	13.949	3.924	25.118	16.901	N/A	0.0535	14.347	21.321	run 3 pt 4

24-Sep-02	13:28:58	13.935	3.926	24.587	16.946	N/A	0.0536	14.354	20.826 run 3 pt 4
24-Sep-02	13:29:58	13.871	3.926	24.857	16.905	N/A	0.0535	14.189	20.863 run 3 pt 4
24-Sep-02	13:30:30	14.004	3.926	24.941	16.776	N/A	0.0531	14.352	21.337 run 3 pt 5
24-Sep-02	13:31:30	13.949	3.924	24.985	16.861	N/A	0.0534	14.312	21.208 run 3 pt 5
24-Sep-02	13:32:30	13.947	3.924	25.622	16.861	N/A	0.0534	14.307	21.742 run 3 pt 5
24-Sep-02	13:33:30	14.016	3.922	25.662	16.812	N/A	0.0532	14.409	21.993 run 3 pt 5
24-Sep-02	13:34:30	13.949	3.920	25.799	16.865	N/A	0.0534	14.316	21.900 run 3 pt 5
24-Sep-02	13:35:30	13.935	3.918	26.198	16.696	N/A	0.0529	14.142	22.191 run 3 pt 5
24-Sep-02	13:36:30	14.070	3.918	26.198	16.776	N/A	0.0532	14.492	22.630 run 3 pt 5
24-Sep-02	13:37:30	14.001	3.920	26.335	16.776	N/A	0.0531	14.347	22.521 run 3 pt 5
24-Sep-02	13:38:30	14.001	3.914	26.109	16.744	N/A	0.0531	14.319	22.328 run 3 pt 5
24-Sep-02	13:38:47	13.881	3.912	26.198	16.780	N/A	0.0533	14.104	22.020 run 3 pt 6
24-Sep-02	13:39:47	13.947	3.912	25.936	16.780	N/A	0.0533	14.239	22.008 run 3 pt 6
24-Sep-02	13:40:47	14.069	3.913	26.200	16.698	N/A	0.0530	14.421	22.628 run 3 pt 6
24-Sep-02	13:41:47	14.005	3.903	26.788	16.496	N/A	0.0525	14.115	22.922 run 3 pt 6
24-Sep-02	13:42:47	14.015	3.874	21.079	16.823	N/A	0.0539	14.415	18.063 run 3 pt 6
24-Sep-02	13:43:47	14.150	3.872	20.672	16.782	N/A	0.0538	14.669	18.068 run 3 pt 6
24-Sep-02	13:44:47	14.138	3.870	20.624	16.823	N/A	0.0540	14.677	17.993 run 3 pt 6
24-Sep-02	13:45:47	14.002	3.870	20.446	16.863	N/A	0.0541	14.424	17.489 run 3 pt 6
24-Sep-02	13:46:47	14.081	3.868	20.451	16.823	N/A	0.0540	14.555	17.695 run 3 pt 6
24-Sep-02	13:47:06	14.071	3.866	20.628	16.782	N/A	0.0539	14.499	17.822 run 3 pt 7
24-Sep-02	13:48:06	14.083	3.864	20.628	16.863	N/A	0.0542	14.595	17.854 run 3 pt 7
24-Sep-02	13:49:06	14.083	3.864	20.411	16.823	N/A	0.0541	14.560	17.667 run 3 pt 7
24-Sep-02	13:50:06	14.081	3.866	20.672	16.863	N/A	0.0542	14.590	17.886 run 3 pt 7
24-Sep-02	13:51:06	14.083	3.866	20.539	16.742	N/A	0.0538	14.491	17.778 run 3 pt 7
24-Sep-02	13:52:06	14.081	3.866	20.721	16.782	N/A	0.0539	14.520	17.928 run 3 pt 7
24-Sep-02	13:53:06	14.083	3.866	20.274	16.698	N/A	0.0536	14.452	17.548 run 3 pt 7
24-Sep-02	13:54:06	14.081	3.866	20.672	16.782	N/A	0.0539	14.520	17.886 run 3 pt 7
24-Sep-02	13:55:06	14.138	3.864	20.407	16.778	N/A	0.0539	14.638	17.804 run 3 pt 7
24-Sep-02	13:55:27	14.081	3.864	20.407	16.819	N/A	0.0540	14.552	17.656 run 3 pt 8
24-Sep-02	13:56:27	14.081	3.864	20.407	16.778	N/A	0.0539	14.517	17.656 run 3 pt 8
24-Sep-02	13:57:27	14.081	3.864	20.411	16.778	N/A	0.0539	14.517	17.660 run 3 pt 8
24-Sep-02	13:58:27	14.071	3.864	20.721	16.738	N/A	0.0538	14.461	17.902 run 3 pt 8
24-Sep-02	13:59:27	14.081	3.864	20.411	16.823	N/A	0.0541	14.555	17.660 run 3 pt 8
24-Sep-02	14:00:27	14.069	3.868	20.359	16.735	N/A	0.0537	14.455	17.585 run 3 pt 8
24-Sep-02	14:01:27	14.136	3.868	20.536	16.779	N/A	0.0539	14.635	17.912 run 3 pt 8
24-Sep-02	14:02:27	14.136	3.858	20.231	16.694	N/A	0.0537	14.561	17.646 run 3 pt 8
24-Sep-02	14:03:27	14.133	3.856	20.266	16.698	N/A	0.0538	14.560	17.670 run 3 pt 8
24-Sep-02	14:04:27	14.146	3.852	20.363	16.694	N/A	0.0538	14.583	17.788 run 3 pt 8
24-Sep-02	14:05:27	14.146	3.852	20.315	16.698	N/A	0.0538	14.586	17.745 run 3 pt 8

Florida Power Air Emissions Test Team

Emissions Monitoring Data

Summary of Emissions Testing Results

Gainesville, Florida

IDLE

24/Sep/02 Florida Power University of Florida Unit # CT 001 & DB 002

Date	Start Time	End Time	O2 %V	CO2 %V	CO ppmV	NOx ppmV	SO2 ppmV	NOx lb/Mmbtu	NOx @15%O2	CO @15%O2	Comments
24/Sep/02	13:55:20	14:05:27	14.105	3.862	20.402	16.749	#DIV/0!	0.0539	14.544	17.716	Avg So Far: run 3 pt 8
24/Sep/02	12:56:59	13:05:05	13.991	3.912	26.749	16.605	#DIV/0!	0.0527	14.179	22.841	run 3 pt 1
24/Sep/02	13:05:13	13:13:17	13.986	3.913	26.288	16.396	#DIV/0!	0.0520	13.993	22.434	run 3 pt 2
24/Sep/02	13:13:34	13:21:40	14.002	3.913	26.873	16.422	#DIV/0!	0.0521	14.046	22.986	run 3 pt 3
24/Sep/02	13:21:54	13:29:58	13.927	3.923	25.312	16.787	#DIV/0!	0.0531	14.204	21.417	run 3 pt 4
24/Sep/02	13:30:23	13:38:30	13.986	3.921	25.761	16.796	#DIV/0!	0.0532	14.333	21.983	run 3 pt 5
24/Sep/02	13:38:40	13:46:47	14.032	3.888	23.155	16.763	#DIV/0!	0.0535	14.402	19.876	run 3 pt 6
24/Sep/02	13:46:59	13:55:06	14.087	3.865	20.550	16.790	#DIV/0!	0.0539	14.541	17.797	run 3 pt 7
24/Sep/02	13:55:20	14:05:27	14.105	3.862	20.402	16.749	#DIV/0!	0.0539	14.544	17.716	run 3 pt 8

ATTACHMENT UF-EU1-L5

ALTERNATIVE METHODS OF OPERATION

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: Florida Power	
2. Site Name: University of Florida Cogeneration Plant	
3. Facility Identification Number: 0010001	[ ] Unknown
4. Facility Location: Street Address or Other Locator: Mowry Road, Building 82, University of Florida City: Gainesville County: Alachua Zip Code: 32611-2295	
5. Relocatable Facility? [ ] Yes [X] No	6. Existing Permitted Facility? [X] Yes [ ] No

Application Contact

1. Name and Title of Application Contact: J. Michael Kennedy, Permitting and Compliance Manager, Environmental Services Department
2. Application Contact Mailing Address: Organization/Firm: Florida Power Street Address: 100 Central Avenue, Mail Code: BB1A City: St. Petersburg State: FL Zip Code: 33701
3. Application Contact Telephone Numbers: Telephone: (727) 826-4334 Fax: (727) 826-4216

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	12/11/02
2. Permit Number:	0010001-005-AV
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

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:_____

[ ] 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:_____

Operation permit number to be revised:_____

[X] 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: 0010001-001-AV

[ ] 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)

[X] 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:
Wilson B. Hicks, Jr. , Plant Manager

2. Owner/Authorized Representative or Responsible Official Mailing Address:
Organization/Firm: Florida Power
Street Address: Bldg 82, Mowry Rd., Mail Code: GV44
City: Gainesville State: FL Zip Code: 32611

3. Owner/Authorized Representative or Responsible Official Telephone Numbers:
Telephone: (352) 337-6904 Fax: (352) 337-6920

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.*

Wilson B. Hicks — Signature

12/3/02 — Date

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: Scott Osbourn
Registration Number: 57557

2. Professional Engineer Mailing Address:
Organization/Firm: ENSR International
Street Address: 150 Second Ave. N., Suite 700
City: St. Petersburg State: FL Zip Code: 33701-3343

3. Professional Engineer Telephone Numbers:
Telephone: (727) 898-9591 Fax: (727) 898-9582

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 [ ], 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.

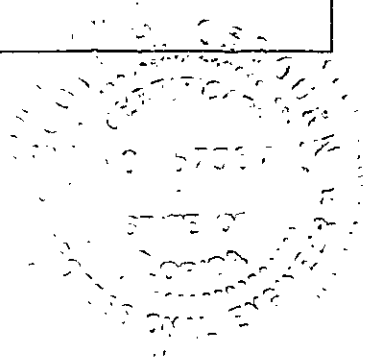
If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [√], if so), I further certify that, with the exception of any changes detailed as part of this application, each such 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.

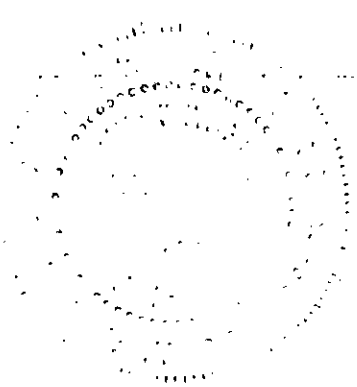
Signature

12/2/02
Date

(seal)

* Attach any exception to certification statement.





Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type	Processing Fee
001	COGEN PLANT GAS TURBINE		$0.00

Application Processing Fee

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

Construction/Modification Information

1. Description of Proposed Project or Alterations:

2. Projected or Actual Date of Commencement of Construction: May 18, 2001

3. Projected Date of Completion of Construction: June 2, 2001

Application Comment

For clarity, the application forms are divided into:

- Facility information
- Newly modified emission unit (Combustion Turbine)

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: 17 East (km): 369.4 North (km): 3279.3			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): 29° 38' 23" Longitude (DD/MM/SS): 82° 20' 55"			
3. Governmental Facility Code: 0	4. Facility Status Code: A	5. Facility Major Group SIC Code: 49	6. Facility SIC(s):
7. Facility Comment (limit to 500 characters): UF Cogeneration plant consists of a single combustion turbine (CT), heat recovery steam Generator (HRSG), duct burners (DB) located between the CT and the HRSG, and two backup boilers.			

Facility Contact

1. Name and Title of Facility Contact: Wilson B. Hicks, Jr. , Plant Manager
2. Facility Contact Mailing Address: Organization/Firm: Florida Power Corporation Street Address: Bldg 82, Mowry Rd. GV44 City: Gainesville State: FL Zip Code: 32611-2295
3. Facility Contact Telephone Numbers: Telephone: (352) 337-6904 Fax: (352) 337-6920

Facility Regulatory Classifications

Check all that apply:

1. [ ] Small Business Stationary Source?	[ ] Unknown
2. [X] 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. [X] 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): CT – NSPS (40 CFR 60 Subpart GG) DBs – NSPS (40 CFR 60 Subpart Db)	

List of Applicable Regulations

Chapter 62-4	Permits
Rule 62-204.220	Ambient Air Quality Protection
Rule 62-204.240	Ambient Air Quality Standards
Rule 62-204.800	Federal Regulations Adopted by Reference
Rule 62-210.300	Permits Required
Rule 62-210.350	Public Notice and Comments
Rule 62-210.370	Reports
Rule 62-210.550	Stack Height Policy
Rule 62-210.650	Circumvention
Rule 62-210.700	Excess Emissions
Rule 62-210.900	Forms and Instructions
Rule 62-212.300	General Preconstruction Review Requirements
Rule 62-213	Operation Permits for Major Sources of Air Pollution
Rule 62-214	Federal Acid Rain Program
Rule 62-296	General Pollutant Emission Limiting Standards
Rule 62-297.310	General Test Requirements
Rule 62-297.401	Compliance Test Methods
Rule 62-297.520	EPA Continuous Monitor Performance Specifications
40 CFR 60	Applicable sections of Subpart A, General Requirements, NSPS Subparts GG and Db
40 CFR 70	Title V Operating Permits
40 CFR 72	Acid Rain Permits
40 CFR 75	Monitoring
40 CFR 77	Acid Rain Program – Excess Emissions

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		194.3	ESCPSD	Includes 001, 002, 003, 004
NOx	A		141.0	ESCPSD	Includes 001
CO	A				
SO2	B				
PM10	B				

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

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

Additional Supplemental Requirements for Title V Air Operation Permit Applications

8. List of Proposed Insignificant Activities:
   [ ] Attached, Document ID:_____ [X] Not Applicable (List of Insignificant Activities has not changed from initial Title V application)

9. List of Equipment/Activities Regulated under Title VI:
   [ ] Attached, Document ID:_____
   [ ] Equipment/Activities On site but Not Required to be Individually Listed
   [X] Not Applicable

10. Alternative Methods of Operation:
    [X] Attached, Document ID: UF-EU1-L5 [ ] Not Applicable

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

12. Identification of Additional Applicable Requirements:
    [ ] Attached, Document ID:_____ [X] 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:_____)
    [X] Not Applicable

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

15. Compliance Certification (Hard-copy Required):
    [X] Attached, Document ID: UF-FE-4 [ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

LM6000-PC-ESPRINT

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)

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

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

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

2. Regulated or Unregulated Emissions Unit? (Check one)

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

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

2. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
Combustion Turbine (LM6000-PC-ESPRINT)

4. Emissions Unit Identification Number:
ID:
[X] No ID
[ ] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A	June 2, 2001	49	[X]

9. Emissions Unit Comment: (Limit to 500 Characters)
The new CT has replaced the previous CT, which exhausted through a heat recovery steam generator (HRSG) and a single stack. There are no other changes to the process configuration.

Emissions Unit Control Equipment

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

   Steam injection.

2. Control Device or Method Code(s): 28

Emissions Unit Details

1. Package Unit:
   Manufacturer: General Electric Model Number: LM6000-PC-ESPRINT
2. Generator Nameplate Rating: 50 MW @ 59°F 98% RH inlet conditions
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:	392 mmBtu/hr LHV @ 59°F inlet
2. Maximum Incineration Rate:	lb/hr tons/day
3. Maximum Process or Throughput Rate:	
4. Maximum Production Rate:	50 MW @ 59°F inlet temp
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 heat input based on natural gas-firing,	
* The permitted NOx cap of 194.3 TPY is based on operation of the CT/DB at maximum firing rates for 7,211 hr/yr and total fuel usage of 3.48 trillion Btu/yr. EU 003 and 004 (Boilers # 4 and 5) shall be allowed to operate as required for backup as long as the facility- wide NOx cap is not exceeded. The CT may operate for more hours per year (up to 8,760 hr/yr) and at a higher annual fuel consumption provided that the NOx emissions from the CT do not exceed 141 TPY.	

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

40 CFR 60, Subpart A (General Provisions for New Source Performance Standards)	
40 CFR 60.332(a)(1)-NO_x standards for Stationary Gas Turbines	
40 CFR 60.333-SO_2 standards for Stationary Gas Turbines	
40 CFR 60.334-Monitoring Provisions for Stationary Gas Turbines	
40 CFR Part 70-Operating Permit Program	
40 CFR Part 72 – Acid Rain Program Requirements	
40 CFR Part 73 – Acid Rain Program SO_2 Allowances System	
40 CFR Part 75 – Acid Rain Program Continuous Emissions Monitoring	
Rule 62-296.320(4)(b)1 – Visible emissions	
40 CFR 52.21 – Prevention of Significant Deterioration	
Rule 62-210-200 –Definitions	
Rule 62-210.900(1)(a) –Forms and Instructions	
Rule 62-212.400 – Prevention of Significant Deterioration	
Rule 62-213.400(3) –Permit and Permit Revisions Required	
Rule 62-213.413 –Fast-Track Revisions of Acid Rain Parts	
Rule 62-213.440(1) (c) –Permit Content	
Rule 62-214.320 –Application	
Rule 62-214.370(4) –Revisions and Administrative Corrections	
Rule 62-214.420(11) –Permit Applications	

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? EU-1	2. Emission Point Type Code: 2	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): Single stack for CT and DB		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: EU-1 Combustion Turbine (LM6000-PC-ESPRINT) EU-2 Duct Burners		
5. Discharge Type Code: V	6. Stack Height: 93 feet	7. Exit Diameter: 9.8 feet
8. Exit Temperature: 257 °F	9. Actual Volumetric Flow Rate: 607,360 acfm	10. Water Vapor: 10-12 vol%
11. Maximum Dry Standard Flow Rate: 216,956 dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates: Zone: 17 East (km): 369.4 North (km): 3,279.3		
14. Emission Point Comment (limit to 200 characters): Items 8, 9, 10, 11 based on the CT only, at 59°F and 60% Relative Humidity at the inlet.		

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): Natural Gas Firing		
2. Source Classification Code (SCC): 2-01-002-01	3. SCC Units: Million Cubic Feet Burned	
4Maximum Hourly Rate: 0.413 (LHV)	5Maximum Annual Rate: 2975 (LHV)	6. Estimated Annual Activity Factor:
7Maximum % Sulfur: 1 grain/ 100 CF	8. Maximum % Ash:	9. Million Btu per SCC Unit: 950 (LHV)
10. Segment Comment (limit to 200 characters): Based on inlet conditions 59°F and 60% relative humidity, LHV.		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters): Distillate oil firing in CT		
3. Source Classification Code (SCC): 2-01-002-01	3. SCC Units: Thousand Gallons Burned	
4. Maximum Hourly Rate: 3.1	5. Maximum Annual Rate: 635	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 0.5	8. Maximum % Ash: 0.1	9. Million Btu per SCC Unit: 132
10. Segment Comment (limit to 200 characters): Million Btu per SCC Unit = 132.48 (rounded to 132). Heat content based on LHV.		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
NOX	**028**		**EL**
CO			**EL**
PM10			**NS**
VOC			**NS**
SO2			**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: 39.6 lb/hour 141 tons/year	4. Synthetically Limited? [X]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: 25 ppmvd @ 15 % O2 Reference: Manufacturer's Data	7. Emissions Method Code: 2
6. Calculation of Emissions (limit to 600 characters): Refer to Appendix B of Construction Permit Application dated January 2001.	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions ___1___ of ___1___

1. Basis for Allowable Emissions Code: ESCPSD	2. Future Effective Date of Allowable Emissions:
6. Requested Allowable Emissions and Units: 39.6 lb/hr; 141 tons/yr	4. Equivalent Allowable Emissions: 39.6 lb/hour 141 tons/year
5. Method of Compliance (limit to 60 characters): Annual Compliance Test, EPA Method 20. Fuel Flow Monitoring and CEMS data .	
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: CO	2. Total Percent Efficiency of Control:
3. Potential Emissions: 38.8 lb/hour 158 tons/year	4. Synthetically Limited? [X]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: 36 ppmvd @ 15 % O2 Reference: Manufacturer's Data	7. Emissions Method Code: 2
7. Calculation of Emissions (limit to 600 characters): Refer to Appendix B of Construction Permit Application dated January 2001.	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions ___1___ of ___1___

1. Basis for Allowable Emissions Code: ESCPSD	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 38.8 lb/hr 158 tons/year	4. Equivalent Allowable Emissions: 38.8 lb/hour 158 tons/year
5. Method of Compliance (limit to 60 characters): Annual Compliance Test, EPA Method 10.	
6. Allowable Emissions Comment (Desc. Of Operating Method) (limit to 200 characters): Allowable based on 100% load at 59°F inlet conditions.	

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: 1.2 lb/hour 4.3 tons/year	4. Synthetically Limited? [X]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: 150 ppmvd @ 15 % O2 Reference: Manufacturer's Data	7. Emissions Method Code: 2
8. Calculation of Emissions (limit to 600 characters): Refer to Appendix B of Construction Permit Application dated January 2001.	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions ___1___ of __1____

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 1.2 lb/hr 4.3 tons/year	4. Equivalent Allowable Emissions: 1.2 lb/hour 4.3 tons/year
5. Method of Compliance (limit to 60 characters): Annual Compliance Test, ASTM Methods D4084-82, D3246-81 or more recent versions.	
6. Allowable Emissions Comment (Desc. Of Operating Method) (limit to 200 characters): Rule 40 CFR 60.333(a), Subpart GG states sulfur dioxide emissions shall not be in excess of 0.015 percent by volume at 15 percent oxygen on a dry basis from any combustion turbine subject to this rule. Allowable based on 100% load at 49°F inlet conditions.	

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

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VE10	2. Basis for Allowable Opacity: [ ] Rule [X] Other
3. Requested Allowable Opacity: Normal Conditions: 10% Exceptional Conditions: 27% Maximum Period of Excess Opacity Allowed: 6 min/hour	
4. Method of Compliance: Annual Compliance Test using EPA Method 9	
5. Visible Emissions Comment (limit to 200 characters): VE standard established as part of construction permit. Rule 62-210.700 – Maximum period of excess opacity allowed for startup, shutdown, and malfunction – 2 hrs / 24 hours.	

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

Continuous Monitoring System: Continuous Monitor 1 of 3

1. Parameter Code: EM	2. Pollutant(s): NOx
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information: Manufacturer: Teco / Enviroplan Model Number: 42	Serial Number: 42-45320-273
5. Installation Date: 01 Dec 1995	6. Performance Specification Test Date: 01 Dec 1995
7. Continuous Monitor Comment (limit to 200 characters): Steam-to-fuel ratio is monitored on a continuous basis and a predictive equation, incorporating these parameters, is used to calculate hourly emissions.	

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

Continuous Monitoring System: Continuous Monitor __2__ of __3__

1. Parameter Code: EM	2. Pollutant(s): EM
3. CMS Requirement:	[ ] Rule [X] Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number: 2342B005-1992 and 93221879
5. Installation Date: 01 Dec 1995	6. Performance Specification Test Date: 01 Dec 1995
7. Continuous Monitor Comment (limit to 200 characters): Fuel flow monitoring.	

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

Continuous Monitoring System: Continuous Monitor __3__ of __3__

1. Parameter Code: EM	2. Pollutant(s): CO2
3. CMS Requirement:	[ ] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number: 41H-44967-273
5. Installation Date: 01 Dec 1995	6. Performance Specification Test Date: 01 Dec 1995
7. Continuous Monitor Comment (limit to 200 characters):	

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

Supplemental Requirements

1. Process Flow Diagram [X] Attached, Document ID: UF-FE-3 [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [X] Attached, Document ID: UF-EU1-L1 [ ] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____[X] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [ ] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [X] Attached, Document ID: UF-EU1-L3 [ ] 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:_____ [X] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application [ ] Attached, Document ID:_____ [X] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [X] Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[X] Attached, Document ID: UF-EU1-L5 [ ] Not Applicable

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

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

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [X] 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:_____

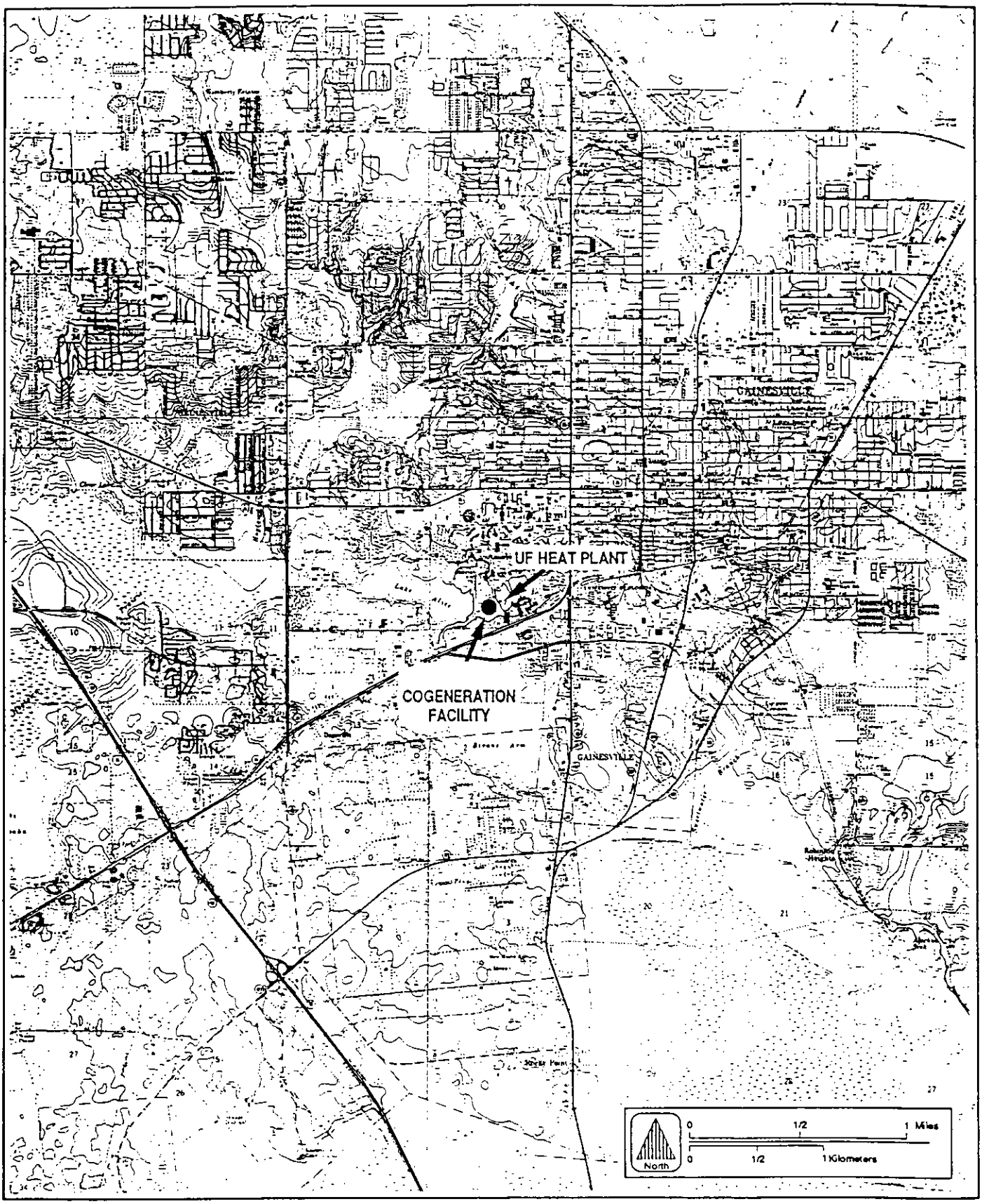
[ ] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID:_____

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

[ ] Not Applicable

ATTACHMENT UF-FE-1

AREA MAP

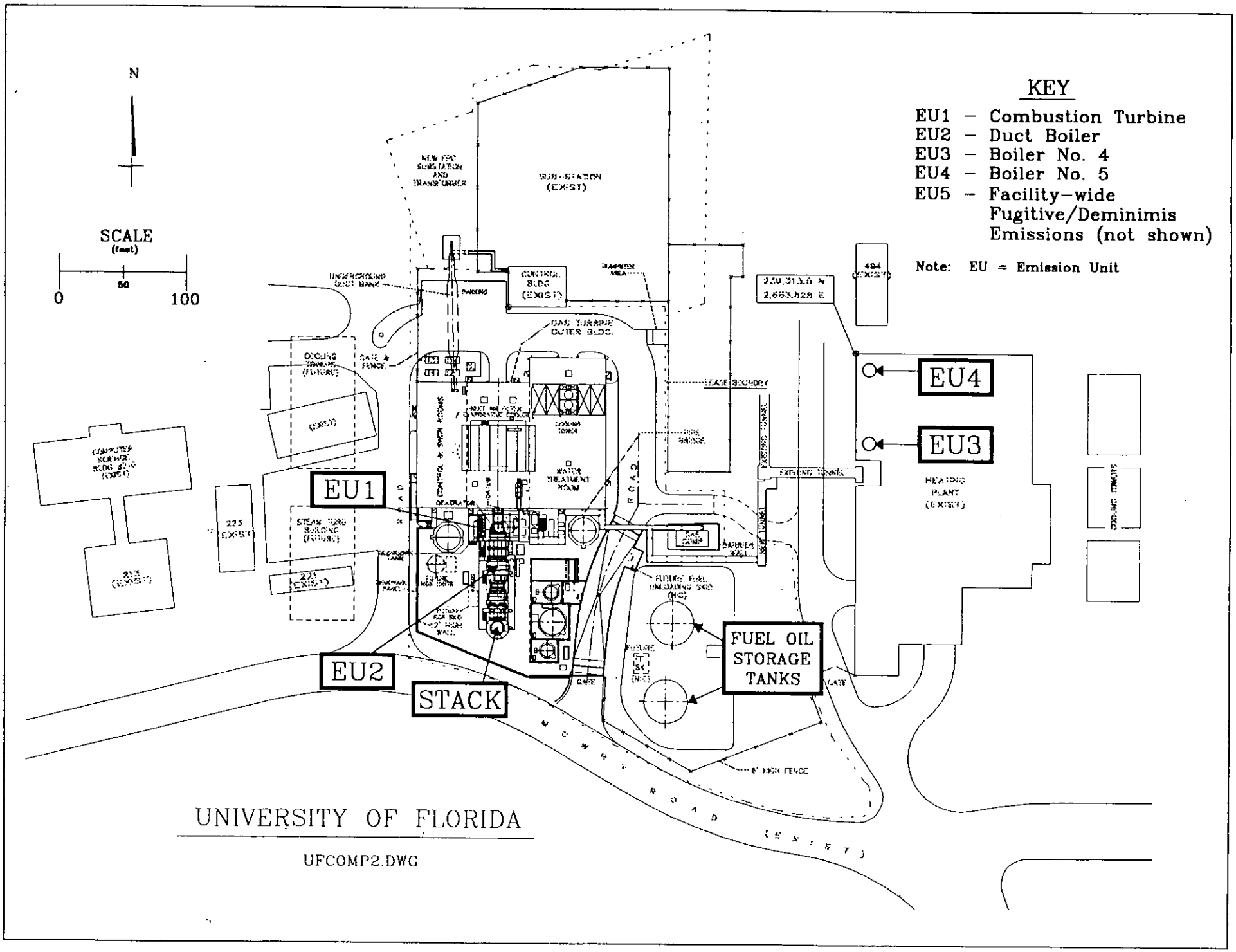


ATTACHMENT UF-FE-1
AREA MAP

KBN

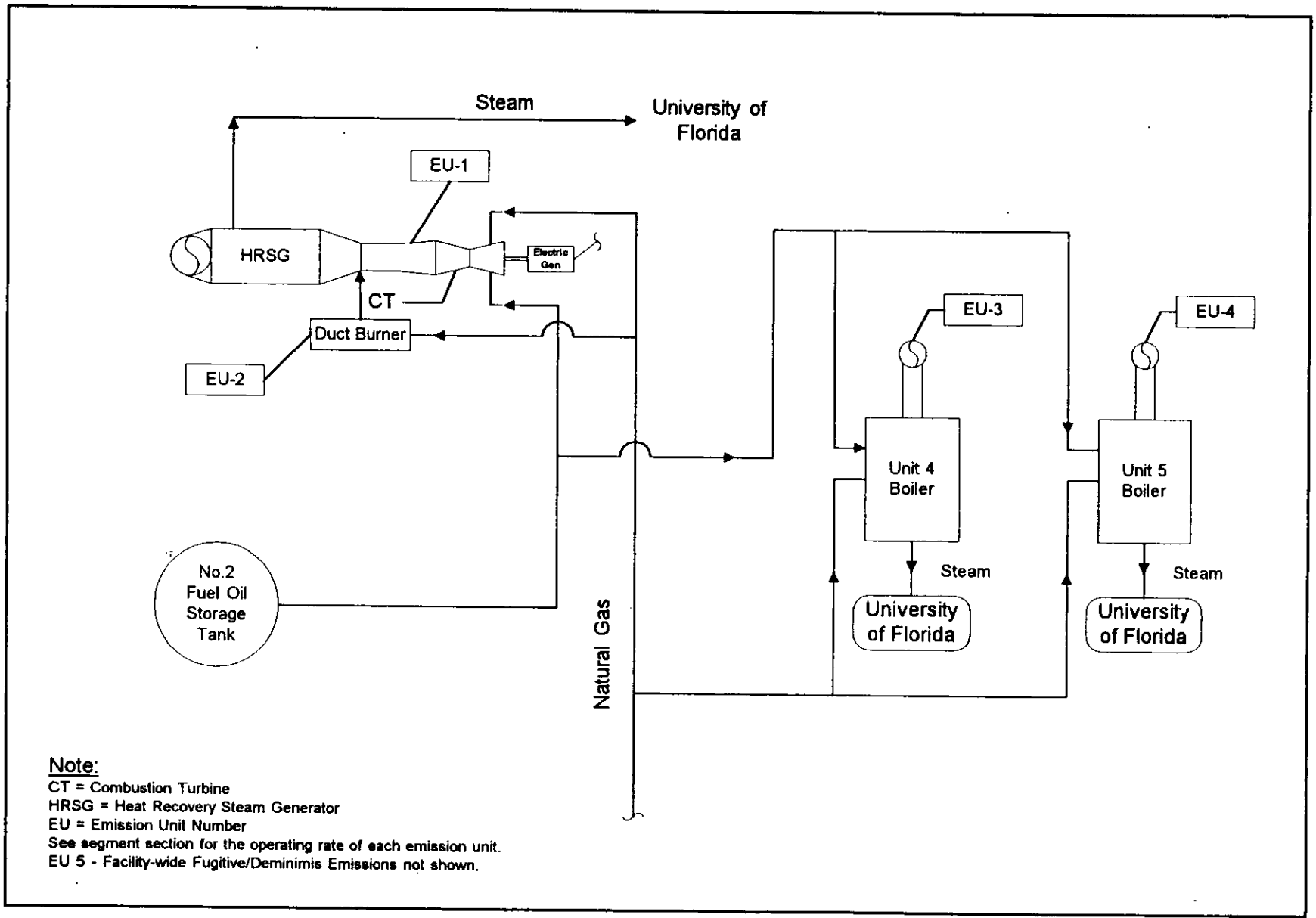
ATTACHMENT UF-FE-2

FACILITY PLOT PLAN


N
SCALE
(feet)
0
50
100
KEY
EU1 – Combustion Turbine
EU2 – Duct Boiler
EU3 – Boiler No. 4
EU4 – Boiler No. 5
EU5 – Facility–wide Fugitive/Deminimis Emissions (not shown)
Note: EU = Emission Unit
EU1
EU2
EU3
EU4
STACK
FUEL OIL STORAGE TANKS
HEATING PLANT (EXIST)
UNIVERSITY OF FLORIDA
UFCOMP2.DWG

ATTACHMENT UF-FE-3

PROCESS FLOW DIAGRAM



Note:
CT = Combustion Turbine
HRSG = Heat Recovery Steam Generator
EU = Emission Unit Number
See segment section for the operating rate of each emission unit.
EU 5 - Facility-wide Fugitive/Deminimis Emissions not shown.

Florida Power Corporation		*Emission Unit:* Overall Plant	KBN Engineering and Applied Sciences, Inc.
Emission Units	University of Florida	*Process Area:* Overall Plant	
		Filename: FPCUF.VSD	
		Latest Revision Date: 6/2/96 01:43 PM	

ATTACHMENT UF-FE-4

COMPLIANCE CERTIFICATION

Department of Environmental Protection

Division of Air Resources Management

STATEMENT OF COMPLIANCE - TITLE V SOURCE

Facility Owner/Company Name: Florida Power Corporation

Site Name: University of Florida Cogeneration Facility__ County: Alachua

Title V Air Operation Permit No.: 0010001-001-AV

REPORTING PERIOD	REPORT DEADLINE*
January 1 through December 31 of 2001 (year)	March 1, 2002

*See Rule 62-213.440(3)(a)2, F.A.C.

COMPLIANCE STATEMENT (Check only one of the following three options)

__X__ A. This facility was in compliance with all terms and conditions of the Title V Air Operation Permit and, if applicable, the Acid Rain Part, and there were no reportable incidents of deviations from applicable requirements associated with any malfunction or breakdown of process, fuel burning or emission control equipment, or monitoring systems during the reporting period identified above.

____ B. This facility was in compliance with all terms and conditions of the Title V Air Operation Permit and, if applicable, the Acid Rain Part; however, there were one or more reportable incidents of deviations from applicable requirements associated with malfunctions or breakdowns of process, fuel burning or emission control equipment, or monitoring systems during the reporting period identified above, which were reported to the Department. For each incident of deviation, the following information is included:

1. Date of report previously submitted identifying the incident of deviation.
2. Description of the incident.

____ C. This facility was in compliance with all terms and conditions of the Title V Air Operation Permit and, if applicable, the Acid Rain Part, EXCEPT those identified in the pages attached to this report. For each item of noncompliance, the following information is included:

1. Emissions unit identification number.
2. Specific permit condition number.
3. Description of the requirement of the permit condition.
4. Basis for the determination of noncompliance (for monitored parameters, indicate whether monitoring was continuous, i.e., recorded at least every 15 minutes, or intermittent).
5. Beginning and ending dates of periods of noncompliance.
6. Identification of the probable cause of noncompliance and description of corrective action or preventative measures implemented.
7. Dates of any reports previously submitted identifying this incident of noncompliance.

RESPONSIBLE OFFICIAL CERTIFICATION

I, the undersigned, am the responsible official as defined in Chapter 62-210.200, F.A.C., of the Title V source for which this document is being submitted. With respect to all matters other than Acid Rain program requirements, I hereby certify, based on the information and belief formed after reasonable inquiry, that the statements made and data contained in this document are true, accurate, and complete.

(Signature of Title V Source Responsible Official) 2/21/2002 *(Date)*

Name: Kris Edmondson Title: Plant Manager

DESIGNATED REPRESENTATIVE CERTIFICATION (only applicable to Acid Rain source)

I, the undersigned, 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.

(Signature of Acid Rain Source Designated Representative) 2/21/02 *(Date)*

Name: J. Michael Kennedy Title: Air Programs Manager

{Note: Attachments, if required, are created by the responsible official or the designated representative, as appropriate, and should consist of the information specified and any supporting records. Additional information may also be attached by the responsible official or designated representative when elaboration is required for clarity. This report is to be submitted to both the compliance authority (DEP district or local air program) and the U.S. EPA (U.S. EPA Region 4, Air and EPCRA Enforcement Branch, 61 Forsyth Street, Atlanta GA 30303).}

ATTACHMENT UF-EU1-L5

ALTERNATIVE METHODS OF OPERATION

Attachment UF-EU1-L5
Alternative Methods of Operation

The University of Florida Cogeneration Facility was permitted based on phasing out the use of several steam boilers (i.e., Boilers 1, 2, and 3) and reducing the usage of several other boilers (i.e., Boilers 4 and 5) when the cogeneration facility is operating. This resulted in a "netting out" of Prevention of Significant Deterioration (PSD) for a majority of the pollutants, including nitrogen oxides (NOx). To insure that facility-wide NOx emissions did not exceed the PSD significant emission rates, a facility-wide cap for NOx was placed in the construction permit for the cogeneration facility. The emission cap is 194.3 tons per year which would effectively allow the cogeneration unit to operate at full capacity with some operation of Boilers 4 and 5. In the event the cogeneration unit is inoperable, Boilers 4 and 5 would have to operate continuously in order to supply steam to the University of Florida and Shands Hospital. There are no individual operating limits on Boilers 4 and 5 other than the requirement that total NOx emissions from the entire facility must not exceeed 194.3 tons per year.

ATTACHMENT UF-EU1-L1

FUEL ANALYSIS OR SPECIFICATION

Attachment UF-EU1-L1
Fuel Analysis

Natural Gas Analysis

Parameter	Typical Value	Max Value
Relative Density	0.58 (compared to air)	
Heat Content	950-1124 Btu/cu ft.	
% Sulfur	0.43 grains/CCF[1]	1 grain/100 CF
% Nitrogen	0.8% by volume	
% Ash	negligible	

Note: The value listed are "typical" values based upon information supplied to Florida Power by Florida Gas Transmission (FGT). However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

[1] Data from laboratory analysis

ATTACHMENT UF-EU1-L3

COMPLIANCE TEST REPORT

TEST REPORT

on

EXHAUST EMISSIONS

from one

GENERAL ELECTRIC COMBUSTION TURBINE

at

Florida Power Corporation

UNIVERSITY OF FLORIDA COGENERATION FACILITY

Gainesville, FL

Prepared by

Florida Power Environmental Test Team

September, 2002

Florida Power

A Progress Energy Company

263 13th Avenue South, MAC BB1A
St. Petersburg, FL 33701-5511
(727) 826-4132 FAX (727) 826-4216

To the best of my knowledge, all applicable field procedures and calculations comply with Florida Department of Environmental Protection requirements, and all test data and plant operating data are true and correct.

Wilson Hicks
Plant Manager

10/11/02
Date

TABLE OF CONTENTS

INTRODUCTION

Exhaust emissions from a co-generation unit, consisting of a General Electric (GE) natural gas-fired combustion turbine (CT) combined with a supplementally fired heat recovery steam generator (HRSG), were tested to determine the quantity of emissions being vented to the atmosphere. The turbine is a General Electric model LM-6000PC-Esprint natural gas-fired combustion turbine. Steam injection is utilized to control NO_x emissions. This co-generation unit is in service at Florida Power Corporation's (FPC) University of Florida Co-generation Facility in Gainesville, Florida. The purpose of the testing was to determine compliance with applicable limits set forth by the Florida Department of Environmental Protection (FDEP), Title V Air Operation Permit 0010001-003-AC and the EPA's Code of Federal Regulations, Title 40, Part 60, Subpart GG. Florida Power Corporation's Environmental Test Team using a mobile emission test trailer conducted the testing.

Quantities of nitrogen oxides (NO_x), carbon monoxide (CO) and other combustion parameters were measured in the exhaust stack of the co-generation unit while firing natural gas. Three test runs at peak load conditions were performed to demonstrate compliance with the applicable NOx emission limit. Emissions of CO were also measured on the turbine. The NO_x steam injection rate, fuel flow, turbine load, and other key operational parameters were monitored and recorded during each test run. The tests followed the procedures set forth in the Code of Federal Regulations, Title 40, Part 60, Appendix A, Methods 1, 3, 3a, 9, 10, 19, and 20.

Table 1

Background Data

Source:	One co-generation unit for the production of power and process steam. The unit consists of a GE Model LM-6000PC-Esprint natural gas-fired combustion turbine with supplementary gas-fired duct burners. The turbine utilizes steam injection for NO_x control.
Location:	Florida Power Corporation UF Co-generation Facility Mowry Road, Building No. 82 Gainesville, FL
Applicable Permits and Regulations:	State of Florida, Department of Environmental Protection (FDEP) Air Operating Permit No. 0010001-003-AC and 40 CFR 60 Subpart GG
Owner/Operator:	Florida Power Corporation UF Co-generation Facility Mowry Road, Building No. 82 Gainesville, FL Attn: Wilson Hicks (352) 337-6904
Emissions Test	Florida Power Corporation 263 13th Avenue South St. Petersburg, FL 33701 Attn: Matthew Lydon (727) 826-4152 (727) 826-4216 FAX
Test Dates:	September 24, 2002
Sampling Locations:	CT/HRSG stack is a circular stack 92' 6" tall with a diameter of 117". Two 3" sample ports were located 90° from each other at 82' AGL. (See Appendix A, EPA Method 1 - Traverse Point Layout).

Test Methods:

- EPA Method 1 to establish O_2 traverse point locations for EPA Method 20
- EPA Method 3a for O_2 and CO_2 concentrations
- EPA Method 3 (Section 4.4) F_o calculation for verification of O_2/CO_2 concentrations
- EPA Method 10 for CO concentrations
- EPA Method 19 for mass emission, and stack flow rate calculations
- EPA Method 20 for NO_x and O_2 concentrations

SUMMARY OF RESULTS

Exhaust emissions from a co-generation unit, consisting of a General Electric (GE) natural gas-fired combustion turbine and heat recovery steam generator (HRSG), were tested to determine the quantity of emissions being vented to the atmosphere. Testing was conducted on the unit while firing natural gas (supplied by Florida Gas Transmission). During all of the test runs, the steam injection curve was maintained. Tests were conducted at full load conditions.

The basic test matrix consisted of first conducting an O_2 traverse. The unit was set to 100% of load with the steam injection on and duct burners firing. O_2 concentrations were measured at 36 traverse points (as determined in EPA Method 1 and 20) within the stack to determine the eight points of lowest O_2 concentration. No stratification was found; therefore, all subsequent tests were conducted at the eight most convenient traverse points.

Following the initial O_2 traverse, the test matrix for the unit consisted of three test runs at full load conditions while measuring NO_x, O_2, and CO. SO_2 emission rates and concentrations were also determined during each test run using the sulfur content of the fuel and the fuel flow rate.

An executive summary of the test results is included as Table 2. This table provides the average emission measurements for the unit. Table 2 also lists the applicable permit limit for each emission measurement. Limits from both the FDEP permit and Subpart GG (as applicable) are provided.

Tables 3 summarizes the results of the peak load test, and contains all pertinent operational parameters, ambient conditions, emission measurements, the calculated emission rates and corrected concentrations. NO_x is reported in ppmvd, ppmvd at 15% O_2, and lbs/hr. SO_2 emissions are reported in lbs/hr and volume percentage at 15% O_2. CO emissions are reported in ppmvd, and lbs/hr.

The mass emission rate measurements for all test runs were based on the stoichiometric F-factor calculations in EPA Method 19. Both O_2 and CO_2 F-factors were utilized and volumetric flow rate was used for the emission rate.

Fuel analysis of the natural gas for composition, specific gravity, heating value and total sulfur content is routinely provided by Florida Gas Transmission (FGT). The results of this analysis are contained in Appendix C.

Appendix A contains the EPA Method 1 & 20 traverse point determinations. Appendix B contains examples of all calculations necessary for the reduction of the data presented in this report. Appendix F contains the operational data during each test run. The operational data was recorded in the unit's control room on computer printouts at approximately 10-minute intervals. The operational data reported is an average of the several readings recorded during each test run. Appendix G contains the entire computer printouts collected from the emission test trailer during the preliminary O_2 traverse and the test runs.

Table 2
Executive Summary

Plant: Florida Power - University of FLorida Cogen. Facility
Location: Gainesville, Florida
Test Dates: Sept. 24, 2002
Test Engineer: JTL
Technician: LRF, DTA
Source: GE Model LM-6000PC- Esprint Turbine

	FDER Permit Limit	Subpart GG Limit	100% Load
NOx (lb/hr)	39.6	n.a.	21.75
NOx (ppmvd @ 15% O2)	25	126	13.70
CO (lb/hr)	35.8	n.a.	19.40
CO (ppmvd @ 15% O2)	36	n.a.	20.08
SO2 (vol % @ 15% O2)	0.015	0.015	4.91E-06

Table 3
100% Load Emissions Summary

Plant	Florida Power, Univ. FL Cogen. Facility
Location	Gainesville, Florida
Technicians	JTL, LRF, DTA
Source	GE Model LM-6000PC-Esprint Turbine

Test Run Number		1	2	3
Date		09/24/02	09/24/02	09/24/02
Start Time		10:21	11:40	12:57
End Time		11:28	12:46	14:05
Operational Data	**CoGen Name**			
Generator Output (MW)	GEN OUTPUT	46	46	46
Mean Turbine Exhaust Plenum Temperature (°F	GT EXH AVG	877	877	876
Steam Injection (Klbs/hr)	GT NOX STM	33.22	33.31	33.48
Steam/Fuel Ratio (lb/lb)	STM/FUEL	1.775	1.780	1.773
Compressor Inlet Temperature (°F) dry	AMB TEMP AV	86.8	90.0	84.4
Compressor Inlet Temperature (°F) wet, predict	INLET T2	78.0	78.7	77.0
Compressor Inlet Pressure (psia)	INLET P2	14.50	14.50	14.50
Post Cooler Humidity (%RH)	GT HUMID	101.0	101.0	101.0
Compressor Discharge Pressure (psig) Observe	GT P3	420.0	419.0	420.8
Fuel Data				
Turbine NG Fuel Flow (Klbs/hr)	GT FUEL FLW KPPH	18.72	18.66	18.79
Turbine Fuel Flow (SCF/hr)	GT FUEL FLW KSCFH	416930	415720	418500
Duct Burner Fuel Flow	DB Fuel Flow KSCFH	32.90	30.82	31.45
Fuel Heating Value (Btu/SCF)		1035	1035	1035
Published M-19 O2 F-Factor (DSCF/MBtu)		8710	8710	8710
Published M-19 CO2 F-Factor (DSCF/MBtu)		1040	1040	1040
Turbine Heat Input (MBtu/hr)		431.5	430.3	433.1
Duct Burner Heat Input (Mbtu/hr)		31.8	29.8	30.4
Total Heat Input		463.3	460.0	463.5
Total Sulfur (Gr/Ccf)		0.091	0.091	0.091
Total Sulfur in Fuel (wt %)		0.00029	0.00029	0.00029
% of Heat Input Curve		115.8	115.5	116.3
Ambient Conditions				
Barometer (in. Hg)		29.97	29.98	29.95
Temperature (°F dry)		84	80	77
Temperature (°F wet)		80	80	77
Humidity (lbs/lb of dry air)		0.02058	0.02152	0.01952
Environmental Services Measurements				
NOx (ppmvd)		16.72	17.07	14.28
CO (ppmvd)		27.45	26.34	16.66
O2 (%)		14.01	13.98	14.01
CO2 (%)		3.93	3.92	3.90
Environmental Services Calculated Values				
Fo		1.753	1.765	1.767
Stack Flow via O2 F-Factor (DSCFH)		11401151	11318780	11444084
Stack Flow via CO2 F-Factor (DSCFH)		11419426	11415332	11550600
NOx (ppmvd @ 15% O2)		14.3	14.6	12.2
NOx (lbs/hr) per O2 F-factor		22.8	23.1	19.5
CO (ppmvd @ 15% O2)		23.5	22.5	14.3
CO (lbs/hr) per O2 F-factor		22.8	21.7	13.9
SO2 (vol % @ 15% O2)		4.90E-06	4.90E-06	4.90E-06
SO2 (lbs/hr)		0.1083	0.1080	0.1087

PROCESS DESCRIPTION

Florida Power Corporation (FPC) is the owner of the University of Florida Co-generation Facility, which is located in Gainesville, Alachua County, Florida. The co-generation unit consists of a GE manufactured combustion turbine (CT) and a supplementary fired heat recovery steam generator (HRSG). This unit was installed to provide power and steam to the university and to reduce emissions by replacing some of the existing Central Heat Plant boilers. Emission testing was conducted on the combined cycle unit to determine its compliance status with regard to the state and federal regulations. Florida Power's Environmental Test Team performed the compliance emission testing utilizing a mobile test trailer. This section of the report provides a brief description of these units.

The turbine is a GE Model LM-6000PC-Esprint, serial no. 191-315, multi-nozzle, quiet combustor, single shaft combustion turbine and fires natural gas. This turbine has a peak load rating of 50.0 MW at site conditions of 45°F inlet temperature, 100% relative humidity, 14.64 psia atmospheric pressure, and steam injection utilized to control NOx emissions. The electricity produced from this turbine is distributed to university facilities by high voltage transmission lines and the area's electrical power distribution grid.

The unit's heat recovery steam generator (HRSG) is equipped with natural gas-fired duct burners, serial no. 40D-11797-2, to generate additional heat. The maximum permitted firing rate for the duct burners (198.7 mft^3/hr) was based on manufacturer's data. The steam generated from this unit is used as process steam and for heating of university facilities.

The turbine and duct burners both fire on the same pipeline grade natural gas. This natural gas is supplied to FPC by Florida Gas Transmission (FGT). The total sulfur compounds in the fuel are 0.091 gr/ft^3, 0.00029 by weight, based on the fuel analysis supplied by FGT.

The circular CT/HRSG exhaust stack was utilized for exhaust emission measurements. The exhaust stack dimensions are depicted in the stack diagram in Appendix A. Four three-inch ports are equally spaced perpendicular to each other. The stack is 92 ft. 6 in. in height and 117 inches in diameter. The ports are located 10 ft. 6 in. from the top of the stack (82 ft. above ground level).

ANALYTICAL TECHNIQUE

This section of the report describes the analytical techniques and procedures used during these tests.

The sampling and analysis procedures used during these tests conformed with those outlined in Code of Federal Regulations, 40 CFR 60, Appendix A, Methods 1, 3, 3a, 9, 10, 19, and 20. Table 5 lists the instruments and detection principles used for the instrumental analyses.

The test matrix consisted of an initial O_2 traverse by sampling at 36 points across the stack. This traverse was conducted at the peak load condition. Compliance tests were then conducted at peak load conditions during which NO_x, O_2 and CO concentrations were measured. Three test runs were conducted at the peak load condition.

The instrumental sampling and analysis system used to determine gaseous emission concentrations during the turbine tests is depicted in Figure 1. Stack gas entered through a stainless steel probe with a stainless steel sintered filter to keep unwanted particulate out of the system. The sample was transported via 3/8-inch heat-traced Teflon® tubing to the "wet" side of the sample manifold via a stainless steel/Teflon® diaphragm pump. It was then delivered to a specially designed stainless steel/Teflon® minimum-contact condenser, which dried the sample without removing NO_x or other compounds of interest. The sample was then passed to the dry side of the manifold where it was partitioned to the NO_x, CO, O_2 and CO_2 analyzers through glass and stainless steel rotometers for flow control of the sample.

Figure 1 shows that the sample system was also equipped with a separate path through which a calibration gas could be delivered to the probe and back through the entire sampling system. This allowed for a convenient way to perform the system bias checks as required by the test methods.

All instruments were housed in a mobile test trailer. Calibration gases were provided in aluminum cylinders with concentrations certified by the vendor. EPA Protocol No. 1 gases were used where applicable.

All data from the continuous monitoring instruments were recorded using a data acquisition system. This system consisted of a 486DX personal computer, LabView software and a dot matrix printer. The data from the individual test runs are located in Appendix G.

EPA Method 1 was used to determine the EPA Method 20 O_2 traverse point locations. The traverse point layout diagram is located in Appendix A.

The size and circular shape of the turbine stack required 36 traverse points to be used for the initial O_2 traverses. The eight points of lowest O_2 concentration were used for all subsequent gaseous constituent tests. No O_2 stratification was encountered; therefore, the eight most convenient traverse points were utilized for the tests.

The stack gas analyses for CO_2 and O_2 concentrations were performed in accordance with procedures set forth in EPA Method 3a. Instrumental analyses were used in lieu of an ORSAT procedure due to the greater accuracy and precision provided by the instruments. The CO_2 analyzer is based on the principle of infrared absorption; and, the O_2 analyzer operates on an electrochemical cell.

The F_o calculation of EPA Method 3 was used to verify the O_2 and CO_2 measurements. In all cases, the F_o fell within the expected values for natural gas.

CO emission concentrations were quantified during the 100% load test runs in accordance with procedures set forth in EPA method 10. A continuous nondispersive infrared (NDIR) analyzer was used for this purpose. This analyzer was equipped with a gas correlation filter, which also eliminates any interference from moisture, CO_2, or other combustion products.

EPA Method 20 procedures were used to determine concentrations of NO_x (via chemiluminescence) and O_2 as prescribed by the testing regulations for gas turbine units. NO_x mass emission rates were calculated as if all the NO_x were in the form of NO_2. This approach corresponds to EPA's convention.

The traverse point layout requirements for EPA Method 20 were discussed previously. Sampling time at each point is required by the method to be 1-minute plus the average sample system response time. The response time test that was conducted on site prior to testing showed a response time for NO_x, O_2, CO, and CO_2 of less than 1 minute. Therefore, the sampling time used for the initial O_2 traverse was 2 minutes per point and 3 minutes per point for the NO_x/O_2 and CO concentration test runs.

The stoichiometric calculations of EPA Method 19 were used to calculate the stack volumetric flow rates. This calculation is based on the heating value and the O_2 and CO_2 F-factors (SCF of exhaust per mmBtu of burned fuel) for natural gas. Method 19 flow rate determination are also based on excess air (as measured from the exhaust diluent concentrations) and the fuel flow rates. EPA Method 19 was used as the stack flow rate measurement technique for all testing. The data presented in this report makes use of the published F-factor (i.e. 8710 for O_2 and 1040 for CO_2 for natural gas).

Ambient absolute pressure, ambient temperature and humidity were also collected during each test run. A hand held sling psychrometer utilizing a wet/dry bulb was used to determine temperature and humidity conditions. A barometer/altimeter was used to measure absolute atmospheric pressure.

Operational data was also collected during the test runs. Following each test run the FOXBORO printout in the control room provided a printout of various operational data. The operational test data was recorded approximately every 10-minutes during the test runs and averaged over the test run period.

Operational data provided included the following:

- Mean turbine exhaust plenum temperature
- $DeNO_x$ steam flow
- Fuel flow rate
- Compressor inlet temperature
- Generator output
- Compressor discharge pressure
- Compressor discharge temperature

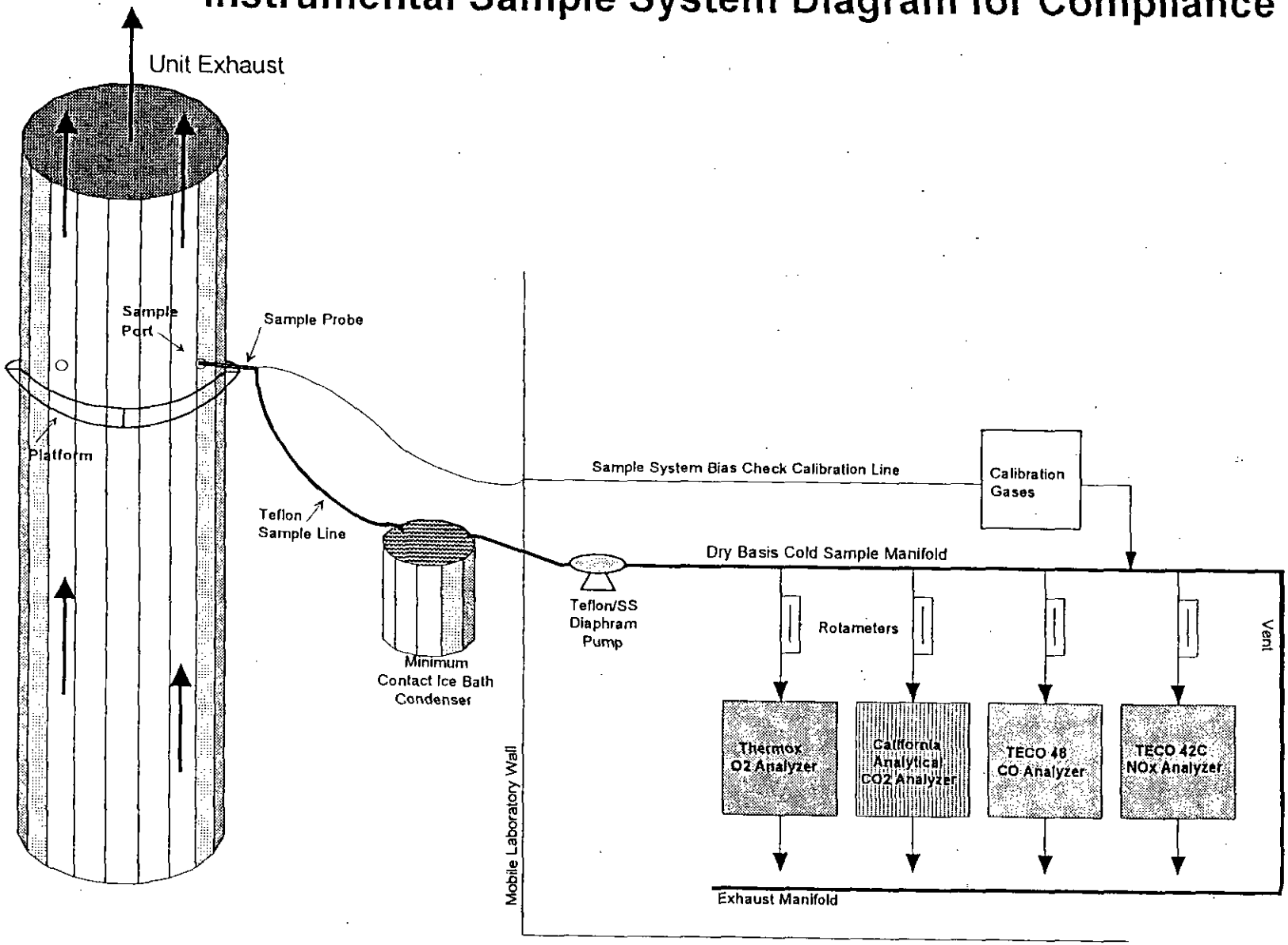
The printouts of the operational data are included in Appendix F of this report. The tabular summaries included in the *Summary of Results* include the average for all of the above operational parameters during each test run.

Analytical Instrumentation

Table 4

Parameter	Model & Manufacturer	Common Use Ranges	Sensitivity	Response Time (sec.)	Detection Principle
Oxygen (O_2)	Amatek Thermox	0-1% 0-10% 0-25% 0-100%	0.1%	5	Electrochemical cell convection process
Carbon Dioxide (CO_2) (high range)	California Analytical	0-1% 0-5% 0-10% 0-50% 0-100%	0.1 ppm	3	Infrared absorption, non-dispersive type deflection method, single IR, single beam (NDIR)
Carbon Monoxide (CO)	TECO 48	0-10 ppm 0-20 ppm 0-50 ppm 0-100 ppm 0-200 ppm 0-500 ppm 0-1000 ppm	0.1 ppm	120	Infrared absorption, gas filter correlation detector, microprocessor based linearization
Nitrogen Oxide (NOx)	TECO 42H	0-10 ppm 0-20 ppm 0-50 ppm 0-100 ppm 0-200 ppm 0-500 ppm 0-1000 ppm 0-2000 ppm 0-5000 ppm	0.1 ppm	5	Chemiluminescence

Instrumental Sample System Diagram for Compliance Testing



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QUALITY ASSURANCE ACTIVITIES

A number of quality assurance activities were undertaken before, during, and after this testing project. This section of the report combined with Appendices C and D describe each of those activities.

Each instrument's response was checked and adjusted in the field prior to the collection of data via multi-point calibration. The instrument's linearity was checked by first adjusting its zero and span responses to zero (nitrogen or zero air) and an upscale calibration gas in the range of the expected concentrations. The instrument response was then challenged with other calibration gases of known concentration. The instrument's response was accepted as being linear if the response of the other calibration gases agreed within ± 2% of range of the predicted values. Appendix C, Part 1 contains the calibration sheets.

As a minimum, before and after a set of test runs, the analyzers were checked for zero and span drift. This allows each set of test runs to be bracketed by calibrations and documents the precision of the data collected. The criterion for acceptable data is that the instrument drift is no more than 2% of the full-scale response. The quality assurance worksheets in Appendix C, part 5 summarize all multipoint calibration checks and zero and span checks performed during the tests. These worksheets show that no analyzer calibration drifted in excess of 2% during the tests.

Interference response tests on the instruments were recorded for the NO_x, CO, CO_2 and O_2 analyzers. The sum of the interference responses was less than 2% of the applicable full-scale value. The instruments used for the tests meet the performance specifications for EPA Methods 3a, 10, and 20. The results of the interference tests are available in Appendix C, Part 2 of this report.

The NO_x, O_2, CO_2, and CO sampling and analysis system was checked onsite for response time per the procedures outlined in EPA Method 20. The average NO_x analyzer's response times were 54 seconds upscale and 54 seconds downscale. The average O_2 analyzer's response times were 43 seconds upscale and 44 seconds downscale. Method 20 requires a minimum sample time per traverse point of 1-minute plus the average sample system response time. Therefore, a sample time of 2 minutes was used for the initial O_2 traverse. The response time for the CO analyzer was 45 seconds upscale and 55 seconds downscale, therefore, a sample time of 2 minutes was chosen for the NO_x traverse since CO emission are collected during these test runs at the 100% load condition. The response time test data is contained in Appendix C, Part 3.

The sampling systems were leak checked by demonstrating that a vacuum greater than 10" Hg could be held for at least 1 minute with a decline of less than 1" Hg. A leak check was conducted after each sample system was set up and before the systems were dismantled. These tests were conducted to ensure that ambient air had not diluted the sample. Any leakage detected prior to the tests was repaired and another leak check was conducted before testing commenced. No leaks were detected after the tests were complete. Leak check data is contained in Appendix C, Part 4.

The absence of leaks in the gaseous constituent sampling system was also verified by system bias checks. Comparing the responses of each analyzer to a calibration gas introduced via two paths tested the sampling system's integrity. The first path was directly into the analyzer via the zero/span calibration manifold. The second path was to introduce a calibration gas into the sample system at the sample probe. Any difference in the instrument responses by these two

methods was attributed to sampling system bias or leakage. These bias checks were conducted before and after the testing. The same sample system was used throughout the tests. The bias response check data is contained in Appendix C, Part 4. All responses, via both paths, agreed within ± 2%.

Having the analyzer sample a mixture of NO in N2 standard gas and zero air from a Tedlar® bag checked the efficiency of the NO2 to NO converter in the NOx analyzer. When this bag is mixed and exposed to sunlight, the NO is oxidized to NO_2 over approximately a 30 minute period. If the NO_x analyzer's converter is 100% efficient, then the NO_x response does not decrease as the NO in the bag is converted to NO_2. The criterion for acceptability is a demonstrated NO_x converter efficiency greater than 90%. The strip chart excerpt that demonstrates the converter efficiency is contained in Appendix C, Part 5.

The control gases used to calibrate the instruments were analyzed and certified by the compressed gas vendors to ± 1% accuracy for the NO_x, O_2 and CO_2 gases, and to ± 2% for the CO gases. EPA Protocol No. 1 was used, where applicable, to assign the concentration values traceable to the National Institute of Standards and Technology, Standard Reference Materials (SRM's). The calibration certification sheets are prepared by the vendor and are contained in Appendix D.

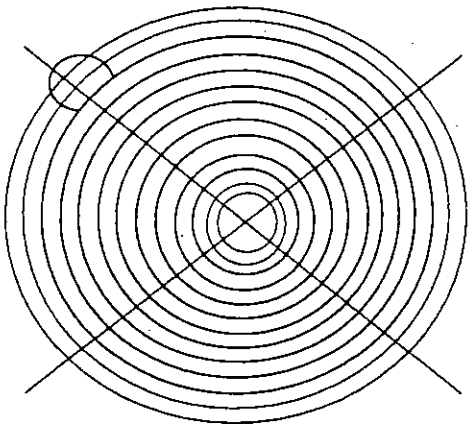
APPENDIX A

EPA Method 1 - Traverse Point Layout

Rectangular Stack Sampling Traverse Point Layout
(EPA Method 1)

University of Florida
Date: September 24, 2002
Plant: Florida Power
Source: Stack
Technician(s) JTL, LRF
Stack Length (L) N/A in.
Stack Width (W) N/A in.

Port + Stack ID: 121 in.
Port Extension (Ref. Pt.) 9 in.
Stack ID: 112 in.
Stack Area 74.66 ft.^{2}.
Total Req'd Trav. Pts. (P). 36
No. of Traverse Pts. 18 /dimen.



No. of Traverse Pts. 9 /port

Stack Diagram (Top view showing length, width, and sample ports.)

Point No.	Percent of Stack Diameter From Wall	Distance From Ref. Point (inches)
1	1.4	10.6
2	4.4	13.9
3	7.5	17.4
4	10.9	21.2
5	14.6	25.4
6	18.8	30.1
7	23.6	35.4
8	29.6	42.2
9	38.2	51.8
10	61.8	78.2
11	70.4	87.8
12	76.4	94.6
13	81.2	99.9
14	85.4	104.6
15	89.1	108.8
16	92.5	112.6
17	95.6	116.1
18	98.6	119.4

APPENDIX B

Example Calculations

Flow Rate in Stack by F-Factors (Qd):
refers to Test Run 1

Convert mass fuel flow to volumetric fuel flow:

Calculate Heat Input Run 1:
Hg = heating value of fuel = 1039.4 BTU/SCF (gross) from fuel analysis
F = fuel flow = 355900 SCF/hr from operational data
H = heat input (MMBtu/hr)
= Hg x $F/(1x10^6)$ = 369.9 MMBtu/hr

Calculate flow rate using **O_2 F-Factor** on Run 1:

C_{O2} = O_2 concentration in exhaust = 14.89 % by volume, dry
$Q_d = H * F_{O2} * 20.9/(20.9 - C_{O2})$

$Q_d = 369.9 * 8710 * 20.9/(20.9 - 14.89)$

Q_d = 11204711 DSCFH

Calculate flow rate using **CO_2 F-Factor**, using same data as above, except:

C_{CO2} = Concentration of CO_2 in stack = 3.39 % by volume, dry
$Q_d = H * F_{CO2} * 100/C_{CO2}$

$Q_d = 369.9 * 1040 * 100 / 3.69$

Q_d = 11348653 DSCFH

NO_x Correction to 15% O_2
refers to Test Run 1

NO_x obs = observed NO_x concentration = 18.48 ppmv
C_{O2} = concentration of O_2 = 14.89 % (from analyzer)

$$NO_x @ 15\% O_2 = \frac{(NO_x \text{ obs} \times (20.9 - 15.0))}{(20.9 - C_{O2})}$$

$$18.2 = \frac{(18.49 \times (20.9 - 15.0))}{(20.9 - 14.89)}$$

Mass Emission Rates NO_x (lb/hr) (E_{NOx})
refers to Test Run 1

C_{NOx} = NO_x concentration (ppmv, dry, uncorrected) = 18.49 ppmv
Q_d = Stack Flow Rate (SCFH, dry, via O2) = 11204711
$11.94 * 10^{-8}$ = NO_x density factor from molecular weight of 46.01 and gas constant of 385.15 SCF/lb-mole (lbs/scf-ppm)

$E_{NOx} = C_{NOx} * Q_d * 11.94*10^{-8}$

$E_{NOx} = 14.89 * 11204700 * 11.94*10^{-8}$

E_{NOx} = 24.7 lbs/hr

Mass Emission Rates CO (lbs/hr) (E_{CO})
refers to Test Run 1

C_{CO} = CO Concentration (ppmv, dry, uncorrected) = 5.79 ppmv
Q_d = Stack Flow Rate (SCFH, dry, via O2) = 11204711
$7.269 * 10^{-8}$ = CO Density factor from molecular weight of 28.01 and gas constant of 385.15 SCF/lb-mole (lbs/scf-ppm)

$E_{CO} = C_{CO} * Q_d * 7.269 * 10^{-8}$

$E_{CO} = 5.79 * 11204711 * 7.269 * 10^{-8}$

E_{CO} = 4.7 lbs/hr

Fo Calculation to Verify O_2/CO_2 Measurements
refers to Test Run 1

CO_2 = 3.39 % by volume
O_2 = 14.89 % by volume

$Fo = (20.9 - O_2\%) / CO_2\%$

$Fo = (20.9 - 14.89)/3.39$

Fo = 1.773 *(acceptable Fo values for natural gas = 1.600 to 1.836)*

SO_2 Emission Rate Calculation (E_{SO2})

refers to test run 1

Sw = Sulfur content of fuel = 0.00071 % by weight
F_g = Fuel flow to turbine = 15.98 Klb/hr

E_{SO2} = Sw / 100 * F_g * 3600 * 64 MW of SO_2 / 32 MW of Sulfur

E_{SO2} = 0.00071 / 100 * 15.98 * 3600 * 64/32

E_{SO2} = 0.2270 lbs/hr

SO_2 Concentration (C_{SO2})

refers to test run 1

E_{SO2} = SO_2 Emission Rate (lbs/hr) = 0.2270
Q_d = Stack Flow Rate (DSCF/hr) from F-Factor Flow Calc. = 11204711
385.15 SCF/lb-mole of ideal gas
MW = 64 lbs/lb/mole

C_{SO2} = E_{SO2} * 385.15 / MW / Q_d * 100

C_{SO2} = 0.2270 * 385.15 / 64 / 11204711 * 100

C_{SO2} = 1.22E-05 % SO_2

C_{SO2} at 15% O_2 = % SO_2 * 5.9 / (20.9 - O_2)

C_{SO2} at 15% O_2 = 1.22E-05 * 5.9 / (20.9 - 14.89)

C_{SO2} at 15% O_2 = 0.000012 %

Fuel Curve Calculations

refers to test run 1

Ideal:
@ 71.0° F (360,000 scf/hr)(1039.4 btu/scf) = 374.184 mmBtu/hr

Actual:
(355900)(1039.4) = 369.9 mmBtu/hr

(369.9 / 374.184) * 100 = 98.9%

Calculation for Gaseous Emissions QA

Initial Calibration and Linearity Check

(Pre Run 1)

Initial = observed reading when calibration gas is analyzed

$$Drift\ (\%\ of\ Span) = \frac{Initial\ (\%, ppm) - Cal.\ Gas\ Concentration\ (\%, ppm)}{Span\ Value} \times 100$$

For NOx @ 25.6 ppm
Drift (% of Span) = [(25.6-25.6)/50] x 100 = 0.00

All readings must be within 2% full-scale of predicted readings.

Zero and Span Check

Initial Span = observed reading when calibration gas is analyzed just prior to the start of a test run (i.e. target value)

Pre Run 1, NOx:
Initial Span = 25.6 ppm

Final Span = observed reading when calibration gas is analyzed just after the end of a test run (this will also be the initial span calibration for the next test run)

After Run 1, NOx:
Final Span = 25.48 ppm

$$Drift\ (\%\ of\ Span) = \frac{Final\ (\%, ppm) - Initial\ (\%, ppm)}{Span\ Value} \times 100$$

Drift = [(25.48 ppm - 25.6 ppm)/50] x 100 = -0.24

The drift is considered to be acceptable if the value is within 2% of full-scale from the predicted value.

APPENDIX C

Fuel Data &
Flow vs. Inlet Temperature Curve

daily chromatograph

date requested: Oct 4 2002 6:43AM

The 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 provided 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 information. This data will be subject to additional verification and possible modification prior to billing.

Chromatograph Report For: 8033 - GAINESVILLE LAB

download

Date	BTU	CO2	N2	Grav	Methan	Ethane	Propan	Ibutan	Nbutan	Ipenta	Npenta	C6	C7	H2	Helium	Oxygen
10/03/2002	1038	0.940	0.342	0.589	95.264	2.637	0.494	0.105	0.096	0.038	0.025	0.058	0	0	0	0
10/02/2002	1039	0.938	0.355	0.590	95.099	2.750	0.524	0.108	0.106	0.037	0.025	0.058	0	0	0	0
10/01/2002	1043	1.000	0.330	0.593	94.774	2.903	0.598	0.125	0.129	0.044	0.030	0.066	0	0	0	0
09/30/2002	1043	1.066	0.382	0.595	94.493	3.039	0.611	0.128	0.131	0.047	0.031	0.070	0	0	0	0
09/29/2002	1043	1.010	0.398	0.594	94.649	2.928	0.606	0.129	0.128	0.047	0.031	0.073	0	0	0	0
09/28/2002	1054	1.024	0.368	0.600	93.977	3.159	0.885	0.214	0.188	0.064	0.037	0.082	0	0	0	0
09/27/2002	1048	1.008	0.380	0.597	94.273	3.093	0.767	0.182	0.153	0.054	0.030	0.061	0	0	0	0
09/26/2002	1033	0.858	0.355	0.584	95.680	2.510	0.378	0.071	0.063	0.026	0.017	0.042	0	0	0	0
09/25/2002	1034	0.880	0.358	0.585	95.571	2.549	0.401	0.078	0.068	0.029	0.019	0.045	0	0	0	0
09/24/2002	1035	0.921	0.352	0.586	95.424	2.652	0.417	0.079	0.068	0.027	0.017	0.043	0	0	0	0
09/23/2002	1035	0.935	0.380	0.587	95.236	2.795	0.427	0.078	0.066	0.026	0.017	0.040	0	0	0	0
09/22/2002	1032	0.908	0.327	0.584	95.666	2.535	0.361	0.070	0.057	0.023	0.015	0.038	0	0	0	0
09/21/2002	1032	0.886	0.355	0.584	95.629	2.595	0.340	0.066	0.055	0.023	0.015	0.036	0	0	0	0
09/20/2002	1030	0.849	0.316	0.582	95.976	2.391	0.297	0.057	0.049	0.020	0.013	0.032	0	0	0	0
09/19/2002	1032	0.853	0.332	0.583	95.815	2.470	0.329	0.068	0.062	0.023	0.015	0.034	0	0	0	0
09/18/2002	1032	0.866	0.338	0.583	95.775	2.508	0.322	0.065	0.057	0.021	0.014	0.035	0	0	0	0
09/17/2002	1033	0.869	0.336	0.584	95.619	2.618	0.352	0.069	0.060	0.023	0.015	0.038	0	0	0	0
09/16/2002	1033	0.868	0.334	0.584	95.569	2.707	0.322	0.067	0.056	0.023	0.015	0.038	0	0	0	0
09/15/2002	1032	0.801	0.325	0.582	95.910	2.449	0.322	0.065	0.053	0.023	0.014	0.038	0	0	0	0
09/14/2002	1032	0.815	0.344	0.583	95.877	2.454	0.318	0.066	0.055	0.022	0.014	0.035	0	0	0	0
09/13/2002	1031	0.824	0.336	0.582	95.914	2.442	0.300	0.062	0.053	0.021	0.013	0.034	0	0	0	0
09/12/2002	1030	0.827	0.349	0.582	95.910	2.457	0.283	0.058	0.049	0.021	0.013	0.033	0	0	0	0
09/11/2002	1030	0.827	0.333	0.582	95.987	2.398	0.283	0.056	0.048	0.021	0.013	0.034	0	0	0	0
09/10/2002	1030	0.825	0.321	0.582	95.965	2.450	0.279	0.054	0.045	0.019	0.012	0.031	0	0	0	0
09/09/2002	1032	0.820	0.343	0.583	95.784	2.576	0.302	0.060	0.052	0.020	0.012	0.031	0	0	0	0
09/08/2002	1031	0.801	0.327	0.582	95.973	2.420	0.292	0.064	0.056	0.021	0.013	0.032	0	0	0	0
09/07/2002	1029	0.785	0.335	0.580	96.239	2.222	0.250	0.056	0.049	0.020	0.013	0.032	0	0	0	0
09/06/2002	1029	0.798	0.335	0.580	96.251	2.159	0.267	0.064	0.057	0.022	0.014	0.034	0	0	0	0
09/05/2002	1029	0.778	0.343	0.580	96.215	2.213	0.261	0.063	0.057	0.022	0.014	0.034	0	0	0	0
09/04/2002	1030	0.764	0.328	0.580	96.203	2.250	0.266	0.064	0.057	0.021	0.014	0.033	0	0	0	0
09/03/2002	1032	0.784	0.317	0.582	95.977	2.405	0.321	0.066	0.058	0.022	0.014	0.036	0	0	0	0
09/02/2002	1033	0.778	0.345	0.583	95.813	2.521	0.342	0.068	0.060	0.023	0.015	0.036	0	0	0	0
09/01/2002	1035	0.801	0.341	0.584	95.625	2.640	0.376	0.076	0.067	0.023	0.014	0.036	0	0	0	0
08/31/2002	1036	0.832	0.358	0.586	95.411	2.760	0.402	0.083	0.075	0.025	0.016	0.039	0	0	0	0
08/30/2002	1038	0.862	0.347	0.587	95.242	2.811	0.476	0.094	0.082	0.027	0.017	0.041	0	0	0	0
08/29/2002	1038	0.870	0.351	0.588	95.232	2.791	0.485	0.096	0.084	0.030	0.019	0.043	0	0	0	0
08/28/2002	1039	0.853	0.367	0.588	95.187	2.766	0.518	0.105	0.101	0.035	0.024	0.045	0	0	0	0
08/27/2002	1038	0.884	0.354	0.588	95.193	2.819	0.481	0.095	0.084	0.030	0.019	0.042	0	0	0	0
08/26/2002	1039	0.877	0.337	0.588	95.147	2.839	0.513	0.102	0.093	0.031	0.020	0.043	0	0	0	0
08/25/2002	1038	0.856	0.345	0.587	95.356	2.698	0.463	0.097	0.089	0.031	0.020	0.044	0	0	0	0
08/24/2002	1036	0.843	0.359	0.586	95.498	2.611	0.422	0.091	0.086	0.032	0.020	0.041	0	0	0	0
08/23/2002	1037	0.823	0.328	0.586	95.540	2.605	0.436	0.090	0.088	0.030	0.019	0.042	0	0	0	0
08/22/2002	1037	0.841	0.340	0.587	95.425	2.661	0.455	0.095	0.091	0.031	0.020	0.042	0	0	0	0

FGT

Last Updated 9/30/02 7:56

Station Name	Total Sulfur Previous Day Avg ppm 09/28/02	Total Sulfur Previous Day Avg Grains/hcf 09/28/02
Perry 36" Stream #1	1.088	0.068
Perry 30" Stream #2	1.092	0.068
Perry 24" Stream #3	1.061	0.066
Brooker 24" Stream	2.819	0.176

Florida Gas makes no warranty or representation whatsoever as to the accuracy of the information provided.
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

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 #3 15SA24PSUL.A Avg ppm	Perry 24" Stream #3 Avg Grains/hcf	Brooker 24" Stream BRO124PSUL.A Avg ppm	Brooker 24" Stream Avg Grains/hcf
09/27/02	33	0.403	0.025	0.474	0.030	0.499	0.031	3.179	0.199
09/26/02	32	0.696	0.043	1.209	0.076	1.170	0.073	5.422	0.339
09/25/02	31	1.792	0.112	2.056	0.129	2.018	0.126	5.422	0.339
09/24/02	30	1.458	0.091	0.986	0.062	1.042	0.065	3.131	0.196
09/23/02	29	0.599	0.037	0.826	0.052	0.784	0.049	3.253	0.203
09/22/02	28	0.839	0.052	1.014	0.063	0.905	0.057	3.253	0.203
09/21/02	27	1.226	0.077	0.945	0.059	0.997	0.062	3.291	0.206
09/20/02	26	0.834	0.052	1.004	0.063	0.848	0.053	3.291	0.206
09/19/02	25	0.651	0.041	0.696	0.044	0.730	0.046	3.026	0.189
09/18/02	24	0.645	0.040	0.726	0.045	0.871	0.054	3.299	0.206
09/17/02	23	0.460	0.029	0.621	0.039	0.702	0.044	3.299	0.206
09/16/02	22	0.487	0.030	0.764	0.048	0.798	0.050	3.777	0.236
09/15/02	21	0.415	0.026	0.779	0.049	0.900	0.056	4.035	0.252
09/14/02	20	0.455	0.028	0.749	0.047	1.030	0.064	4.035	0.252
09/13/02	19	0.599	0.037	0.805	0.050	0.776	0.049	3.390	0.212
09/12/02	18	0.479	0.030	0.576	0.036	0.693	0.043	3.111	0.194
09/11/02	17	0.502	0.031	0.659	0.041	0.607	0.038	3.111	0.194
09/10/02	16	0.511	0.032	0.694	0.043	0.713	0.045	3.148	0.197
09/09/02	15	0.537	0.034	0.718	0.045	0.714	0.045	3.148	0.197
09/08/02	14	0.489	0.031	0.660	0.041	0.636	0.040	3.148	0.197
09/07/02	13	0.400	0.025	0.593	0.037	0.591	0.037	3.148	0.197
09/06/02	12	0.392	0.025	0.597	0.037	0.574	0.036	3.148	0.197
09/05/02	11	0.338	0.021	0.532	0.033	0.534	0.033	3.148	0.197
09/04/02	10	0.514	0.032	0.834	0.052	0.831	0.052	3.148	0.197
09/03/02	9	0.550	0.034	0.876	0.055	0.924	0.058	3.148	0.197
09/02/02	8	0.598	0.037	1.076	0.067	1.155	0.072	3.148	0.197
09/01/02	7	0.678	0.042	1.043	0.065	1.134	0.071	3.148	0.197
08/31/02	6	0.631	0.039	1.057	0.066	1.129	0.071	3.148	0.197
08/30/02	5	0.564	0.035	0.961	0.060	1.065	0.067	3.148	0.197
08/29/02	4	0.686	0.043	1.351	0.084	1.481	0.093	2.939	0.184
08/28/02	3	0.659	0.041	1.114	0.070	1.132	0.071	3.313	0.207
08/27/02	2	0.927	0.058	1.416	0.089	1.441	0.090	3.313	0.207
08/26/02	1	0.832	0.052	1.976	0.124	2.025	0.127	4.994	0.312

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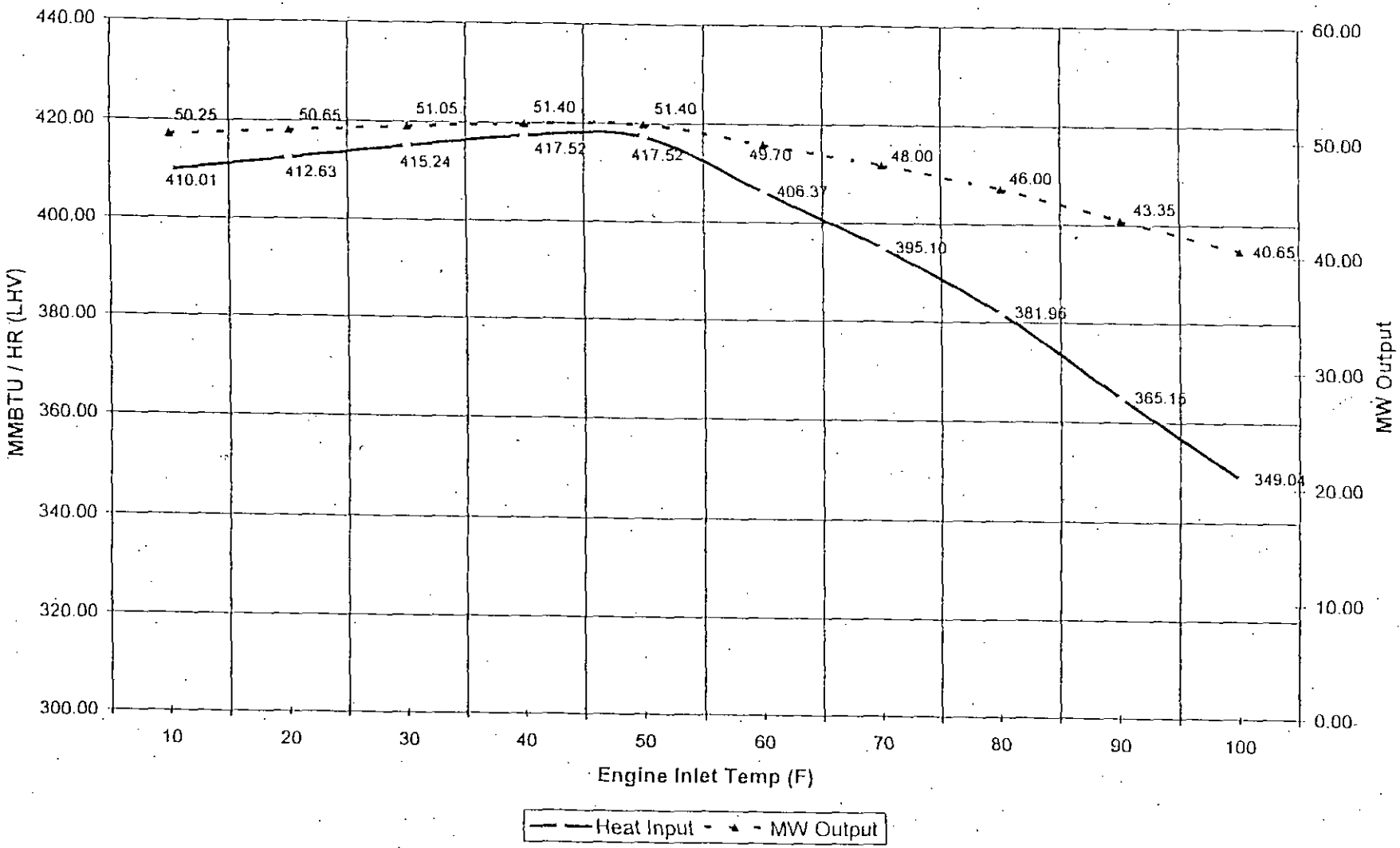
Engine Inlet Temp. Vs. Heat Input (LHV) and MW Output
LM6000PC-Esprint - University of Florida Cogen - Florida Power



APPENDIX D

Quality Assurance Activities

Quality Assurance Worksheet
University of Florida Cogen. Facility

DATE:	Certified Gas Input		Initial Calibration & Linearity Check		Test Run 1	Zero and Span Calibration Check		Test Run 2	Zero and Span Calibration Check		Test Run 3	Zero and Span Calibration Check	
9/24/2002	Concentration (% or ppm)	% of Span	Initial (% or ppm)	Difference (% of span)		Final (% or ppm)	Drift (% of span)		Final (% or ppm)	Drift (% of span)		Final (% or ppm)	Drift (% of span)
O2					Avg. %			Avg. %			Avg. %		
zero	0.00	0.00	0.00	0.02	14.01	0.02	0.06	13.98	0.01	-0.06	14.01	0.00	-0.01
mid	11.85	47.40	11.74	-0.45		11.79	0.22		11.77	-0.09		11.75	-0.09
high	20.90	83.60	20.95	0.21		N/A	N/A		N/A	N/A		N/A	N/A
full scale	25.0				25.0			25.0			25.0		
CO2					Avg. %			Avg. %			Avg. %		
zero	0.00	0.00	-0.01	-0.03	3.93	0.00	0.05	3.92	0.01	0.02	3.90	0.01	-0.01
mid	3.66	18.30	3.64	-0.11		3.64	-0.01		3.65	0.07		3.635	-0.08
high	9.79	48.95	9.78	-0.06		N/A	N/A		N/A	N/A		N/A	N/A
full scale	20.0				20.0			20.0			20.0		
NOx					Avg. ppm			Avg. ppm			Avg. ppm		
zero	0.00	0.00	0.10	0.21	16.72	0.11	0.01	17.07		-0.21	14.28	0.11	0.23
low	11.70	23.40	11.83	0.25		N/A	N/A		N/A	N/A		N/A	N/A
mid	25.60	51.20	25.46	-0.27		25.34	-0.25		25.25	-0.18		25.53	0.57
high	46.80	93.60	46.67	-0.25		N/A	N/A		N/A	N/A		N/A	N/A
full scale	50.0				50.0			50.0			50.0		
CO					Avg. ppm			Avg. ppm			Avg. ppm		
zero	0.0	0.00	0.11	0.21	27.45	0.11	0.00	26.34	0.11	0.00	16.66	0.20	0.19
mid	15.2	30.40	15.21	0.02		15.16	-0.11		15.12	-0.07		15.16	0.07
high	30.5	61.00	30.39	-0.22		N/A	N/A		N/A	N/A		N/A	N/A
full scale	50.0				50.0			50.0			50.0		

Florida Power Corporation

Prepared by J. T. Long
10/1/2002

Florida Power Air Emissions Test Team

IDLE

10 seconds

Complaince & RATA

24-Sep-02 Florida Power University of Florida Unit # CT 001 & DB 002

	Parameter	O2	CO2	CO	NOx	SO2	NOx	NOx	CO	Comments
	Units	%V	%V	ppmV	ppmV	ppmV	lb/Mmbtu	@15%O2	@15%O2	
INSTANTANEOUS:		0.006	-0.003	0.234	46.824 N/A		-197.0968	13.222	0.066	46.8 NOx
24-Sep-02	8:11:21	0.006	-0.001	0.224	0.691 N/A		-8.7276	0.195	0.063	UF Initial Cal 100% Nit
24-Sep-02	8:11:31	0.001	-0.003	0.076	0.337 N/A		-1.4179	0.095	0.022	UF Initial Cal 100% Nit
24-Sep-02	8:11:41	0.004	-0.003	0.022	0.288 N/A		-1.2109	0.081	0.006	UF Initial Cal 100% Nit
24-Sep-02	8:12:39	11.742	-0.005	0.175	0.140 N/A		-0.3539	0.090	0.112	11.85 O2
24-Sep-02	8:12:49	11.742	-0.007	0.229	0.135 N/A		-0.2439	0.087	0.147	11.85 O2
24-Sep-02	8:12:59	11.727	-0.005	0.175	0.091 N/A		-0.2297	0.059	0.112	11.85 O2
24-Sep-02	8:13:55	20.954	-0.005	0.076	0.135 N/A		-0.3415	-14.720	-8.297	20.9 O2
24-Sep-02	8:14:05	20.952	-0.005	0.022	0.091 N/A		-0.2297	-10.362	-2.520	20.9 O2
24-Sep-02	8:14:15	20.952	-0.007	-0.027	0.086 N/A		-0.1552	-9.802	3.080	20.9 O2
24-Sep-02	8:14:54	0.026	3.636	-0.032	0.140 N/A		0.0005	0.040	-0.009	3.66 CO2
24-Sep-02	8:15:04	0.018	3.642	-0.081	0.086 N/A		0.0003	0.024	-0.023	3.66 CO2
24-Sep-02	8:15:14	0.009	3.640	0.022	0.140 N/A		0.0005	0.040	0.006	3.66 CO2
24-Sep-02	8:15:46	0.031	9.763	-0.081	0.140 N/A		0.0002	0.040	-0.023	9.79 CO2
24-Sep-02	8:15:56	0.018	9.785	-0.125	0.140 N/A		0.0002	0.040	-0.035	9.79 CO2
24-Sep-02	8:16:06	0.018	9.785	-0.224	0.140 N/A		0.0002	0.040	-0.063	9.79 CO2
24-Sep-02	8:17:56	0.009	0.007	15.119	0.091 N/A		0.1641	0.026	4.270	15.2 CO
24-Sep-02	8:18:06	0.009	0.005	15.227	0.091 N/A		0.2297	0.026	4.300	15.2 CO
24-Sep-02	8:18:16	0.009	0.005	15.281	0.037 N/A		0.0931	0.010	4.315	15.2 CO
24-Sep-02	8:19:45	0.001	0.003	30.353	0.037 N/A		0.1552	0.010	8.569	30.5 CO
24-Sep-02	8:19:55	0.001	0.001	30.412	0.042 N/A		0.5280	0.012	8.586	30.5 CO
24-Sep-02	8:20:05	0.001	0.001	30.412	0.037 N/A		0.4659	0.010	8.586	30.5 CO
24-Sep-02	8:23:09	0.014	-0.001	0.322	11.893 N/A		-150.2375	3.360	0.091	11.7 NOx
24-Sep-02	8:23:19	0.014	-0.001	0.283	11.818 N/A		-149.2853	3.338	0.080	11.7 NOx
24-Sep-02	8:23:29	0.014	0.001	0.322	11.770 N/A		148.6886	3.325	0.091	11.7 NOx
24-Sep-02	8:24:19	0.011	-0.001	0.322	25.316 N/A		-319.7993	7.150	0.091	25.6 NOx
24-Sep-02	8:24:29	0.014	-0.003	0.376	25.513 N/A		-107.3916	7.207	0.106	25.6 NOx
24-Sep-02	8:24:39	0.014	-0.003	0.376	25.562 N/A		-107.5987	7.221	0.106	25.6 NOx
24-Sep-02	8:25:26	0.006	-0.001	0.322	46.573 N/A		-588.3226	13.151	0.091	46.8 NOx
24-Sep-02	8:25:36	0.006	-0.003	0.179	46.622 N/A		-196.2482	13.165	0.051	46.8 NOx
24-Sep-02	8:25:46	0.006	-0.003	0.229	46.824 N/A		-197.0968	13.222	0.065	46.8 NOx

Florida Power Air Emissions Test Team

IDLE

10 seconds

Complaince & RATA

24-Sep-02 Florida Power University of Florida Unit # CT 001 & DB 002

	Parameter	O2	CO2	CO	NOx	SO2	NOx	NOx	CO	
	Units	%V	%V	ppmV	ppmV	ppmV	lb/Mmbtu	@15%O2	@15%O2	Comments
INSTANTANEOUS:		0.007	0.001	0.325	25.515	N/A	322.3157	7.205	0.092	25.6 NOx
24-Sep-02	11:30:34	0.027	0.013	0.177	0.192	N/A	0.1863	0.054	0.050	100% nit
24-Sep-02	11:30:44	0.020	0.011	0.123	0.143	N/A	0.1637	0.040	0.035	100% nit
24-Sep-02	11:30:54	0.012	0.009	0.025	0.143	N/A	0.2001	0.040	0.007	100% nit
24-Sep-02	11:31:36	11.742	0.007	0.084	0.093	N/A	0.1685	0.060	0.054	11.85 O2
24-Sep-02	11:31:46	11.841	0.007	0.079	0.093	N/A	0.1685	0.061	0.051	11.85 O2
24-Sep-02	11:31:56	11.796	0.005	0.128	0.089	N/A	0.2235	0.057	0.083	11.85 O2
24-Sep-02	11:32:24	20.957	0.005	0.226	0.143	N/A	0.3601	-14.786	-23.454	20.9 O2
24-Sep-02	11:32:34	20.957	0.003	0.177	0.089	N/A	0.3726	-9.178	-18.355	20.9 O2
24-Sep-02	11:32:44	20.957	0.001	0.084	0.089	N/A	1.1181	-9.178	-8.668	20.9 O2
24-Sep-02	11:33:13	0.101	3.632	-0.118	0.192	N/A	0.0007	0.054	-0.033	3.66 CO2
24-Sep-02	11:33:23	0.020	3.640	-0.084	0.143	N/A	0.0005	0.040	-0.024	3.66 CO2
24-Sep-02	11:33:33	0.015	3.640	-0.084	0.138	N/A	0.0005	0.039	-0.024	3.66 CO2
24-Sep-02	11:35:30	0.020	0.003	15.169	0.093	N/A	0.3933	0.026	4.286	15.2 CO
24-Sep-02	11:35:40	0.010	0.005	15.120	0.093	N/A	0.2359	0.026	4.270	15.2 CO
24-Sep-02	11:35:50	0.012	0.003	15.174	0.093	N/A	0.3933	0.026	4.286	15.2 CO
24-Sep-02	11:37:12	0.005	0.003	2.665	25.210	N/A	106.1187	7.118	0.753	25.6 NOx
24-Sep-02	11:37:22	0.007	0.001	0.477	25.363	N/A	320.3892	7.162	0.135	25.6 NOx
24-Sep-02	11:37:32	0.005	0.001	0.423	25.412	N/A	321.0108	7.175	0.119	25.6 NOx
24-Sep-02	11:37:42	0.005	0.003	0.369	25.363	N/A	106.7602	7.161	0.104	25.6 NOx

Florida Power Air Emissions Test Team

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10 seconds

Complaince & RATA

24-Sep-02 Florida Power University of Florida Unit # CT 001 & DB 002

	Parameter	O2	CO2	CO	NOx	SO2	NOx	NOx	CO	Comments
	Units	%V	%V	ppmV	ppmV	ppmV	lb/Mmbtu	@15%O2	@15%O2	
INSTANTANEOUS:		0.001	0.004	0.285	25.361	N/A	80.0528	7.160	0.081	25.6 NOx
24-Sep-02	12:48:28	0.009	0.018	0.224	0.243	N/A	0.1707	0.069	0.063	100% Nit
24-Sep-02	12:48:38	0.004	0.014	0.022	0.189	N/A	0.1707	0.053	0.006	100% Nit
24-Sep-02	12:48:48	0.004	0.014	0.076	0.194	N/A	0.1752	0.055	0.022	100% Nit
24-Sep-02	12:49:35	11.729	0.010	-0.037	0.140	N/A	0.1769	0.090	-0.024	11.85 O2
24-Sep-02	12:49:45	11.783	0.010	0.120	0.140	N/A	0.1769	0.091	0.078	11.85 O2
24-Sep-02	12:49:55	11.798	0.010	0.224	0.140	N/A	0.1769	0.091	0.145	11.85 O2
24-Sep-02	12:50:31	20.954	0.008	0.278	0.140	N/A	0.2212	-15.256	-30.244	20.9 O2
24-Sep-02	12:50:41	20.954	0.008	0.076	0.091	N/A	0.1436	-9.903	-8.297	20.9 O2
24-Sep-02	12:50:51	20.954	0.006	0.120	0.086	N/A	0.1811	-9.368	-13.115	20.9 O2
24-Sep-02	12:51:24	0.043	3.647	-0.125	0.194	N/A	0.0007	0.055	-0.035	3.66 CO2
24-Sep-02	12:51:34	0.018	3.653	-0.120	0.135	N/A	0.0005	0.038	-0.034	3.66 CO2
24-Sep-02	12:51:44	0.011	3.655	-0.120	0.140	N/A	0.0005	0.040	-0.034	3.66 CO2
24-Sep-02	12:53:22	0.011	0.008	15.119	0.086	N/A	0.1358	0.024	4.270	15.2 CO
24-Sep-02	12:53:32	0.011	0.004	15.119	0.091	N/A	0.2872	0.026	4.270	15.2 CO
24-Sep-02	12:53:42	0.011	0.004	15.119	0.086	N/A	0.2716	0.024	4.270	15.2 CO
24-Sep-02	12:54:54	0.004	0.004	1.941	25.111	N/A	79.2612	7.090	0.548	25.6 NOx
24-Sep-02	12:55:04	0.004	0.002	0.427	25.263	N/A	159.4850	7.133	0.121	25.6 NOx
24-Sep-02	12:55:14	0.004	0.004	0.290	25.361	N/A	80.0528	7.161	0.082	25.6 NOx

Florida Power Air Emissions Test Team

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10 seconds

Complaince & RATA

24-Sep-02 Florida Power University of Florida Unit # CT 001 & DB 002

	Parameter	O2	CO2	CO	NOx	SO2	NOx	NOx	CO	Comments
	Units	%V	%V	ppmV	ppmV	ppmV	lb/Mmbtu	@15%O2	@15%O2	
INSTANTANEOUS:		0.002	0.001	0.369	25.564 N/A		322.6066	7.218	0.104 25.6 NOx	
24-Sep-02	14:07:57	0.002	0.013	0.106	0.198 N/A		0.1919	0.056	0.030 100% Nit	
24-Sep-02	14:08:07	0.000	0.009	0.066	0.153 N/A		0.2150	0.043	0.019 100% Nit	
24-Sep-02	14:08:17	0.002	0.007	0.071	0.153 N/A		0.2764	0.043	0.020 100% Nit	
24-Sep-02	14:09:17	11.726	0.007	0.199	0.113 N/A		0.2036	0.073	0.128 11.85 O2	
24-Sep-02	14:09:27	11.724	0.007	0.248	0.113 N/A		0.2036	0.073	0.159 11.85 O2	
24-Sep-02	14:09:37	11.793	0.005	0.155	0.113 N/A		0.2851	0.073	0.100 11.85 O2	
24-Sep-02	14:10:05	0.103	3.628	0.199	0.153 N/A		0.0005	0.043	0.057 3.66 CO2	
24-Sep-02	14:10:15	0.010	3.638	0.204	0.113 N/A		0.0004	0.032	0.057 3.66 CO2	
24-Sep-02	14:10:25	0.010	3.638	0.150	0.113 N/A		0.0004	0.032	0.042 3.66 CO2	
24-Sep-02	14:11:54	0.012	0.005	15.122	0.089 N/A		0.2235	0.025	4.271 15.2 CO	
24-Sep-02	14:12:04	0.010	0.005	15.171	0.084 N/A		0.2111	0.024	4.285 15.2 CO	
24-Sep-02	14:12:14	0.002	0.005	15.171	0.089 N/A		0.2235	0.025	4.283 15.2 CO	
24-Sep-02	14:13:38	0.002	-0.001	0.669	25.460 N/A		-321.2912	7.188	0.189 25.6 NOx	
24-Sep-02	14:13:48	0.002	0.001	0.566	25.564 N/A		322.6066	7.218	0.160 25.6 NOx	
24-Sep-02	14:13:58	0.000	0.001	0.472	25.559 N/A		322.5441	7.215	0.133 25.6 NOx	

Interference Response Tests

Florida Power CORPORATION

Date: 11-8-94
Technician: JAMES T. LONG

Analyzer Type: THERMOX O_2
Analyzer Model: FCA
Serial Number: C114306
Analyzer Span: 20.9%

Test Gas		Analyzer Response	
Type Gas	Concentration	Concentration	% of Span
SO_2	203 ppm	-0.012	0.057
CO	450 ppm	-0.012	0.057
CO_2	10.1%	-0.012	0.057

$$\% \text{ of Span} = \frac{\text{Analyzer output response}}{\text{Instrument Span}} \times 100$$

Comments:

Sum of interference responses = 0.171 % (Must be less than < 2% of span value)

Interference Response Tests

Florida Power
CORPORATION

Date: 11-8-94
Technician: JAMES T. LONG

Analyzer Type: CALIFORNIA ANALYTICAL CO_2
Analyzer Model: ZRH
Serial Number: N3G2200T
Analyzer Span: 18-13%

Test Gas		Analyzer Response	
Type Gas	Concentration	Concentration	% of Span
SO_2	203 ppm	-0.022	0.121
CO	450 ppm	-0.020	0.110
O_2	20.9%	0.107	0.590

$$\% \text{ of Span} = \frac{\text{Analyzer output response}}{\text{Instrument Span}} \times 100$$

Comments:

Sum of interference responses = 0.821 % (Must be less than < 2% of span value)

Interference Response Tests

Florida Power
CORPORATION

Date: 11-8-94
Technician: JAMES T. LONG

Analyzer Type: THERMO ENVIRONMENTAL CO
Analyzer Model: 48
Serial Number: 48-45-901-275
Analyzer Span: 450 ppm

Test Gas		Analyzer Response	
Type Gas	Concentration	Concentration	% of Span
SO_2	203 ppm	0.008	0.002
CO_2	10-10%	-0.875	0.194
O_2	20-9%	0.010	0.002

$$\% \text{ of Span} = \frac{\text{Analyzer output response}}{\text{Instrument Span}} \times 100$$

Comments:

Sum of interference responses = 0.198 % (Must be less than < 2% of span value)

Interference Response Tests

Florida Power
CORPORATION

Date: 11-8-94
Technician: JAMES T. LONG

Analyzer Type: THERMO ENVIRONMENTAL NOx
Analyzer Model: 42H
Serial Number: 42H - 46155 - 275K
Analyzer Span: 91.9 ppm

Test Gas		Analyzer Response	
Type Gas	Concentration	Concentration	% of Span
SO_2	203 ppm	0.043	0.047
CO_2	10.10 %	-0.028	0.030
CO	450 ppm	-0.014	0.015
O_2	20.9 %	-0.029	0.032

$$\% \text{ of Span} = \frac{\text{Analyzer output response}}{\text{Instrument Span}} \times 100$$

Comments:

Sum of interference responses = 0.124 % (Must be less than < 2% of span value)

INITIAL CALIBRATION
PRIOR TO INTERFERENCE
RESPONSE CHECK

CALIBRATION REPORT

11/08/94 11:18 AM

INITIAL CALIBRATION ???????? YES

CHANNEL NAME	O2	CO2	CO	NOx	NULL
ENGINEERING UNITS	%V	%V	ppmV	ppmV	ppmV
SPAN VALUE	20.90	18.13	450.00	91.90	1821.00
ZERO VALUE	0.00	0.00	0.00	0.00	0.00
MID SCALE VALUE	10.16	4.99	20.00	45.60	902.00
ZERO RESPONSE (V)	-0.0018	-0.0083	-0.0192	0.1847	-0.0170
SPAN RESPONSE (V)	8.3696	0.9024	9.0047	0.9069	6.6450
MID RESPONSE (V)	4.0430	0.2505	0.3616	0.5468	0.0000
ZERO RESPONSE (ENGR)	0.000	0.000	0.000	0.000	0.000
SPAN RESPONSE (ENGR)	20.90	18.13	450.00	91.90	1821.00
MID SCALE RESP (ENGR)	10.10	5.15	18.99	46.08	4.65
SLOPE	2.497	19.907	49.867	127.253	273.341
INTERCEPT	0.0046	0.1662	0.9595	-23.5035	4.6468

MIDSCALE DRIFT/BIAS (% OF FULL SCALE)

-0.25	0.81	-0.20	0.48	-44.87

ZERO DRIFT/BIAS (% OF FULL SCALE)

0.00	0.00	0.00	0.00	0.00

SPAN DRIFT/BIAS (% OF FULL SCALE)

0.00	0.00	0.00	0.00	0.00

Note: For initial calibrations, the above bias results are based on the current calibration values (ie slope and intercept), and therefore the errors for zero and span should be zero since the responses are set to these points. The midscale value demonstrates the linearity of the instrument. The drift/bias values for

Florida Power Corporation - Emissions Testing group
REFERENCE METHOD TEST DATA
Date: 11/08/94 Time: 11:28 AM
INTERCESSION CITY COMBUSTION TURBINE TEST
CO 450ppm

Parameter	O2	CO2	CO	NOx	NULL
Engr. Units	%V	%V	ppmV	ppmV	ppmV
11:28:36 AM	-0.012	-0.018	450.675	-0.018	0.000
11:28:50 AM	-0.012	-0.020	450.259	-0.027	0.000
11:29:05 AM	-0.012	-0.019	449.592	-0.025	0.000
11:29:20 AM	-0.012	-0.019	449.779	-0.004	0.000
11:29:35 AM	-0.012	-0.020	450.005	-0.007	0.000
11:29:51 AM	-0.012	-0.020	449.861	0.003	0.000
11:30:05 AM	-0.012	-0.020	448.364	-0.035	0.000
11:30:20 AM	-0.012	-0.020	449.583	-0.013	0.000
11:30:35 AM	-0.012	-0.021	448.566	0.021	0.000
11:30:50 AM	-0.012	-0.021	449.438	-0.023	0.000
11:31:06 AM	-0.012	-0.021	449.988	-0.004	0.000
11:31:20 AM	-0.012	-0.021	451.048	-0.030	0.000
Average	-0.012	-0.020	449.763	-0.014	0.000

Florida Power Corporation - Emissions Testing group
REFERENCE METHOD TEST DATA
Date: 11/08/94 Time: 11:34 AM
INTERCESSION CITY COMBUSTION TURBINE TEST
SO2 203ppm

Parameter	O2	CO2	CO	NOx	NULL
Engr. Units	%V	%V	ppmV	ppmV	ppmV
11:34:36 AM	-0.012	-0.021	0.033	-0.002	0.000
11:34:50 AM	-0.012	-0.024	0.020	-0.026	0.000
11:35:05 AM	-0.012	-0.023	-0.013	-0.045	0.000
11:35:20 AM	-0.012	-0.021	0.009	-0.014	0.000
11:35:35 AM	-0.012	-0.023	0.002	0.062	0.000
11:35:50 AM	-0.012	-0.021	0.001	0.072	0.000
11:36:05 AM	-0.012	-0.021	-0.017	0.066	0.000
11:36:20 AM	-0.012	-0.021	0.001	0.056	0.000
11:36:35 AM	-0.012	-0.023	0.002	0.066	0.000
11:36:50 AM	-0.012	-0.024	0.021	0.075	0.000
11:37:05 AM	-0.012	-0.022	0.023	0.103	0.000
11:37:21 AM	-0.012	-0.023	0.008	0.098	0.000
Average	-0.012	-0.022	0.008	0.043	0.000

Florida Power Corporation - Emissions Testing group
REFERENCE METHOD TEST DATA
Date: 11/08/94 Time: 11:39 AM
INTERCESSION CITY COMBUSTION TURBINE TEST
CO2 10.10%

Parameter	O2	CO2	CO	NOx	NULL
Engr. Units	%V	%V	ppmV	ppmV	ppmV
11:39:57 AM	-0.012	10.379	-0.455	-0.027	0.000
11:40:11 AM	-0.012	10.373	-0.899	-0.006	0.000
11:40:26 AM	-0.012	10.381	-0.907	-0.045	0.000
11:40:41 AM	-0.012	10.384	-0.927	-0.051	0.000
11:40:56 AM	-0.012	10.382	-0.916	0.001	0.000
11:41:11 AM	-0.012	10.384	-0.929	-0.025	0.000
11:41:26 AM	-0.012	10.386	-0.913	-0.046	0.000
11:41:41 AM	-0.012	10.388	-0.902	-0.029	0.000
11:41:56 AM	-0.012	10.382	-0.909	-0.003	0.000
11:42:11 AM	-0.012	10.386	-0.915	-0.029	0.000
11:42:26 AM	-0.012	10.395	-0.920	-0.047	0.000
11:42:42 AM	-0.012	10.390	-0.910	-0.035	0.000
Average	-0.012	10.384	-0.875	-0.028	0.000

Florida Power Corporation - Emissions Testing group
REFERENCE METHOD TEST DATA
Date: 11/08/94 Time: 11:45 AM
INTERCESSION CITY COMBUSTION TURBINE TEST
O2 20.9%

Parameter	O2	CO2	CO	NOx	NULL
Engr. Units	%V	%V	ppmV	ppmV	ppmV
11:45:37 AM	20.900	0.116	-0.020	-0.004	0.000
11:45:51 AM	20.900	0.113	-0.001	-0.041	0.000
11:46:06 AM	20.900	0.112	0.017	-0.021	0.000
11:46:21 AM	20.900	0.107	0.019	-0.021	0.000
11:46:36 AM	20.900	0.108	0.025	-0.038	0.000
11:46:51 AM	20.900	0.107	0.013	-0.022	0.000
11:47:06 AM	20.900	0.106	0.006	-0.046	0.000
11:47:22 AM	20.900	0.106	0.017	-0.008	0.000
11:47:37 AM	20.900	0.103	0.016	-0.037	0.000
11:47:51 AM	20.900	0.104	0.014	-0.028	0.000
11:48:06 AM	20.900	0.101	0.001	-0.021	0.000
11:48:21 AM	20.900	0.106	0.017	-0.062	0.000
Average	20.900	0.107	0.010	-0.029	0.000

Scott Specialty Gases, Inc.
1750 EAST CLUB BOULEVARD, DURHAM, NC 27704 (919) 220-0803 FAX: (919) 220-0808

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
Ms. Jennifer Listy
Florida Power Corp / MAC H2O
P. O. Box 14042
St. Petersburg, FL 33733

Assay Laboratory
Scott Specialty Gases, Inc.
1750 East Club Boulevard
Durham, NC 27704

Purchase Order B6800970
Scott Project # 12-06770

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, Section Number 3.0.4

Cylinder Number	ALM044172	**Certification Date**	03-29-94	**Expiration Date**	03-29-97
Cylinder Pressure	2000 PSIG	**Previous Certification**	None		

ANALYZED CYLINDER

Components	Certified Concentration	Analytical Uncertainty*
Carbon Dioxide	10.10 %	+/- 1% NIST Directly Traceable
Nitrogen		+/- 1% NIST Directly Traceable

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type	Expiration Date	Cylinder Number	Concentration
NTRM # 1675	06-30-94	ALM-001138	14.02 % Balance in Nitrogen

INSTRUMENTATION

Instrument/Model/Serial #	Last Date Calibrated	Analytical Principle
Varian /3400/0160	03-26-94	Gas Chromatography

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components: Carbon Dioxide

First Triad Analysis

Date: 03-29-94	Response Units: Area
STD=485570	SPL=352057
SPL=350273	SPL=352469
STD=489899	STD=488606

Second Triad Analysis

Date:	Response Units:
STD=	SPL=
SPL=	SPL=
STD=	STD=

Calibration Curve

Date: 03-26-94

Date:	Response Units:
STD=	SPL=
SPL=	SPL=
STD=	STD=

Second Triad Analysis

Date:	Response Units:
STD=	SPL=
SPL=	SPL=
STD=	STD=

Calibration Curve

Date: 03-26-94

Date:	Response Units:
STD=	SPL=
SPL=	SPL=
STD=	STD=

Second Triad Analysis

Date:	Response Units:
STD=	SPL=
SPL=	SPL=
STD=	STD=

Alan C. Barber
Analyst A. Barber

Scott Specialty Gases, Inc.

Shipped From: 1750 EAST CLUB BLVD.
DURHAM NC 27704
Phone: 919-220-0803 Fax: 919-220-0808

CERTIFICATE OF ANALYSIS

ENV SCIENCE & ENGINEERING
ATTN: NORM CZARNIAK
14220 NEWBERRY ROAD

GAINESVILLE FL 32607

PROJECT #: 12-06333-009
PO#: S-40544
ITEM #: 12021453 4AL
DATE: 2/17/94

CYLINDER #: ALM008534 ANALYTICAL ACCURACY: +/-2%

BLEND TYPE : CERTIFIED MASTER GAS

COMPONENT	REQUESTED GAS CONC	MOLES	ANALYSIS (MOLES)	
CARBON MONOXIDE	450.	PPM	450.0	PPM
NITROGEN		BAL		BAL

ANALYST: A. Barber
A. BARBER

APPROVED BY: J. Scott
J. SCOTT

Scott Specialty Gases, Inc.

1750 EAST CLUB BOULEVARD, DURHAM, NC 27704 (919) 220-0803 FAX: (919) 220-0808

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
Florida Power Corp.
Attn: Mr. E. Harrelson
Env. Serv. Dept./Bartow Plt.
Weedon Island/Storeroom
St. Petersburg, FL 33702

Assay Laboratory
Scott Specialty Gases, Inc.
1750 East Club Boulevard
Durham, NC 27704

Purchase Order B6800970
Scott Project # 12-06770

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol Procedure #G1, Section Number 3.0.4

Cylinder Number	AAL-8882	**Certification Date**	04-26-94	**Expiration Date**	04-26-96
Cylinder Pressure	2000 PSIG	**Previous Certification**	None		

ANALYZED CYLINDER

Components	Certified Concentration	Analytical Uncertainty*
Sulfur Dioxide	203 PPM	+/- 1% NIST Directly Traceable
Nitrogen		Balance

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type	Expiration Date	Cylinder Number	Concentration
NTRM# 0260	05-03-95	AAL-14148	260.5 PPM Balance in Nitrogen

INSTRUMENTATION

Instrument/Model/Serial #	Last Date Calibrated	Analytical Principle
LOW SO2: Horiba/AIA23AS/850658161	04-01-94	NDIR

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components	First Triad Analysis	Second Triad Analysis	Calibration Curve
Sulfur Dioxide	Date: 04-19-94 Response Units: PPM Z1=0.00 R2=260.1 Z3=0.00 R1=260.4 Z2=0.00 T3=204.4 T1=204.9 T2=204.6 R3=260.4	Date: 04-26-94 Response Units: PPM Z1=0.1 R2=260.3 Z3=0.2 R1=260.1 Z2=0.2 T3=200.9 T1=201.0 T2=200.9 R3=260.4	Date: 04-01-94
	Date: Response Units: Z1= R2= Z3= R1= Z2= T3= T1= T2= R3=	Date: Response Units: Z1= R2= Z3= R1= Z2= T3= T1= T2= R3=	Date:
	Date: Response Units: Z1= R2= Z3= R1= Z2= T3= T1= T2= R3=	Date: Response Units: Z1= R2= Z3= R1= Z2= T3= T1= T2= R3=	Date:

W. Gilbert

Analyst W. Gilbert

Response Time
Data Sheet

Date: 9/23/02
Plant: University of Florida CoGen, Facility
Technician(s): J. Long, L. Fry
Sample Manifold: 10 in H_2O
Pump Model: KNF UNO35ST.11L / SN: 190354
Sample Line Length: 200 ft
Heat Trace Length: 10 ft

Analyzer Type:	O_2	CO_2	NO_x	*CO*
Make/Model:	Thermox	Fuji/ZRH	TECO/42H	*TECO/48*
Range:	25%	20%	55 ppm	50 ppm
Span Gas:	20.9%	9.97%	46.8 ppm	30.2 ppm
Upscale Response (sec.)				
Trial 1	43	44	52	44
Trial 2	45	47	56	49
Trial 3	42	49	53	43
Average	*43*	*47*	*54*	*45*
Downscale Response (sec.)				
Trial 1	46	45	52	57
Trial 2	43	42	55	53
Trial 3	42	41	54	54
Average	*44*	*43*	*54*	*55*

Comments:

The sampling time at each point during the O_2 traverse will be 2 minutes. The sampling time for the test runs at each point will be 3 minutes.

Instrumental Analysis
Quality Assurance Data

Date: 9/23/02
Plant: University of Florida CoGen. Facility
Technician: James T. Long

NO_x Analyzer: NO_2 to NO Converter Efficiency Check

NOx Calibration gas 25.6 ppm
Diluent gas: 20.53 (% O_2)

	NO_x Concentration (ppm)	*% Decrease from initial concentration*
Initial concentration	14.60	N/A
10 minute concentration	14.55	0.34
20 minute concentration	14.55	0.34
30 minute concentration	14.50	0.68

Sample System Leak Check

Date	*Run*	*Initial Vacuum (in. Hg)*	*Final Vacuum (in. Hg)*	*Leak Rate (in. Hg/min.)*
9/23/00	Pre	16.5	16.5	0.0
9/23/00	Post	17.0	17.0	0.0

Sample System Bias Check

Pre-Test

Run	Cal. Gas Conc. (ppm/%)	Full Scale Span (ppm/%)	Direct Cal. Response (ppm/%)	Thru- Probe Sample System Response (ppm/%)	System Cal. Bias (% of span)
O_2	11.85	25.0	11.74	11.787	0.188
CO_2	3.66	20.0	3.64	3.629	-0.055
CO	15.20	50.0	15.21	15.156	-0.108
NO_x	25.60	50.0	25.46	25.590	0.260

Post-Test

Run	Cal. Gas Conc. (ppm/%)	Full Scale Span (ppm/%)	Direct Cal. Response (ppm/%)	Thru- Probe Sample System Response (ppm/%)	System Cal. Bias (% of span)
O_2	11.85	25.0	11.75	11.785	0.140
CO_2	3.66	20.0	3.64	3.630	-0.050
CO	15.20	50.0	15.16	15.140	-0.040
NO_x	25.60	50.0	25.53	25.666	0.272

Florida Power Air Emissions Test Team

IDLE

10 seconds

Complaince & RATA

24-Sep-02 Florida Power University of Florida Unit # CT 001 & DB 002

	Parameter	O2	CO2	CO	NOx	SO2	NOx	NOx	CO	
	Units	%V	%V	ppmV	ppmV	ppmV	lb/Mmbtu	@15%O2	@15%O2	Comments
INSTANTANEOUS:		0.006	-0.001	0.283	46.819 N/A		-591.4289	13.221	0.080	bias 46.8 NOx
24-Sep-02	8:27:00	11.783	-0.005	0.179	0.494 N/A		-1.2480	0.320	0.116	bias 11.85 O2
24-Sep-02	8:27:10	11.795	-0.003	0.179	0.342 N/A		-1.4385	0.221	0.116	bias 11.85 O2
24-Sep-02	8:27:20	11.783	-0.007	0.175	0.293 N/A		-0.5277	0.189	0.113	bias 11.85 O2
24-Sep-02	8:28:09	20.951	-0.007	0.179	0.145 N/A		-0.2617	-16.880	-20.886	zero air
24-Sep-02	8:28:19	20.951	-0.007	0.027	0.145 N/A		-0.2617	-16.880	-3.147	zero air
24-Sep-02	8:28:29	20.951	-0.007	-0.081	0.145 N/A		-0.2617	-16.880	9.442	zero air
24-Sep-02	8:29:10	0.028	3.628	-0.120	0.140 N/A		0.0005	0.040	-0.034	bias 3.66 CO2
24-Sep-02	8:29:20	0.011	3.630	-0.116	0.145 N/A		0.0005	0.041	-0.033	bias 3.66 CO2
24-Sep-02	8:29:30	0.014	3.630	-0.116	0.145 N/A		0.0005	0.041	-0.033	bias 3.66 CO2
24-Sep-02	8:30:22	0.018	9.749	-0.027	0.145 N/A		0.0002	0.041	-0.008	bias 9.79 CO2
24-Sep-02	8:30:32	0.014	9.757	-0.219	0.091 N/A		0.0001	0.026	-0.062	bias 9.79 CO2
24-Sep-02	8:30:42	0.014	9.757	-0.361	0.096 N/A		0.0001	0.027	-0.102	bias 9.79 CO2
24-Sep-02	8:32:44	0.014	0.003	15.172	0.091 N/A		0.3829	0.026	4.286	bias 15.2 CO
24-Sep-02	8:32:54	0.004	0.003	15.172	0.091 N/A		0.3829	0.026	4.284	bias 15.2 CO
24-Sep-02	8:33:04	0.004	-0.001	15.123	0.091 N/A		-1.1491	0.026	4.270	bias 15.2 CO
24-Sep-02	8:34:30	0.006	-0.003	5.067	25.518 N/A		-107.4122	7.206	1.431	bias 25.6 NOx
24-Sep-02	8:34:40	0.006	-0.003	0.770	25.562 N/A		-107.5987	7.218	0.217	bias 25.6 NOx
24-Sep-02	8:34:50	0.006	-0.005	0.430	25.665 N/A		-64.8155	7.247	0.121	bias 25.6 NOx
24-Sep-02	8:35:00	0.006	-0.003	0.327	25.616 N/A		-107.8264	7.233	0.092	bias 25.6 NOx
24-Sep-02	8:35:54	0.006	-0.005	0.283	46.474 N/A		-117.3684	13.123	0.080	bias 46.8 NOx
24-Sep-02	8:36:04	0.006	-0.005	0.278	46.725 N/A		-118.0018	13.194	0.078	bias 46.8 NOx
24-Sep-02	8:36:14	0.006	-0.005	0.283	46.824 N/A		-118.2500	13.222	0.080	bias 46.8 NOx

Florida Power Air Emissions Test Team

IDLE

10 seconds

Complaince & RATA

24-Sep-02 Florida Power University of Florida Unit # CT 001 & DB 002

	Parameter	O2	CO2	CO	NOx	SO2	NOx	NOx	CO	Comments
	Units	%V	%V	ppmV	ppmV	ppmV	lb/Mmbtu	@15%O2	@15%O2	
INSTANTANEOUS:		**0.005**	**-0.006**	**0.325**	**25.770**	**N/A**	**-54.2275**	**7.276**	**0.092**	**bias 25.6 NOx**
24-Sep-02	14:16:28	11.783	-0.003	0.275	0.238	N/A	-1.0032	0.154	0.178	bias 11.85 NOx
24-Sep-02	14:16:38	11.780	-0.001	0.221	0.243	N/A	-3.0713	0.157	0.143	bias 11.85 NOx
24-Sep-02	14:16:48	11.793	-0.003	0.275	0.189	N/A	-0.7942	0.122	0.178	bias 11.85 NOx
24-Sep-02	14:17:13	20.952	-0.003	0.275	0.189	N/A	-0.7942	-21.581	-31.488	bias zero air
24-Sep-02	14:17:23	20.952	-0.001	0.226	0.189	N/A	-2.3818	-21.581	-25.865	bias zero air
24-Sep-02	14:17:33	20.952	-0.003	0.172	0.139	N/A	-0.5852	-15.902	-19.680	bias zero air
24-Sep-02	14:18:07	0.042	3.624	0.020	0.189	N/A	0.0006	0.053	0.006	bias 3.66 CO2
24-Sep-02	14:18:17	0.017	3.632	-0.034	0.189	N/A	0.0006	0.053	-0.010	bias 3.66 CO2
24-Sep-02	14:18:27	0.010	3.634	-0.034	0.189	N/A	0.0006	0.053	-0.010	bias 3.66 CO2
24-Sep-02	14:20:01	0.010	-0.001	15.073	0.139	N/A	-1.7550	0.039	4.257	bias 15.2 CO
24-Sep-02	14:20:11	0.012	-0.006	15.120	0.094	N/A	-0.1986	0.027	4.271	bias 15.2 CO
24-Sep-02	14:20:21	0.012	-0.004	15.228	0.144	N/A	-0.4546	0.041	4.301	bias 15.2 CO
24-Sep-02	14:21:36	0.007	-0.008	1.569	25.514	N/A	-40.2720	7.205	0.443	bias 25.6 NOx
24-Sep-02	14:21:46	0.002	-0.008	0.477	25.714	N/A	-40.5887	7.260	0.135	bias 25.6 NOx
24-Sep-02	14:21:56	0.002	-0.008	0.374	25.770	N/A	-40.6758	7.276	0.106	bias 25.6 NOx

APPENDIX E

Calibration Cerifications

PRAXAIR

Praxair Distribution, Inc.
145 Shimersville Road
Bethlehem, PA 18015
Tel. (610) 691-2474
Fax (610) 758-8384

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER PRAXAIR SOUTHEAST LLC

P.O NUMBER 495267-00

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
CARBON DIOXIDE 9.96 % GMIS VS.	2745	CAL-010439	15.69 %

ANALYZER READINGS

R=REFERENCE STANDARD *Z=ZERO GAS* *C=GAS CANDIDATE*

1. COMPONENT CARBON DIOXIDE 9.96 % GMIS VS ANALYZER MAKE-MODEL-S/N SIEMENS ULTRAMAT 5E SN: D2-412

ANALYTICAL PRINCIPLE NON-DISPERSIVE INFRARED LAST CALIBRATION DATE 02/04/00

FIRST ANALYSIS DATE 02/22/00 SECOND ANALYSIS DATE

Z 0	R 9.96	C 3.66	CONC. 3.66	Z	R	C	CONC.	
R 9.95	Z 0	C 3.67	CONC. 3.67	R	Z	C	CONC.	
Z 0	C 3.66	R 9.95	CONC. 3.66	Z	C	R	CONC.	
U/M %		MEAN TEST ASSAY 3.66		U/M %			MEAN TEST ASSAY	

VALUES NOT VALID BELOW 150 PSIG
UNCERTAINTY OF CARBON DIOXIDE: ± 0.02 %

THIS CYLINDER NO. SA1772
HAS BEEN CERTIFIED ACCORDING TO SECTION 2.2
OF TRACEABILITY PROTOCOL NO. EPA-600/R97/121
PROCEDURE G1
CERTIFIED ACCURACY ± 1 % NIST TRACEABLE
CYLINDER PRESSURE 2000 PSIG
CERTIFICATION DATE 02/22/00
EXPIRATION DATE 02/22/03 TERM 36 MONTHS

CERTIFIED CONCENTRATION

CARBON DIOXIDE	3.66 %
NITROGEN	BALANCE

ANALYZED BY JOE HORWATH

CERTIFIED BY KEVIN BRADY

PRAXAIR

Praxair Distribution, Inc.
145 Shimersville Road
Bethlehem, PA 18015

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER PRAXAIR SOUTHESAT P.O NUMBER 669054-00

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
CARBON DIOXIDE 9.97% GMIS VS	2745	CAL-010439	15.69 %

ANALYZER READINGS

R=REFERENCE STANDARD *Z=ZERO GAS* *C=GAS CANDIDATE*

1. COMPONENT CARBON DIOXIDE 9.97% GMIS VS ANALYZER MAKE-MODEL-S/N HORIBA VIA 510, S/N 576979023

ANALYTICAL PRINCIPLE NON-DISPERSIVE INFRARED LAST CALIBRATION DATE 04/30/01

FIRST ANALYSIS DATE 05/17/01 SECOND ANALYSIS DATE

Z	0.00	R	10.06	C	9.87	CONC.	9.80	Z	R	C	CONC.
R	10.03	Z	0.00	C	9.87	CONC.	9.80	R	Z	C	CONC.
Z	0.00	C	9.86	R	10.04	CONC.	9.79	Z	C	R	CONC.
U/M	%			MEAN TEST ASSAY			9.79	U/M	%		MEAN TEST ASSAY

VALUES NOT VALID BELOW 150 PSIG

UNCERTAINTY OF CARBON DIOXIDE: ±0.04%

THIS CYLINDER NO. CC79358
HAS BEEN CERTIFIED ACCORDING TO SECTION 2.2
OF TRACEABILITY PROTOCOL NO. EPA-600/R97/121
PROCEDURE G1
CERTIFIED ACCURACY ± 1 % NIST TRACEABLE
CYLINDER PRESSURE 2000 PSIG
CERTIFICATION DATE 05/17/01
EXPIRATION DATE 05/17/04 TERM

CERTIFIED CONCENTRATION

CARBON DIOXIDE	9.79%
NITROGEN	BALANCE

ANALYZED BY JOE HORWATH

CERTIFIED BY KEVIN BRADY

Making Our Planet More Productive

PRAXAIR

Praxair Distribution, Inc.
145 Shimersville Road
Bethlehem, PA 18015

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER PRAXAIR SOUTHEAST P.O NUMBER 703904-00

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
NITRIC OXIDE 50-E-52	2629a	CAL-011185	18.97 PPM

ANALYZER READINGS

R=REFERENCE STANDARD *Z=ZERO GAS* *C=GAS CANDIDATE*

1. COMPONENT NITRIC OXIDE 50-E-52 ANALYZER MAKE-MODEL-S/N TECO MODEL 42C 42CH-57352-312

ANALYTICAL PRINCIPLE Chemiluminescence LAST CALIBRATION DATE 09/30/00

FIRST ANALYSIS DATE 10/16/00 SECOND ANALYSIS DATE 10/23/00

Z	0.00	R	18.96	C	11.73	CONC.	11.75	Z	0.00	R	18.99	C	11.73	CONC.	11.71
R	18.92	Z	0.00	C	11.68	CONC.	11.70	R	19.00	Z	0.00	C	11.69	CONC.	11.67
Z	0.00	C	11.68	R	18.95	CONC.	11.70	Z	0.00	C	11.70	R	19.00	CONC.	11.68
U/M	PPM			MEAN TEST ASSAY			11.71	U/M	PPM			MEAN TEST ASSAY			11.69

VALUES NOT VALID BELOW 150 PSIG

UNCERTAINTY OF NITRIC OXIDE: ±0.1PPM

THIS CYLINDER NO. SGAL875

HAS BEEN CERTIFIED ACCORDING TO SECTION 2.2

OF TRACEABILITY PROTOCOL NO. EPA-600/R97/121

PROCEDURE G1

CERTIFIED ACCURACY ± 1 % NIST TRACEABLE

CYLINDER PRESSURE 2000 PSIG

CERTIFICATION DATE 10/23/00

EXPIRATION DATE 10/23/02 TERM

CERTIFIED CONCENTRATION

NITRIC OXIDE	11.7PPM
NITROGEN	BALANCE
NOx (FOR REFERENCE ONLY)	11.7PPM

ANALYZED BY JOE HORWATH

CERTIFIED BY KEVIN BRADY

PRAXAIR

Praxair Distribution, Inc.
145 Shimersville Road
Bethlehem, PA 18015
Tel. (610) 691-2474
Fax (610) 758-8384

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER PRAXAIR SOUTHEAST

P.O NUMBER 676873-00

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
NITRIC OXIDE 23.9PPM GMIS VS	1683b	CAL-013256	48.74 PPM

ANALYZER READINGS

R = REFERENCE STANDARD *Z = ZERO GAS* *C = GAS CANDIDATE*

1. COMPONENT NITRIC OXIDE 23.9PPM GMIS VS ANALYZER MAKE-MODEL-S/N TECO MODEL 42C 42CH-57352-312

ANALYTICAL PRINCIPLE Chemiluminescence

FIRST ANALYSIS DATE 01/29/01

Z	0.0	R	23.1	C	24.7	CONC.	25.5	Z	0.0	R	23.5
R	23.2	Z	0.0	C	24.8	CONC.	25.6	R	23.4	Z	0.0
Z	0.0	C	24.8	R	23.1	CONC.	25.6	Z	0.0	C	25.0

U/M PPM MEAN TEST ASSAY 25.6

LAST CALIBRATION DATE 01/31/01

SECOND ANALYSIS DATE 02/05/01

C	25.0	CONC.	25.5	Z	0.0	R	23.5	C	25.0	CONC.	25.5
C	25.1	CONC.	25.6	R	23.4	Z	0.0	C	25.1	CONC.	25.6
R	23.4	CONC.	25.5	Z	0.0	C	25.0	R	23.4	CONC.	25.5

U/M PPM MEAN TEST ASSAY 25.5

VALUES NOT VALID BELOW 150 PSIG

UNCERTAINTY OF NITRIC OXIDE: ±0.2PPM

THIS CYLINDER NO. CC86581
HAS BEEN CERTIFIED ACCORDING TO SECTION 2.2
OF TRACEABILITY PROTOCOL NO. EPA-600/R97/121
PROCEDURE G1
CERTIFIED ACCURACY ± 1 % NIST TRACEABLE
CYLINDER PRESSURE 2000 PSIG
CERTIFICATION DATE 02/05/01
EXPIRATION DATE 02/05/03 TERM

CERTIFIED CONCENTRATION

NITRIC OXIDE	25.6PPM
NITROGEN	BALANCE
NOx (FOR REFERENCE ONLY)	25.6PPM

ANALYZED BY JENNIFER HERISHKO

CERTIFIED BY KEVIN BRADY

Praxair Distribution, Inc.
145 Shimersville Road
Bethlehem, PA 18015
Tel. (610) 691-2474
Fax (610) 758-8384

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER PRAXAIR SOUTHEAST P.O NUMBER 703904-00

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
NITRIC OXIDE 56.7PPM GMIS	1683b	CAL-013256	48.74PPM

ANALYZER READINGS

R = REFERENCE STANDARD *Z = ZERO GAS* *C = GAS CANDIDATE*

1. COMPONENT NITRIC OXIDE 56.7PPM GMIS ANALYZER MAKE-MODEL-S/N TECO MODEL 42C 42CH-57352-312

ANALYTICAL PRINCIPLE Chemiluminescence LAST CALIBRATION DATE 09/30/00

FIRST ANALYSIS DATE 10/16/00 SECOND ANALYSIS DATE 10/23/00

Z 0	R 56.8	C 46.8	CONC. 46.9	Z 0	R 56.9	C 46.9	CONC. 46.8		
R 56.6	Z 0	C 46.7	CONC. 46.8	R 56.8	Z 0	C 46.9	CONC. 46.8		
Z 0	C 46.6	R 56.5	CONC. 46.7	Z 0	C 46.8	R 56.7	CONC. 46.7		
U/M PPM		MEAN TEST ASSAY	46.8	U/M PPM		MEAN TEST ASSAY	46.8		

VALUES NOT VALID BELOW 150 PSIG

UNCERTAINTY OF NITRIC OXIDE: ±0.5 PPM

THIS CYLINDER NO. SA2980
HAS BEEN CERTIFIED ACCORDING TO SECTION 2.2
OF TRACEABILITY PROTOCOL NO. EPA-600/R97/121
PROCEDURE G1
CERTIFIED ACCURACY ± 1 % NIST TRACEABLE
CYLINDER PRESSURE 2000 PSIG
CERTIFICATION DATE 10/23/00
EXPIRATION DATE 10/23/02 TERM 24 MONTHS

CERTIFIED CONCENTRATION

NITRIC OXIDE	46.8 PPM
NITROGEN	BALANCE
NOx (FOR REFERENCE ONLY)	46.8 PPM

ANALYZED BY JENNIFER HERISHKO

CERTIFIED BY KEVIN BRADY

Praxair Distribution, Inc.
145 Shimersville Road
Bethlehem, PA 18015
Tel. (610) 691-2474
Fax (610) 758-8384

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER PRAXAIR SOUTHEAST LLC P.O NUMBER 125400-00

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
OXYGEN 98070202	82659	SA-19987	20.92 %

ANALYZER READINGS

R=REFERENCE STANDARD *Z=ZERO GAS* *C=GAS CANDIDATE*

COMPONENT OXYGEN 98070202 ANALYZER MAKE-MODEL-S/N Siemens Oxymat 5E S/N F1-111

ANALYTICAL PRINCIPLE Paramagnetic LAST CALIBRATION DATE 08/31/99

FIRST ANALYSIS DATE 09/23/99 SECOND ANALYSIS DATE

Z	0.00	R	20.90	C	11.84	CONC.	11.85	Z	R	C	CONC.
R	20.90	Z	0.00	C	11.84	CONC.	11.85	R	Z	C	CONC.
Z	0.00	C	11.84	R	20.90	CONC.	11.85	Z	C	R	CONC.
U/M	%			MEAN TEST ASSAY			11.85	U/M	%	MEAN TEST ASSAY	

VALUES NOT VALID BELOW 150 PSIG
UNCERTAINTY OF OXYGEN: ±0.08%

THIS CYLINDER NO. SA17537
HAS BEEN CERTIFIED ACCORDING TO SECTION 2.2 OF TRACEABILITY PROTOCOL NO. EPA-600/R97/121
PROCEDURE G1
CERTIFIED ACCURACY ± 1 % NIST TRACEABLE
CYLINDER PRESSURE 2000 PSIG
CERTIFICATION DATE 09/23/99
EXPIRATION DATE 09/23/02 TERM 36 MONTHS

CERTIFIED CONCENTRATION

OXYGEN	11.85%
NITROGEN	BALANCE

ANALYZED BY
JASON BEARY

CERTIFIED BY
KEVIN BRADY

Making Our Planet More Productive

PRAXAIR

Praxair Distribution, Inc.
145 Shimersville Road
Bethlehem, PA 18015
Tel (610) 691-2474
Fax (610) 758-8384

CERTIFICATE OF ANALYSIS

CUSTOMER: PRAXAIR SOUTHEAST LLC

ORDER NUMBER: 496007-00

PRODUCT NUMBER: EV NICOXN-AS

PRODUCT DESCRIPTION: 15 PPM CARBON MONOXIDE, BALANCE NITROGEN, SIZE AS, **PRIMARY MASTER**

CYLINDER SERIAL NUMBER: CC116813

COMPONENTS	SPECIFICATIONS	PREPERATION TOLERANCE	CERTIFIED CONCENTRATION
CARBON MONOXIDE	15 PPM	+/-5%	15.2 PPM
NITROGEN	BALANCE		BALANCE

CO NIST Traceable to SRM# 1677c

ANALYTICAL ACCURACY: +/-1%

NOMINAL CYLINDER VOLUME: 135 Cubic Feet

CGA VALVE NUMBER: 350

NOMINAL CYLINDER PRESSURE: 2000 psig

METHODS OF ANALYSIS: SPECIFIC CARBON MONOXIDE ANALYZER (NDIR)

CERTIFICATION DATE: May 17, 2000

ANALYZED BY: JOE HORWATH

It is recommended that cylinders not be depleted below 50 psig unless otherwise indicated.

PRAXAIR

Praxair Distribution, Inc.
145 Shimersville Road
Bethlehem, PA 18015
Tel. (610) 691-2474
Fax (610) 758-8384

CERTIFICATE OF ANALYSIS

CUSTOMER: PRAXAIR SOUTHEAST LLC ORDER NUMBER: 496007 -00

PRODUCT NUMBER: EV NICOXN-AS **PRIMARY MASTER**

PRODUCT DESCRIPTION: 30 PPM CARBON MONOXIDE,BALANCE NITROGEN SIZE AS

CYLINDER SERIAL NUMBER: CC87407

COMPONENTS	SPECIFICATIONS	TOLERANCE	CONCENTRATION
* CARBON MONOXIDE	30 PPM	+/- 5 %	30.5 PPM
NITROGEN	BALANCE		BALANCE

* NIST TRACEABLE TO SRM # 1679C

ANALYTICAL ACCURACY: +/- 1 %

NOMINAL CYLINDER VOLUME: 137 Cubic Feet

CGA VALVE NUMBER: 350

NOMINAL CYLINDER PRESSURE: 2000 psig

METHOD OF ANALYSIS: SPECIFIC CARBON MONOXIDE ANALYZER (NDIR)

CERTIFICATION DATE: FEBRUARY 24, 2000 ANALYZED BY: MICHAEL MESAROS

It is recommended that cylinders not be depleted below 50 psig unless otherwise indicated.

APPENDIX F

Operational Data

Florida Power Air Emissions Test Team

Emissions Monitoring Data

Gainesville, Florida

Summary of Emissions Testing Results

IDLE

24/Sep/02

Florida Power — University of Florida — Unit # CT 001 & DB 002

Date	Start Time	End Time	O2 %V	CO2 %V	CO ppmV	NOx ppmV	SO2 ppmV	NOx lb/Mmbtu	NOx @15%O2	CO @15%O2	Comments
24/Sep/02	13:55:20	14:05:27	14.105	3.862	20.402	16.749	#DIV/0!	0.0539	14.544	17.716	Avg So Far: run 3 pt 8
24/Sep/02	12:56:59	13:05:05	13.991	3.912	26.749	16.605	#DIV/0!	0.0527	14.179	22.841	run 3 pt 1
24/Sep/02	13:05:13	13:13:17	13.986	3.913	26.288	16.396	#DIV/0!	0.0520	13.993	22.434	run 3 pt 2
24/Sep/02	13:13:34	13:21:40	14.002	3.913	26.873	16.422	#DIV/0!	0.0521	14.046	22.986	run 3 pt 3
24/Sep/02	13:21:54	13:29:58	13.927	3.923	25.312	16.787	#DIV/0!	0.0531	14.204	21.417	run 3 pt 4
24/Sep/02	13:30:23	13:38:30	13.986	3.921	25.761	16.796	#DIV/0!	0.0532	14.333	21.983	run 3 pt 5
24/Sep/02	13:38:40	13:46:47	14.032	3.888	23.155	16.763	#DIV/0!	0.0535	14.402	19.876	run 3 pt 6
24/Sep/02	13:46:59	13:55:06	14.087	3.865	20.550	16.790	#DIV/0!	0.0539	14.541	17.797	run 3 pt 7
24/Sep/02	13:55:20	14:05:27	14.105	3.862	20.402	16.749	#DIV/0!	0.0539	14.544	17.716	run 3 pt 8

24-Sep-02	13:28:58	13.935	3.926	24.587	16.946	N/A	0.0536	14.354	20.826 run 3 pt 4
24-Sep-02	13:29:58	13.871	3.926	24.857	16.905	N/A	0.0535	14.189	20.863 run 3 pt 4
24-Sep-02	13:30:30	14.004	3.926	24.941	16.776	N/A	0.0531	14.352	21.337 run 3 pt 5
24-Sep-02	13:31:30	13.949	3.924	24.985	16.861	N/A	0.0534	14.312	21.208 run 3 pt 5
24-Sep-02	13:32:30	13.947	3.924	25.622	16.861	N/A	0.0534	14.307	21.742 run 3 pt 5
24-Sep-02	13:33:30	14.016	3.922	25.662	16.812	N/A	0.0532	14.409	21.993 run 3 pt 5
24-Sep-02	13:34:30	13.949	3.920	25.799	16.865	N/A	0.0534	14.316	21.900 run 3 pt 5
24-Sep-02	13:35:30	13.935	3.918	26.198	16.696	N/A	0.0529	14.142	22.191 run 3 pt 5
24-Sep-02	13:36:30	14.070	3.918	26.198	16.776	N/A	0.0532	14.492	22.630 run 3 pt 5
24-Sep-02	13:37:30	14.001	3.920	26.335	16.776	N/A	0.0531	14.347	22.521 run 3 pt 5
24-Sep-02	13:38:30	14.001	3.914	26.109	16.744	N/A	0.0531	14.319	22.328 run 3 pt 5
24-Sep-02	13:38:47	13.881	3.912	26.198	16.780	N/A	0.0533	14.104	22.020 run 3 pt 6
24-Sep-02	13:39:47	13.947	3.912	25.936	16.780	N/A	0.0533	14.239	22.008 run 3 pt 6
24-Sep-02	13:40:47	14.069	3.913	26.200	16.698	N/A	0.0530	14.421	22.628 run 3 pt 6
24-Sep-02	13:41:47	14.005	3.903	26.788	16.496	N/A	0.0525	14.115	22.922 run 3 pt 6
24-Sep-02	13:42:47	14.015	3.874	21.079	16.823	N/A	0.0539	14.415	18.063 run 3 pt 6
24-Sep-02	13:43:47	14.150	3.872	20.672	16.782	N/A	0.0538	14.669	18.068 run 3 pt 6
24-Sep-02	13:44:47	14.138	3.870	20.624	16.823	N/A	0.0540	14.677	17.993 run 3 pt 6
24-Sep-02	13:45:47	14.002	3.870	20.446	16.863	N/A	0.0541	14.424	17.489 run 3 pt 6
24-Sep-02	13:46:47	14.081	3.868	20.451	16.823	N/A	0.0540	14.555	17.695 run 3 pt 6
24-Sep-02	13:47:06	14.071	3.866	20.628	16.782	N/A	0.0539	14.499	17.822 run 3 pt 7
24-Sep-02	13:48:06	14.083	3.864	20.628	16.863	N/A	0.0542	14.595	17.854 run 3 pt 7
24-Sep-02	13:49:06	14.083	3.864	20.411	16.823	N/A	0.0541	14.560	17.667 run 3 pt 7
24-Sep-02	13:50:06	14.081	3.866	20.672	16.863	N/A	0.0542	14.590	17.886 run 3 pt 7
24-Sep-02	13:51:06	14.083	3.866	20.539	16.742	N/A	0.0538	14.491	17.778 run 3 pt 7
24-Sep-02	13:52:06	14.081	3.866	20.721	16.782	N/A	0.0539	14.520	17.928 run 3 pt 7
24-Sep-02	13:53:06	14.083	3.866	20.274	16.698	N/A	0.0536	14.452	17.548 run 3 pt 7
24-Sep-02	13:54:06	14.081	3.866	20.672	16.782	N/A	0.0539	14.520	17.886 run 3 pt 7
24-Sep-02	13:55:06	14.138	3.864	20.407	16.778	N/A	0.0539	14.638	17.804 run 3 pt 7
24-Sep-02	13:55:27	14.081	3.864	20.407	16.819	N/A	0.0540	14.552	17.656 run 3 pt 8
24-Sep-02	13:56:27	14.081	3.864	20.407	16.778	N/A	0.0539	14.517	17.656 run 3 pt 8
24-Sep-02	13:57:27	14.081	3.864	20.411	16.778	N/A	0.0539	14.517	17.660 run 3 pt 8
24-Sep-02	13:58:27	14.071	3.864	20.721	16.738	N/A	0.0538	14.461	17.902 run 3 pt 8
24-Sep-02	13:59:27	14.081	3.864	20.411	16.823	N/A	0.0541	14.555	17.660 run 3 pt 8
24-Sep-02	14:00:27	14.069	3.868	20.359	16.735	N/A	0.0537	14.455	17.585 run 3 pt 8
24-Sep-02	14:01:27	14.136	3.868	20.536	16.779	N/A	0.0539	14.635	17.912 run 3 pt 8
24-Sep-02	14:02:27	14.136	3.858	20.231	16.694	N/A	0.0537	14.561	17.646 run 3 pt 8
24-Sep-02	14:03:27	14.133	3.856	20.266	16.698	N/A	0.0538	14.560	17.670 run 3 pt 8
24-Sep-02	14:04:27	14.146	3.852	20.363	16.694	N/A	0.0538	14.583	17.788 run 3 pt 8
24-Sep-02	14:05:27	14.146	3.852	20.315	16.698	N/A	0.0538	14.586	17.745 run 3 pt 8

Florida Power Air Emissions Test Team

IDLE

1 minute

Complaince & RATA

24-Sep-02 Florida Power University of Florida Unit # CT 001 & DB 002

	Parameter	O2	CO2	CO	NOx	SO2	NOx	NOx	CO	Comments
	Units	%V	%V	ppmV	ppmV	ppmV	lb/Mmbtu	@15%O2	@15%O2	
INSTANTANEOUS:		**14.133**	**3.851**	**20.226**	**16.698**	**N/A**	**0.0539**	**14.560**	**17.636**	**run 3 pt 8**
24-Sep-02	12:57:05	13.940	3.914	26.826	16.528	N/A	0.0524	14.010	22.739	run 3 pt 1
24-Sep-02	12:58:05	14.018	3.914	26.468	16.609	N/A	0.0527	14.240	22.692	run 3 pt 1
24-Sep-02	12:59:05	14.016	3.912	26.547	16.609	N/A	0.0527	14.235	22.752	run 3 pt 1
24-Sep-02	13:00:05	14.015	3.912	26.692	16.649	N/A	0.0528	14.268	22.874	run 3 pt 1
24-Sep-02	13:01:05	14.005	3.911	26.909	16.608	N/A	0.0527	14.212	23.027	run 3 pt 1
24-Sep-02	13:02:05	14.015	3.911	26.781	16.649	N/A	0.0529	14.268	22.950	run 3 pt 1
24-Sep-02	13:03:05	13.939	3.911	27.095	16.690	N/A	0.0530	14.146	22.965	run 3 pt 1
24-Sep-02	13:04:05	14.015	3.911	26.595	16.694	N/A	0.0530	14.306	22.791	run 3 pt 1
24-Sep-02	13:05:05	13.951	3.911	26.825	16.408	N/A	0.0521	13.932	22.777	run 3 pt 1
24-Sep-02	13:05:17	14.005	3.911	27.055	16.408	N/A	0.0521	14.041	23.152	run 3 pt 2
24-Sep-02	13:06:17	14.003	3.911	26.422	16.489	N/A	0.0524	14.105	22.603	run 3 pt 2
24-Sep-02	13:07:17	14.005	3.914	25.705	16.614	N/A	0.0527	14.217	21.997	run 3 pt 2
24-Sep-02	13:08:17	13.883	3.912	25.750	16.448	N/A	0.0522	13.829	21.649	run 3 pt 2
24-Sep-02	13:09:17	14.015	3.912	26.064	16.408	N/A	0.0521	14.061	22.336	run 3 pt 2
24-Sep-02	13:10:17	14.003	3.912	26.064	16.388	N/A	0.0520	14.019	22.296	run 3 pt 2
24-Sep-02	13:11:17	13.937	3.914	26.511	16.243	N/A	0.0515	13.762	22.462	run 3 pt 2
24-Sep-02	13:12:17	13.951	3.912	26.551	16.243	N/A	0.0516	13.791	22.544	run 3 pt 2
24-Sep-02	13:13:17	14.072	3.914	26.467	16.327	N/A	0.0518	14.108	22.869	run 3 pt 2
24-Sep-02	13:13:40	14.005	3.914	26.515	16.368	N/A	0.0519	14.007	22.690	run 3 pt 3
24-Sep-02	13:14:40	14.015	3.912	26.737	16.327	N/A	0.0518	13.992	22.912	run 3 pt 3
24-Sep-02	13:15:40	14.003	3.912	27.502	16.368	N/A	0.0519	14.002	23.527	run 3 pt 3
24-Sep-02	13:16:40	14.015	3.912	27.139	16.368	N/A	0.0519	14.027	23.257	run 3 pt 3
24-Sep-02	13:17:40	14.069	3.914	27.268	16.408	N/A	0.0521	14.172	23.552	run 3 pt 3
24-Sep-02	13:18:40	14.018	3.912	27.055	16.368	N/A	0.0519	14.032	23.194	run 3 pt 3
24-Sep-02	13:19:40	14.003	3.912	26.914	16.448	N/A	0.0522	14.071	23.023	run 3 pt 3
24-Sep-02	13:20:40	13.949	3.914	26.707	16.575	N/A	0.0526	14.069	22.670	run 3 pt 3
24-Sep-02	13:21:40	13.937	3.912	26.021	16.571	N/A	0.0526	14.041	22.049	run 3 pt 3
24-Sep-02	13:21:58	13.949	3.912	26.065	16.631	N/A	0.0528	14.117	22.125	run 3 pt 4
24-Sep-02	13:22:58	13.935	3.922	26.158	16.575	N/A	0.0525	14.039	22.157	run 3 pt 4
24-Sep-02	13:23:58	13.871	3.926	25.976	16.700	N/A	0.0528	14.017	21.803	run 3 pt 4
24-Sep-02	13:24:58	13.937	3.926	24.985	16.821	N/A	0.0532	14.253	21.171	run 3 pt 4
24-Sep-02	13:25:58	13.949	3.924	24.941	16.821	N/A	0.0532	14.278	21.171	run 3 pt 4
24-Sep-02	13:26:58	13.947	3.922	25.118	16.780	N/A	0.0531	14.239	21.313	run 3 pt 4
24-Sep-02	13:27:58	13.949	3.924	25.118	16.901	N/A	0.0535	14.347	21.321	run 3 pt 4

Florida Power Air Emissions Test Team

Emissions Monitoring Data

Summary of Emissions Testing Results

Gainesville, Florida

IDLE

24/Sep/02 Florida Power University of Florida Unit # CT 001 & DB 002

Date	Start Time	End Time	O2 %V	CO2 %V	CO ppmV	NOx ppmV	SO2 ppmV	NOx lb/Mmbtu	NOx @15%O2	CO @15%O2	Comments
24/Sep/02	12:37:54	12:46:03	13.999	3.922	26.426	16.873	#DIV/0!	0.0534	14.426	22.594	Avg So Far: run 2 pt 8
24/Sep/02	11:39:26	11:47:32	13.965	3.919	28.600	16.813	#DIV/0!	0.0533	14.304	24.333	run 2 pt 1
24/Sep/02	11:47:58	11:56:04	13.972	3.920	26.811	17.000	#DIV/0!	0.0538	14.478	22.838	run 2 pt 2
24/Sep/02	11:56:10	12:04:15	13.932	3.938	25.436	17.111	#DIV/0!	0.0540	14.488	21.537	run 2 pt 3
24/Sep/02	12:04:36	12:12:43	13.949	3.932	25.071	17.286	#DIV/0!	0.0546	14.673	21.281	run 2 pt 4
24/Sep/02	12:12:54	12:21:00	14.001	3.910	25.634	17.266	#DIV/0!	0.0548	14.765	21.922	run 2 pt 5
24/Sep/02	12:21:09	12:29:16	14.001	3.897	25.949	17.133	#DIV/0!	0.0546	14.652	22.191	run 2 pt 6
24/Sep/02	12:29:28	12:37:33	14.017	3.898	26.789	17.053	#DIV/0!	0.0543	14.618	22.964	run 2 pt 7
24/Sep/02	12:37:54	12:46:03	13.999	3.922	26.426	16.873	#DIV/0!	0.0534	14.426	22.594	run 2 pt 8

24-Sep-02	12:11:43	13.951	3.926	25.120	17.225 N/A	0.0545	14.624	21.327 run 2 pt 4
24-Sep-02	12:12:43	14.005	3.926	25.262	17.392 N/A	0.0550	14.882	21.615 run 2 pt 4
24-Sep-02	12:13:00	13.961	3.916	25.164	17.350 N/A	0.0550	14.751	21.395 run 2 pt 5
24-Sep-02	12:14:00	13.936	3.916	25.350	17.354 N/A	0.0550	14.703	21.477 run 2 pt 5
24-Sep-02	12:15:00	14.017	3.916	25.580	17.308 N/A	0.0549	14.837	21.927 run 2 pt 5
24-Sep-02	12:16:00	13.988	3.914	25.753	17.267 N/A	0.0548	14.738	21.981 run 2 pt 5
24-Sep-02	12:17:00	14.017	3.906	25.664	17.267 N/A	0.0549	14.801	21.999 run 2 pt 5
24-Sep-02	12:18:00	14.071	3.904	25.881	17.267 N/A	0.0549	14.918	22.361 run 2 pt 5
24-Sep-02	12:19:00	14.002	3.906	25.757	17.225 N/A	0.0548	14.733	22.032 run 2 pt 5
24-Sep-02	12:20:00	14.013	3.905	25.799	17.219 N/A	0.0547	14.752	22.103 run 2 pt 5
24-Sep-02	12:21:00	14.001	3.905	25.755	17.139 N/A	0.0545	14.657	22.026 run 2 pt 5
24-Sep-02	12:21:16	14.004	3.896	25.755	17.181 N/A	0.0548	14.698	22.034 run 2 pt 6
24-Sep-02	12:22:16	14.004	3.898	26.291	17.135 N/A	0.0546	14.659	22.492 run 2 pt 6
24-Sep-02	12:23:16	13.947	3.896	25.936	17.181 N/A	0.0548	14.579	22.008 run 2 pt 6
24-Sep-02	12:24:16	14.004	3.894	25.574	17.223 N/A	0.0549	14.734	21.878 run 2 pt 6
24-Sep-02	12:25:16	14.013	3.896	26.069	17.181 N/A	0.0548	14.719	22.334 run 2 pt 6
24-Sep-02	12:26:16	14.016	3.898	25.883	17.097 N/A	0.0545	14.653	22.183 run 2 pt 6
24-Sep-02	12:27:16	14.016	3.898	25.936	17.097 N/A	0.0545	14.653	22.228 run 2 pt 6
24-Sep-02	12:28:16	14.001	3.899	25.981	17.051 N/A	0.0543	14.582	22.219 run 2 pt 6
24-Sep-02	12:29:16	14.004	3.899	26.114	17.051 N/A	0.0543	14.588	22.340 run 2 pt 6
24-Sep-02	12:29:33	14.013	3.898	26.198	17.097 N/A	0.0545	14.648	22.444 run 2 pt 7
24-Sep-02	12:30:33	14.001	3.899	26.875	17.010 N/A	0.0542	14.547	22.983 run 2 pt 7
24-Sep-02	12:31:33	14.016	3.898	27.140	17.010 N/A	0.0542	14.578	23.260 run 2 pt 7
24-Sep-02	12:32:33	14.016	3.898	27.419	17.010 N/A	0.0542	14.578	23.499 run 2 pt 7
24-Sep-02	12:33:33	14.070	3.898	27.145	17.010 N/A	0.0542	14.693	23.448 run 2 pt 7
24-Sep-02	12:34:33	14.004	3.898	26.600	17.010 N/A	0.0542	14.552	22.757 run 2 pt 7
24-Sep-02	12:35:33	14.016	3.899	26.738	17.097 N/A	0.0544	14.653	22.915 run 2 pt 7
24-Sep-02	12:36:33	14.004	3.899	26.698	17.097 N/A	0.0544	14.627	22.840 run 2 pt 7
24-Sep-02	12:37:33	14.016	3.899	26.291	17.135 N/A	0.0546	14.685	22.532 run 2 pt 7
24-Sep-02	12:38:01	14.013	3.899	26.065	17.181 N/A	0.0547	14.719	22.330 run 2 pt 8
24-Sep-02	12:39:01	14.016	3.903	26.158	17.139 N/A	0.0545	14.689	22.418 run 2 pt 8
24-Sep-02	12:40:01	14.004	3.906	26.468	16.968 N/A	0.0539	14.516	22.643 run 2 pt 8
24-Sep-02	12:41:03	13.994	3.926	26.733	16.896 N/A	0.0534	14.434	22.838 run 2 pt 8
24-Sep-02	12:42:03	13.937	3.926	26.193	16.768 N/A	0.0530	14.208	22.195 run 2 pt 8
24-Sep-02	12:43:03	14.004	3.936	26.419	16.768 N/A	0.0529	14.345	22.602 run 2 pt 8
24-Sep-02	12:44:03	14.004	3.936	26.291	16.768 N/A	0.0529	14.345	22.492 run 2 pt 8
24-Sep-02	12:45:03	14.004	3.934	26.552	16.727 N/A	0.0528	14.310	22.715 run 2 pt 8
24-Sep-02	12:46:03	14.018	3.934	26.959	16.644 N/A	0.0525	14.270	23.113 run 2 pt 8

Florida Power Air Emissions Test Team

IDLE

1 minute

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24-Sep-02 Florida Power University of Florida Unit # CT 001 & DB 002

	Parameter	O2	CO2	CO	NOx	SO2	NOx	NOx	CO	Comments
	Units	%V	%V	ppmV	ppmV	ppmV	lb/Mmbtu	@15%O2	@15%O2	
INSTANTANEOUS:		**14.085**	**3.930**	**26.870**	**16.727**	**N/A**	**0.0529**	**14.480**	**23.261**	**run 2 pt 8**
24-Sep-02	11:39:32	13.884	3.911	27.916	16.802	N/A	0.0533	14.128	23.474	run 2 pt 1
24-Sep-02	11:40:32	13.951	3.918	28.507	16.837	N/A	0.0534	14.296	24.205	run 2 pt 1
24-Sep-02	11:41:32	13.951	3.918	28.361	16.799	N/A	0.0532	14.264	24.081	run 2 pt 1
24-Sep-02	11:42:32	13.951	3.920	28.233	16.879	N/A	0.0535	14.331	23.972	run 2 pt 1
24-Sep-02	11:43:32	14.015	3.920	28.817	16.879	N/A	0.0535	14.464	24.695	run 2 pt 1
24-Sep-02	11:44:32	14.003	3.920	29.127	16.753	N/A	0.0531	14.332	24.916	run 2 pt 1
24-Sep-02	11:45:32	13.949	3.920	29.127	16.737	N/A	0.0530	14.206	24.722	run 2 pt 1
24-Sep-02	11:46:32	13.961	3.918	28.591	16.795	N/A	0.0532	14.281	24.311	run 2 pt 1
24-Sep-02	11:47:32	14.018	3.920	28.719	16.837	N/A	0.0533	14.434	24.620	run 2 pt 1
24-Sep-02	11:48:04	14.005	3.918	29.078	16.712	N/A	0.0530	14.301	24.883	run 2 pt 2
24-Sep-02	11:49:04	14.015	3.918	28.458	16.837	N/A	0.0534	14.429	24.388	run 2 pt 2
24-Sep-02	11:50:04	14.018	3.918	27.312	16.967	N/A	0.0538	14.545	23.414	run 2 pt 2
24-Sep-02	11:51:04	13.939	3.918	26.546	17.008	N/A	0.0539	14.416	22.500	run 2 pt 2
24-Sep-02	11:52:04	13.880	3.918	26.334	17.096	N/A	0.0542	14.369	22.132	run 2 pt 2
24-Sep-02	11:53:04	14.005	3.918	26.241	17.096	N/A	0.0542	14.630	22.455	run 2 pt 2
24-Sep-02	11:54:04	14.003	3.920	25.794	17.180	N/A	0.0544	14.696	22.065	run 2 pt 2
24-Sep-02	11:55:04	13.949	3.922	25.882	17.092	N/A	0.0541	14.507	21.969	run 2 pt 2
24-Sep-02	11:56:04	13.937	3.928	25.657	17.008	N/A	0.0538	14.411	21.739	run 2 pt 2
24-Sep-02	11:56:15	13.937	3.928	25.657	17.096	N/A	0.0540	14.485	21.739	run 2 pt 3
24-Sep-02	11:57:15	13.937	3.940	24.984	17.092	N/A	0.0539	14.482	21.169	run 2 pt 3
24-Sep-02	11:58:15	13.946	3.938	25.028	17.050	N/A	0.0538	14.467	21.236	run 2 pt 3
24-Sep-02	11:59:15	13.892	3.938	25.161	17.096	N/A	0.0539	14.394	21.184	run 2 pt 3
24-Sep-02	12:00:15	13.951	3.940	25.080	17.141	N/A	0.0540	14.553	21.293	run 2 pt 3
24-Sep-02	12:01:15	13.884	3.942	25.523	17.183	N/A	0.0541	14.450	21.464	run 2 pt 3
24-Sep-02	12:02:15	13.951	3.940	25.983	17.058	N/A	0.0538	14.482	22.059	run 2 pt 3
24-Sep-02	12:03:15	13.938	3.940	25.753	17.099	N/A	0.0539	14.492	21.825	run 2 pt 3
24-Sep-02	12:04:15	13.951	3.940	25.753	17.183	N/A	0.0542	14.588	21.864	run 2 pt 3
24-Sep-02	12:04:43	13.951	3.934	25.580	17.137	N/A	0.0541	14.549	21.717	run 2 pt 4
24-Sep-02	12:05:43	13.870	3.934	25.346	17.225	N/A	0.0544	14.455	21.270	run 2 pt 4
24-Sep-02	12:06:43	13.938	3.932	24.638	17.267	N/A	0.0545	14.633	20.880	run 2 pt 4
24-Sep-02	12:07:43	13.951	3.934	24.682	17.396	N/A	0.0549	14.769	20.955	run 2 pt 4
24-Sep-02	12:08:43	13.936	3.934	24.766	17.350	N/A	0.0548	14.699	20.982	run 2 pt 4
24-Sep-02	12:09:43	14.005	3.934	25.080	17.313	N/A	0.0546	14.814	21.460	run 2 pt 4
24-Sep-02	12:10:43	13.936	3.932	25.164	17.267	N/A	0.0545	14.628	21.319	run 2 pt 4

Florida Power Air Emissions Test Team

Emissions Monitoring Data

Summary of Emissions Testing Results

Gainesville, Florida

IDLE

24/Sep/02

Florida Power — University of Florida — Unit # CT 001 & DB 002

Date	Start Time	End Time	O2 %V	CO2 %V	CO ppmV	NOx ppmV	SO2 ppmV	NOx lb/Mmbtu	NOx @15%O2	CO @15%O2	Comments
24/Sep/02	11:19:52	11:27:59	14.006	3.927	29.208	16.694	#DIV/0!	0.0528	14.287	24.995	Avg Sq Far: run 1 pt 8
24/Sep/02	10:20:43	10:28:57	13.979	3.937	27.111	16.793	#DIV/0!	0.0530	14.317	23.117	run 1 pt 1
24/Sep/02	10:29:12	10:37:22	14.016	3.930	27.598	16.747	#DIV/0!	0.0529	14.355	23.656	run 1 pt 2
24/Sep/02	10:37:34	10:45:41	14.026	3.937	26.828	16.680	#DIV/0!	0.0526	14.318	23.023	run 1 pt 3
24/Sep/02	10:45:50	10:54:01	14.035	3.927	25.666	16.666	#DIV/0!	0.0527	14.325	22.040	run 1 pt 4
24/Sep/02	10:54:15	11:02:50	14.037	3.932	26.478	16.722	#DIV/0!	0.0528	14.378	22.761	run 1 pt 5
24/Sep/02	11:03:25	11:11:30	14.003	3.935	28.101	16.690	#DIV/0!	0.0527	14.278	24.040	run 1 pt 6
24/Sep/02	11:11:42	11:19:47	13.990	3.931	28.591	16.799	#DIV/0!	0.0531	14.343	24.412	run 1 pt 7
24/Sep/02	11:19:52	11:27:59	14.006	3.927	29.208	16.694	#DIV/0!	0.0528	14.287	24.995	run 1 pt 8

24-Sep-02	10:53:01	13.952	3.953	27.317	16.583	N/A	0.0521	14.082	23.197 run 1 pt 4
24-Sep-02	10:54:01	14.016	3.953	27.269	16.587	N/A	0.0521	14.216	23.370 run 1 pt 4
24-Sep-02	10:54:50	13.952	3.951	27.370	16.671	N/A	0.0524	14.156	23.242 run 1 pt 5
24-Sep-02	10:55:50	14.018	3.953	28.636	16.546	N/A	0.0520	14.185	24.551 run 1 pt 5
24-Sep-02	10:56:50	14.018	3.951	28.229	16.667	N/A	0.0524	14.289	24.202 run 1 pt 5
24-Sep-02	10:57:50	14.008	3.949	27.871	16.671	N/A	0.0524	14.272	23.860 run 1 pt 5
24-Sep-02	10:58:50	14.018	3.937	27.915	16.755	N/A	0.0528	14.364	23.932 run 1 pt 5
24-Sep-02	10:59:50	14.072	3.931	28.273	16.671	N/A	0.0527	14.406	24.432 run 1 pt 5
24-Sep-02	11:00:50	14.154	3.899	26.195	16.839	N/A	0.0536	14.728	22.910 run 1 pt 5
24-Sep-02	11:01:50	14.142	3.899	21.747	16.843	N/A	0.0536	14.705	18.985 run 1 pt 5
24-Sep-02	11:02:50	13.953	3.924	22.065	16.839	N/A	0.0533	14.300	18.738 run 1 pt 5
24-Sep-02	11:03:30	14.019	3.944	27.544	16.630	N/A	0.0524	14.259	23.617 run 1 pt 6
24-Sep-02	11:04:30	14.007	3.940	29.797	16.500	N/A	0.0520	14.123	25.508 run 1 pt 6
24-Sep-02	11:05:30	14.007	3.934	28.593	16.714	N/A	0.0528	14.305	24.473 run 1 pt 6
24-Sep-02	11:06:30	14.007	3.934	28.230	16.630	N/A	0.0525	14.234	24.162 run 1 pt 6
24-Sep-02	11:07:30	14.007	3.932	28.230	16.714	N/A	0.0528	14.305	24.162 run 1 pt 6
24-Sep-02	11:08:30	14.007	3.932	27.916	16.755	N/A	0.0529	14.341	23.898 run 1 pt 6
24-Sep-02	11:09:30	14.007	3.934	27.270	16.797	N/A	0.0530	14.377	23.340 run 1 pt 6
24-Sep-02	11:10:30	14.019	3.934	27.589	16.755	N/A	0.0529	14.366	23.655 run 1 pt 6
24-Sep-02	11:11:30	13.953	3.932	27.739	16.714	N/A	0.0528	14.194	23.557 run 1 pt 6
24-Sep-02	11:11:47	14.007	3.932	27.823	16.714	N/A	0.0528	14.305	23.814 run 1 pt 7
24-Sep-02	11:12:47	14.019	3.934	28.049	16.668	N/A	0.0526	14.291	24.050 run 1 pt 7
24-Sep-02	11:13:47	14.007	3.934	28.868	16.672	N/A	0.0526	14.269	24.708 run 1 pt 7
24-Sep-02	11:14:47	14.007	3.932	28.722	16.755	N/A	0.0529	14.341	24.583 run 1 pt 7
24-Sep-02	11:15:47	13.950	3.932	28.868	16.885	N/A	0.0533	14.334	24.597 run 1 pt 7
24-Sep-02	11:16:47	14.019	3.930	29.045	16.843	N/A	0.0532	14.442	24.904 run 1 pt 7
24-Sep-02	11:17:47	13.940	3.928	28.996	16.885	N/A	0.0534	14.314	24.584 run 1 pt 7
24-Sep-02	11:18:47	13.940	3.930	28.230	16.881	N/A	0.0533	14.311	23.932 run 1 pt 7
24-Sep-02	11:19:47	14.019	3.928	28.722	16.885	N/A	0.0534	14.478	24.627 run 1 pt 7
24-Sep-02	11:19:59	14.031	3.928	28.722	16.839	N/A	0.0532	14.464	24.671 run 1 pt 8
24-Sep-02	11:20:59	14.073	3.927	28.818	16.798	N/A	0.0531	14.517	24.906 run 1 pt 8
24-Sep-02	11:21:59	14.007	3.927	28.818	16.631	N/A	0.0526	14.234	24.665 run 1 pt 8
24-Sep-02	11:22:59	14.007	3.925	29.305	16.585	N/A	0.0525	14.194	25.082 run 1 pt 8
24-Sep-02	11:23:59	13.940	3.927	29.757	16.585	N/A	0.0524	14.059	25.225 run 1 pt 8
24-Sep-02	11:24:59	13.940	3.927	29.349	16.714	N/A	0.0529	14.169	24.880 run 1 pt 8
24-Sep-02	11:25:59	14.016	3.927	29.261	16.668	N/A	0.0527	14.286	25.080 run 1 pt 8
24-Sep-02	11:26:59	14.019	3.927	29.305	16.631	N/A	0.0526	14.259	25.127 run 1 pt 8
24-Sep-02	11:27:59	14.019	3.927	29.535	16.798	N/A	0.0531	14.402	25.324 run 1 pt 8

Florida Power Air Emissions Test Team

IDLE

1 minute

Complaince & RATA

24-Sep-02 Florida Power University of Florida Unit # CT 001 & DB 002

	Parameter	O2	CO2	CO	NOx	SO2	NOx	NOx	CO	Comments
	Units	%V	%V	ppmV	ppmV	ppmV	lb/Mmbtu	@15%O2	@15%O2	
INSTANTANEOUS:		13.938	3.925	29.080	16.710	N/A	0.0529	14.160	24.643	run 1 pt 8
24-Sep-02	10:20:57	14.018	3.935	27.455	16.838	N/A	0.0531	14.436	23.539	run 1 pt 1
24-Sep-02	10:21:57	14.073	3.933	27.632	16.665	N/A	0.0526	14.402	23.878	run 1 pt 1
24-Sep-02	10:22:57	14.043	3.933	27.783	16.671	N/A	0.0526	14.344	23.905	run 1 pt 1
24-Sep-02	10:23:57	13.937	3.933	27.185	16.671	N/A	0.0526	14.126	23.036	run 1 pt 1
24-Sep-02	10:24:57	14.006	3.939	27.052	16.884	N/A	0.0532	14.450	23.152	run 1 pt 1
24-Sep-02	10:25:57	13.883	3.939	26.596	16.884	N/A	0.0532	14.197	22.363	run 1 pt 1
24-Sep-02	10:26:57	13.940	3.939	26.331	16.926	N/A	0.0534	14.347	22.320	run 1 pt 1
24-Sep-02	10:27:57	13.937	3.941	26.596	16.884	N/A	0.0532	14.307	22.537	run 1 pt 1
24-Sep-02	10:28:57	13.977	3.939	27.366	16.712	N/A	0.0527	14.242	23.321	run 1 pt 1
24-Sep-02	10:29:22	14.004	3.939	27.318	16.712	N/A	0.0527	14.298	23.371	run 1 pt 2
24-Sep-02	10:30:22	14.004	3.939	28.048	16.671	N/A	0.0526	14.262	23.996	run 1 pt 2
24-Sep-02	10:31:22	14.006	3.929	27.822	16.671	N/A	0.0527	14.267	23.811	run 1 pt 2
24-Sep-02	10:32:22	14.018	3.923	28.230	16.712	N/A	0.0529	14.329	24.203	run 1 pt 2
24-Sep-02	10:33:22	14.073	3.925	28.048	16.708	N/A	0.0529	14.438	24.238	run 1 pt 2
24-Sep-02	10:34:22	14.073	3.925	27.544	16.754	N/A	0.0530	14.478	23.802	run 1 pt 2
24-Sep-02	10:35:22	14.006	3.925	27.371	16.817	N/A	0.0532	14.392	23.425	run 1 pt 2
24-Sep-02	10:36:22	14.016	3.923	27.269	16.884	N/A	0.0534	14.470	23.371	run 1 pt 2
24-Sep-02	10:37:22	13.950	3.937	26.729	16.796	N/A	0.0530	14.257	22.689	run 1 pt 2
24-Sep-02	10:37:41	14.006	3.941	26.596	16.754	N/A	0.0528	14.339	22.762	run 1 pt 3
24-Sep-02	10:38:41	14.006	3.945	26.778	16.800	N/A	0.0529	14.378	22.917	run 1 pt 3
24-Sep-02	10:39:41	14.004	3.949	26.238	16.838	N/A	0.0529	14.405	22.447	run 1 pt 3
24-Sep-02	10:40:41	13.949	3.949	26.512	16.842	N/A	0.0530	14.297	22.505	run 1 pt 3
24-Sep-02	10:41:41	14.018	3.947	27.052	16.629	N/A	0.0523	14.257	23.192	run 1 pt 3
24-Sep-02	10:42:41	13.952	3.945	27.782	16.500	N/A	0.0519	14.011	23.591	run 1 pt 3
24-Sep-02	10:43:41	14.018	3.945	27.866	16.454	N/A	0.0518	14.106	23.891	run 1 pt 3
24-Sep-02	10:44:41	14.072	3.925	28.229	16.546	N/A	0.0523	14.298	24.393	run 1 pt 3
24-Sep-02	10:45:41	14.208	3.888	24.401	16.755	N/A	0.0535	14.771	21.512	run 1 pt 3
24-Sep-02	10:46:01	14.085	3.890	24.401	16.796	N/A	0.0536	14.540	21.123	run 1 pt 4
24-Sep-02	10:47:01	14.151	3.888	21.661	16.842	N/A	0.0538	14.724	18.936	run 1 pt 4
24-Sep-02	10:48:01	14.154	3.886	21.794	16.801	N/A	0.0537	14.693	19.060	run 1 pt 4
24-Sep-02	10:49:01	14.006	3.927	22.113	16.842	N/A	0.0533	14.414	18.924	run 1 pt 4
24-Sep-02	10:50:01	14.072	3.949	29.663	16.542	N/A	0.0520	14.294	25.633	run 1 pt 4
24-Sep-02	10:51:01	13.937	3.949	28.588	16.500	N/A	0.0519	13.981	24.224	run 1 pt 4
24-Sep-02	10:52:01	13.940	3.951	28.185	16.500	N/A	0.0519	13.986	23.891	run 1 pt 4

24/Sep/02	09:55:49	09:57:56	14.010	3.939	27.228	16.822	#DIV/0!	0.0530	14.407	23.317 pt 4-3
24/Sep/02	09:58:04	10:00:07	14.039	3.936	27.102	16.847	#DIV/0!	0.0531	14.487	23.308 pt 4-4
24/Sep/02	10:00:14	10:02:18	13.969	3.934	27.293	16.925	#DIV/0!	0.0534	14.410	23.237 pt 4-5
24/Sep/02	10:02:28	10:04:33	13.996	3.933	26.799	16.993	#DIV/0!	0.0536	14.521	22.901 pt 4-6
24/Sep/02	10:04:41	10:06:49	13.980	3.937	26.906	16.925	#DIV/0!	0.0534	14.432	22.942 pt 4-7
24/Sep/02	10:07:04	10:09:10	13.947	3.934	26.806	16.908	#DIV/0!	0.0534	14.348	22.746 pt 4-8
24/Sep/02	10:09:16	10:11:20	14.000	3.934	27.530	16.772	#DIV/0!	0.0529	14.342	23.542 pt 4-9

Florida Power Air Emissions Test Team

Emissions Monitoring Data

Summary of Emissions Testing Results

Gainesville, Florida

IDLE

24/Sep/02 Florida Power University of Florida Unit # CT 001 & DB 002

Date	Start Time	End Time	O2 %V	CO2 %V	CO ppmV	NOx ppmV	SO2 ppmV	NOx lb/Mmbtu	NOx @15%O2	CO @15%O2	Comments
24/Sep/02	10:09:16	10:11:20	14.000	3.934	27.530	16.772	#DIV/0!	0.0529	14.342	23.542	Avg So Far: pt 4-9
24/Sep/02	08:47:27	08:49:32	14.003	3.897	23.648	17.179	#DIV/0!	0.0547	14.696	20.229	pt 1-1
24/Sep/02	08:49:54	08:51:59	13.968	3.898	23.609	17.204	#DIV/0!	0.0548	14.643	20.094	pt 1-2
24/Sep/02	08:52:17	08:54:21	13.993	3.907	23.548	17.237	#DIV/0!	0.0548	14.723	20.114	pt 1-3
24/Sep/02	08:54:31	08:56:35	13.954	3.939	26.278	17.119	#DIV/0!	0.0540	14.541	22.324	pt 1-4
24/Sep/02	08:56:43	08:58:47	14.006	3.928	30.938	16.982	#DIV/0!	0.0537	14.536	26.472	pt 1-5
24/Sep/02	08:58:55	09:00:59	14.075	3.898	24.256	17.256	#DIV/0!	0.0550	14.917	20.973	pt 1-6
24/Sep/02	09:01:09	09:03:14	14.064	3.897	23.689	17.415	#DIV/0!	0.0555	15.032	20.447	pt 1-7
24/Sep/02	09:03:33	09:05:39	14.076	3.877	23.467	17.007	#DIV/0!	0.0545	14.704	20.290	pt 1-8
24/Sep/02	09:05:53	09:07:57	14.119	3.877	23.336	16.833	#DIV/0!	0.0539	14.645	20.304	pt 1-9
24/Sep/02	09:08:04	09:10:08	14.110	3.875	23.245	16.799	#DIV/0!	0.0538	14.598	20.199	pt 2-1
24/Sep/02	09:10:14	09:12:18	14.044	3.899	25.241	16.493	#DIV/0!	0.0525	14.196	21.714	pt 2-2
24/Sep/02	09:12:25	09:14:30	13.994	3.924	30.858	16.607	#DIV/0!	0.0526	14.188	26.364	pt 2-3
24/Sep/02	09:14:36	09:16:41	13.996	3.922	30.100	17.027	#DIV/0!	0.0539	14.552	25.723	pt 2-4
24/Sep/02	09:16:49	09:18:54	14.063	3.901	24.569	17.366	#DIV/0!	0.0553	14.988	21.206	pt 2-5
24/Sep/02	09:19:03	09:21:08	13.968	3.934	26.567	17.516	#DIV/0!	0.0553	14.910	22.596	pt 2-6
24/Sep/02	09:21:16	09:23:20	13.845	3.964	28.605	17.577	#DIV/0!	0.0551	14.699	23.922	pt 2-7
24/Sep/02	09:23:28	09:25:34	13.891	3.969	28.924	17.560	#DIV/0!	0.0549	14.781	24.346	pt 2-8
24/Sep/02	09:25:41	09:27:48	13.926	3.959	30.104	17.430	#DIV/0!	0.0547	14.745	25.468	pt 2-9
24/Sep/02	09:31:40	09:33:44	13.941	3.937	30.201	17.161	#DIV/0!	0.0541	14.549	25.605	pt 3-1
24/Sep/02	09:33:50	09:35:53	13.932	3.961	29.491	17.413	#DIV/0!	0.0546	14.743	24.973	pt 3-2
24/Sep/02	09:35:59	09:38:04	13.900	3.971	29.421	17.605	#DIV/0!	0.0550	14.840	24.799	pt 3-3
24/Sep/02	09:38:11	09:40:17	13.939	3.971	30.422	17.283	#DIV/0!	0.0540	14.649	25.787	pt 3-4
24/Sep/02	09:40:24	09:42:29	13.927	3.972	30.749	17.265	#DIV/0!	0.0540	14.609	26.019	pt 3-5
24/Sep/02	09:42:36	09:44:41	13.944	3.973	31.018	17.256	#DIV/0!	0.0539	14.636	26.309	pt 3-6
24/Sep/02	09:44:47	09:46:53	13.942	3.974	30.362	17.189	#DIV/0!	0.0537	14.575	25.743	pt 3-7
24/Sep/02	09:47:00	09:49:04	13.975	3.970	29.298	17.095	#DIV/0!	0.0535	14.566	24.964	pt 3-8
24/Sep/02	09:49:10	09:51:16	13.942	3.958	29.104	17.001	#DIV/0!	0.0533	14.416	24.681	pt 3-9
24/Sep/02	09:51:25	09:53:29	13.960	3.959	28.104	16.993	#DIV/0!	0.0533	14.447	23.893	pt 4-1
24/Sep/02	09:53:37	09:55:42	14.064	3.951	27.629	16.959	#DIV/0!	0.0533	14.637	23.845	pt 4-2

24-Sep-02	10:01:18	14.016	3.933	27.229	16.968	N/A	0.0536	14.542	23.336 pt 4-5
24-Sep-02	10:01:48	13.881	3.935	27.185	16.880	N/A	0.0533	14.188	22.849 pt 4-5
24-Sep-02	10:02:18	13.871	3.933	27.185	16.926	N/A	0.0534	14.207	22.817 pt 4-5
24-Sep-02	10:02:33	14.006	3.933	26.910	16.884	N/A	0.0533	14.450	23.030 pt 4-6
24-Sep-02	10:03:03	14.004	3.931	26.693	17.010	N/A	0.0537	14.552	22.836 pt 4-6
24-Sep-02	10:03:33	13.949	3.935	26.782	17.051	N/A	0.0538	14.474	22.734 pt 4-6
24-Sep-02	10:04:03	14.004	3.933	26.826	17.010	N/A	0.0537	14.552	22.950 pt 4-6
24-Sep-02	10:04:33	14.016	3.935	26.782	17.010	N/A	0.0537	14.578	22.953 pt 4-6
24-Sep-02	10:04:49	14.004	3.937	26.777	16.968	N/A	0.0535	14.516	22.908 pt 4-7
24-Sep-02	10:05:19	14.004	3.937	26.782	17.051	N/A	0.0538	14.588	22.912 pt 4-7
24-Sep-02	10:05:49	13.949	3.935	26.693	16.926	N/A	0.0534	14.368	22.659 pt 4-7
24-Sep-02	10:06:19	14.008	3.939	27.185	16.796	N/A	0.0530	14.380	23.273 pt 4-7
24-Sep-02	10:06:49	13.937	3.937	27.092	16.884	N/A	0.0533	14.307	22.956 pt 4-7
24-Sep-02	10:07:10	13.949	3.935	26.910	16.838	N/A	0.0531	14.293	22.843 pt 4-8
24-Sep-02	10:07:40	14.016	3.935	26.468	16.926	N/A	0.0534	14.506	22.684 pt 4-8
24-Sep-02	10:08:10	13.937	3.933	26.822	16.926	N/A	0.0534	14.342	22.727 pt 4-8
24-Sep-02	10:08:40	13.949	3.935	26.693	17.010	N/A	0.0537	14.439	22.659 pt 4-8
24-Sep-02	10:09:10	13.883	3.933	27.136	16.838	N/A	0.0532	14.158	22.816 pt 4-8
24-Sep-02	10:09:20	13.937	3.935	27.136	16.796	N/A	0.0530	14.232	22.994 pt 4-9
24-Sep-02	10:09:50	13.959	3.935	27.370	16.755	N/A	0.0529	14.242	23.266 pt 4-9
24-Sep-02	10:10:20	14.016	3.935	27.592	16.796	N/A	0.0530	14.395	23.647 pt 4-9
24-Sep-02	10:10:50	14.070	3.935	27.680	16.759	N/A	0.0529	14.477	23.911 pt 4-9
24-Sep-02	10:11:20	14.018	3.933	27.871	16.755	N/A	0.0529	14.364	23.894 pt 4-9

24-Sep-02	9:43:11	13.937	3.974	30.874	17.306	N/A	0.0541	14.664	26.161 pt 3-6
24-Sep-02	9:43:41	13.949	3.970	30.461	17.265	N/A	0.0540	14.655	25.857 pt 3-6
24-Sep-02	9:44:11	13.949	3.974	31.316	17.265	N/A	0.0539	14.655	26.583 pt 3-6
24-Sep-02	9:44:41	13.947	3.972	31.621	17.181	N/A	0.0537	14.579	26.832 pt 3-6
24-Sep-02	9:44:53	13.935	3.974	31.513	17.181	N/A	0.0537	14.553	26.693 pt 3-7
24-Sep-02	9:45:23	13.937	3.976	29.895	17.181	N/A	0.0537	14.558	25.332 pt 3-7
24-Sep-02	9:45:53	13.949	3.974	29.708	17.181	N/A	0.0537	14.584	25.218 pt 3-7
24-Sep-02	9:46:23	13.937	3.970	30.180	17.223	N/A	0.0539	14.594	25.573 pt 3-7
24-Sep-02	9:46:53	13.949	3.974	30.512	17.181	N/A	0.0537	14.584	25.900 pt 3-7
24-Sep-02	9:47:04	13.972	3.972	30.559	17.135	N/A	0.0536	14.591	26.022 pt 3-8
24-Sep-02	9:47:34	13.937	3.972	28.548	17.139	N/A	0.0536	14.523	24.190 pt 3-8
24-Sep-02	9:48:04	13.949	3.972	28.995	17.139	N/A	0.0536	14.549	24.612 pt 3-8
24-Sep-02	9:48:34	14.004	3.970	29.083	17.093	N/A	0.0535	14.623	24.881 pt 3-8
24-Sep-02	9:49:04	14.016	3.964	29.304	16.968	N/A	0.0531	14.542	25.115 pt 3-8
24-Sep-02	9:49:16	14.004	3.959	29.309	16.968	N/A	0.0532	14.516	25.074 pt 3-9
24-Sep-02	9:49:46	14.004	3.959	29.667	16.964	N/A	0.0532	14.512	25.381 pt 3-9
24-Sep-02	9:50:16	13.949	3.959	29.353	17.051	N/A	0.0535	14.474	24.916 pt 3-9
24-Sep-02	9:50:46	13.881	3.959	28.680	17.056	N/A	0.0535	14.336	24.107 pt 3-9
24-Sep-02	9:51:16	13.871	3.957	28.508	16.968	N/A	0.0533	14.242	23.928 pt 3-9
24-Sep-02	9:51:29	13.949	3.957	28.503	17.010	N/A	0.0534	14.439	24.195 pt 4-1
24-Sep-02	9:51:59	13.962	3.960	27.999	16.968	N/A	0.0532	14.429	23.809 pt 4-1
24-Sep-02	9:52:29	13.937	3.959	28.145	17.051	N/A	0.0535	14.448	23.849 pt 4-1
24-Sep-02	9:52:59	14.004	3.960	27.959	17.010	N/A	0.0533	14.552	23.919 pt 4-1
24-Sep-02	9:53:29	13.949	3.959	27.915	16.926	N/A	0.0531	14.368	23.695 pt 4-1
24-Sep-02	9:53:42	14.072	3.959	28.043	16.968	N/A	0.0532	14.662	24.233 pt 4-2
24-Sep-02	9:54:12	14.072	3.960	28.096	17.010	N/A	0.0533	14.698	24.279 pt 4-2
24-Sep-02	9:54:42	14.018	3.947	27.999	16.926	N/A	0.0533	14.511	24.004 pt 4-2
24-Sep-02	9:55:12	14.072	3.945	27.229	16.968	N/A	0.0534	14.662	23.529 pt 4-2
24-Sep-02	9:55:42	14.085	3.943	26.777	16.926	N/A	0.0533	14.653	23.181 pt 4-2
24-Sep-02	9:55:56	14.072	3.939	26.733	16.926	N/A	0.0534	14.626	23.101 pt 4-3
24-Sep-02	9:56:26	14.006	3.939	27.229	16.838	N/A	0.0531	14.410	23.303 pt 4-3
24-Sep-02	9:56:56	14.018	3.939	27.269	16.713	N/A	0.0527	14.329	23.378 pt 4-3
24-Sep-02	9:57:26	14.006	3.941	27.676	16.796	N/A	0.0529	14.374	23.685 pt 4-3
24-Sep-02	9:57:56	13.949	3.939	27.233	16.838	N/A	0.0531	14.293	23.117 pt 4-3
24-Sep-02	9:58:07	14.072	3.941	27.136	16.842	N/A	0.0531	14.554	23.449 pt 4-4
24-Sep-02	9:58:37	13.949	3.939	26.959	16.922	N/A	0.0533	14.364	22.884 pt 4-4
24-Sep-02	9:59:07	14.016	3.935	26.822	16.838	N/A	0.0531	14.431	22.987 pt 4-4
24-Sep-02	9:59:37	14.072	3.933	27.185	16.796	N/A	0.0530	14.514	23.491 pt 4-4
24-Sep-02	10:00:07	14.085	3.935	27.410	16.834	N/A	0.0531	14.573	23.729 pt 4-4
24-Sep-02	10:00:18	14.006	3.933	27.499	16.884	N/A	0.0533	14.450	23.534 pt 4-5
24-Sep-02	10:00:48	14.072	3.935	27.366	16.968	N/A	0.0535	14.662	23.648 pt 4-5

24-Sep-02	9:21:20	13.867	3.955	29.312	17.545 N/A	0.0551	14.718	24.590 pt 2-7
24-Sep-02	9:21:50	13.813	3.961	28.417	17.583 N/A	0.0551	14.638	23.657 pt 2-7
24-Sep-02	9:22:20	13.810	3.967	28.471	17.588 N/A	0.0551	14.637	23.694 pt 2-7
24-Sep-02	9:22:50	13.855	3.969	28.309	17.583 N/A	0.0550	14.725	23.707 pt 2-7
24-Sep-02	9:23:20	13.879	3.969	28.516	17.583 N/A	0.0550	14.776	23.963 pt 2-7
24-Sep-02	9:23:34	13.879	3.969	28.668	17.588 N/A	0.0550	14.780	24.091 pt 2-8
24-Sep-02	9:24:04	13.879	3.969	28.761	17.502 N/A	0.0548	14.708	24.170 pt 2-8
24-Sep-02	9:24:34	13.879	3.967	28.619	17.588 N/A	0.0551	14.780	24.050 pt 2-8
24-Sep-02	9:25:04	13.879	3.969	29.111	17.583 N/A	0.0550	14.776	24.463 pt 2-8
24-Sep-02	9:25:34	13.936	3.969	29.460	17.541 N/A	0.0549	14.860	24.958 pt 2-8
24-Sep-02	9:25:48	13.933	3.959	29.710	17.498 N/A	0.0549	14.819	25.161 pt 2-9
24-Sep-02	9:26:18	13.936	3.959	29.863	17.498 N/A	0.0549	14.824	25.299 pt 2-9
24-Sep-02	9:26:48	13.946	3.959	29.760	17.502 N/A	0.0549	14.849	25.248 pt 2-9
24-Sep-02	9:27:18	13.882	3.961	30.109	17.323 N/A	0.0543	14.562	25.311 pt 2-9
24-Sep-02	9:27:48	13.933	3.959	31.077	17.327 N/A	0.0543	14.674	26.319 pt 2-9
24-Sep-02	9:31:44	13.936	3.924	30.763	17.151 N/A	0.0543	14.530	26.061 pt 3-1
24-Sep-02	9:32:14	14.002	3.930	30.109	17.151 N/A	0.0542	14.670	25.753 pt 3-1
24-Sep-02	9:32:44	13.948	3.937	30.305	17.199 N/A	0.0542	14.596	25.719 pt 3-1
24-Sep-02	9:33:14	13.869	3.945	30.064	17.151 N/A	0.0540	14.393	25.230 pt 3-1
24-Sep-02	9:33:44	13.948	3.949	29.765	17.151 N/A	0.0539	14.556	25.260 pt 3-1
24-Sep-02	9:33:53	14.002	3.951	29.760	17.151 N/A	0.0539	14.670	25.454 pt 3-2
24-Sep-02	9:34:23	13.960	3.959	30.109	17.284 N/A	0.0542	14.695	25.598 pt 3-2
24-Sep-02	9:34:53	13.936	3.961	29.411	17.412 N/A	0.0546	14.751	24.916 pt 3-2
24-Sep-02	9:35:23	13.882	3.963	29.111	17.545 N/A	0.0550	14.749	24.472 pt 3-2
24-Sep-02	9:35:53	13.879	3.969	29.066	17.673 N/A	0.0553	14.852	24.426 pt 3-2
24-Sep-02	9:36:04	13.882	3.971	29.012	17.673 N/A	0.0553	14.857	24.389 pt 3-3
24-Sep-02	9:36:34	13.936	3.971	29.361	17.806 N/A	0.0557	15.085	24.874 pt 3-3
24-Sep-02	9:37:04	13.879	3.973	29.666	17.840 N/A	0.0558	14.992	24.930 pt 3-3
24-Sep-02	9:37:34	13.936	3.971	29.361	17.438 N/A	0.0545	14.773	24.874 pt 3-3
24-Sep-02	9:38:04	13.869	3.971	29.706	17.267 N/A	0.0540	14.490	24.929 pt 3-3
24-Sep-02	9:38:17	13.869	3.969	29.710	17.309 N/A	0.0542	14.525	24.933 pt 3-4
24-Sep-02	9:38:47	13.938	3.971	30.610	17.267 N/A	0.0540	14.634	25.942 pt 3-4
24-Sep-02	9:39:17	13.948	3.973	30.827	17.309 N/A	0.0541	14.690	26.162 pt 3-4
24-Sep-02	9:39:47	13.992	3.969	30.610	17.225 N/A	0.0539	14.712	26.145 pt 3-4
24-Sep-02	9:40:17	13.947	3.974	30.353	17.306 N/A	0.0541	14.685	25.755 pt 3-4
24-Sep-02	9:40:29	13.947	3.970	30.353	17.265 N/A	0.0540	14.650	25.755 pt 3-5
24-Sep-02	9:40:59	13.937	3.970	30.505	17.311 N/A	0.0541	14.668	25.848 pt 3-5
24-Sep-02	9:41:29	13.881	3.972	30.554	17.223 N/A	0.0538	14.476	25.682 pt 3-5
24-Sep-02	9:41:59	13.935	3.972	31.316	17.181 N/A	0.0537	14.553	26.526 pt 3-5
24-Sep-02	9:42:29	13.937	3.974	31.016	17.348 N/A	0.0542	14.700	26.282 pt 3-5
24-Sep-02	9:42:41	13.937	3.972	30.820	17.265 N/A	0.0540	14.629	26.115 pt 3-6

24-Sep-02	9:03:14	14.023	3.895	23.473	17.348 N/A	0.0553	14.884	20.139 pt 1-7
24-Sep-02	9:03:39	14.013	3.877	23.419	17.436 N/A	0.0558	14.938	20.064 pt 1-8
24-Sep-02	9:04:09	14.070	3.877	23.468	16.985 N/A	0.0544	14.672	20.272 pt 1-8
24-Sep-02	9:04:39	14.080	3.877	23.468	16.899 N/A	0.0541	14.619	20.302 pt 1-8
24-Sep-02	9:05:09	14.136	3.879	23.513	16.858 N/A	0.0540	14.706	20.510 pt 1-8
24-Sep-02	9:05:39	14.080	3.877	23.468	16.858 N/A	0.0540	14.584	20.302 pt 1-8
24-Sep-02	9:05:57	14.080	3.877	23.419	16.940 N/A	0.0543	14.654	20.259 pt 1-9
24-Sep-02	9:06:27	14.149	3.877	23.468	16.813 N/A	0.0539	14.693	20.509 pt 1-9
24-Sep-02	9:06:57	14.149	3.875	23.365	16.818 N/A	0.0539	14.697	20.419 pt 1-9
24-Sep-02	9:07:27	14.080	3.879	23.114	16.818 N/A	0.0538	14.548	19.995 pt 1-9
24-Sep-02	9:07:57	14.136	3.877	23.316	16.777 N/A	0.0537	14.634	20.338 pt 1-9
24-Sep-02	9:08:08	14.067	3.877	23.316	16.818 N/A	0.0539	14.522	20.133 pt 2-1
24-Sep-02	9:08:38	14.134	3.877	23.316	16.858 N/A	0.0540	14.700	20.331 pt 2-1
24-Sep-02	9:09:08	14.149	3.875	23.114	16.813 N/A	0.0539	14.693	20.199 pt 2-1
24-Sep-02	9:09:38	14.146	3.873	23.163	16.773 N/A	0.0538	14.652	20.235 pt 2-1
24-Sep-02	9:10:08	14.055	3.875	23.316	16.732 N/A	0.0536	14.422	20.097 pt 2-1
24-Sep-02	9:10:18	14.136	3.877	23.414	16.695 N/A	0.0535	14.563	20.424 pt 2-2
24-Sep-02	9:10:48	14.070	3.877	23.675	16.569 N/A	0.0531	14.312	20.451 pt 2-2
24-Sep-02	9:11:18	14.080	3.877	23.468	16.650 N/A	0.0533	14.404	20.302 pt 2-2
24-Sep-02	9:11:48	13.935	3.936	24.624	16.442 N/A	0.0519	13.927	20.857 pt 2-2
24-Sep-02	9:12:18	14.001	3.928	31.026	16.107 N/A	0.0509	13.775	26.534 pt 2-2
24-Sep-02	9:12:30	14.001	3.928	31.680	16.111 N/A	0.0509	13.778	27.093 pt 2-3
24-Sep-02	9:13:00	14.013	3.922	31.277	16.071 N/A	0.0509	13.768	26.796 pt 2-3
24-Sep-02	9:13:30	14.001	3.924	30.559	17.082 N/A	0.0541	14.608	26.134 pt 2-3
24-Sep-02	9:14:00	14.011	3.922	30.067	16.888 N/A	0.0535	14.463	25.750 pt 2-3
24-Sep-02	9:14:30	13.945	3.924	30.707	16.884 N/A	0.0534	14.322	26.047 pt 2-3
24-Sep-02	9:14:41	13.957	3.924	30.702	16.935 N/A	0.0536	14.391	26.089 pt 2-4
24-Sep-02	9:15:11	13.945	3.924	30.161	16.931 N/A	0.0536	14.361	25.584 pt 2-4
24-Sep-02	9:15:41	14.001	3.922	30.161	17.059 N/A	0.0540	14.589	25.793 pt 2-4
24-Sep-02	9:16:11	14.011	3.924	29.615	17.106 N/A	0.0541	14.650	25.363 pt 2-4
24-Sep-02	9:16:41	14.067	3.916	29.861	17.102 N/A	0.0542	14.768	25.785 pt 2-4
24-Sep-02	9:16:54	14.080	3.904	29.408	17.192 N/A	0.0547	14.872	25.440 pt 2-5
24-Sep-02	9:17:24	14.011	3.904	23.621	17.277 N/A	0.0549	14.797	20.229 pt 2-5
24-Sep-02	9:17:54	14.080	3.899	23.277	17.367 N/A	0.0553	15.024	20.136 pt 2-5
24-Sep-02	9:18:24	14.067	3.899	23.222	17.542 N/A	0.0559	15.148	20.053 pt 2-5
24-Sep-02	9:18:54	14.080	3.899	23.316	17.453 N/A	0.0556	15.098	20.170 pt 2-5
24-Sep-02	9:19:08	14.067	3.893	23.468	17.538 N/A	0.0559	15.144	20.265 pt 2-6
24-Sep-02	9:19:38	14.001	3.916	23.714	17.628 N/A	0.0559	15.075	20.280 pt 2-6
24-Sep-02	9:20:08	13.958	3.953	25.924	17.370 N/A	0.0546	14.762	22.033 pt 2-6
24-Sep-02	9:20:38	13.936	3.955	30.020	17.455 N/A	0.0548	14.788	25.432 pt 2-6
24-Sep-02	9:21:08	13.879	3.953	29.710	17.588 N/A	0.0552	14.780	24.967 pt 2-6

Florida Power Air Emissions Test Team

IDLE

30 seconds

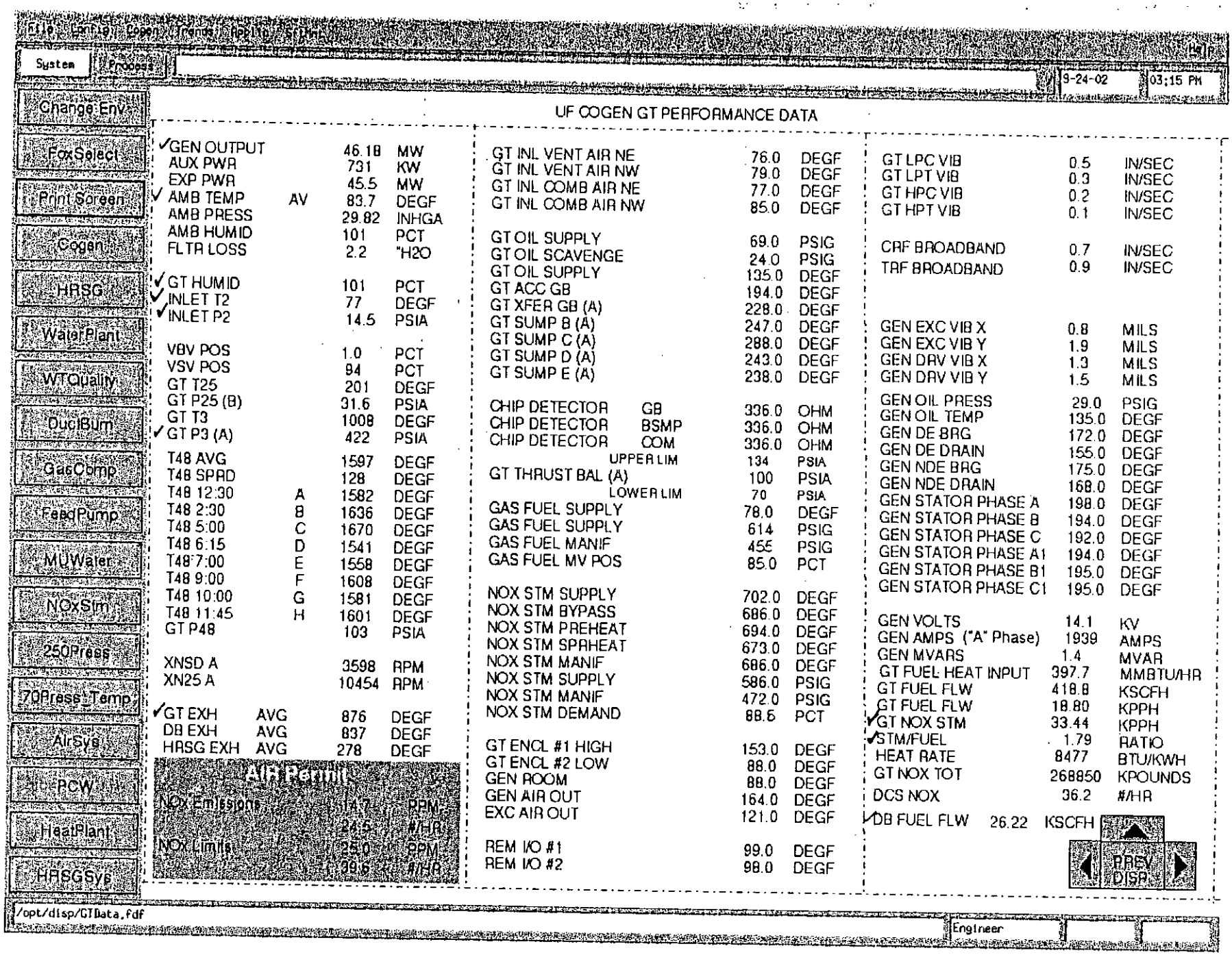
Complaince & RATA

24-Sep-02 Florida Power University of Florida Unit # CT 001 & DB 002

	Parameter	O2	CO2	CO	NOx	SO2	NOx	NOx	CO	Comments
	Units	%V	%V	ppmV	ppmV	ppmV	lb/Mmbtu	@15%O2	@15%O2	
INSTANTANEOUS:		**14.082**	**3.935**	**27.676**	**16.750**	**N/A**	**0.0529**	**14.496**	**23.950**	**pt 4-9**
24-Sep-02	8:47:32	14.001	3.898	23.669	17.138	N/A	0.0546	14.655	20.240	pt 1-1
24-Sep-02	8:48:02	14.001	3.896	23.369	17.134	N/A	0.0546	14.652	19.983	pt 1-1
24-Sep-02	8:48:32	14.001	3.898	23.669	17.138	N/A	0.0546	14.655	20.240	pt 1-1
24-Sep-02	8:49:02	14.001	3.898	23.767	17.222	N/A	0.0549	14.727	20.324	pt 1-1
24-Sep-02	8:49:32	14.013	3.896	23.767	17.263	N/A	0.0550	14.789	20.360	pt 1-1
24-Sep-02	8:49:59	14.013	3.898	23.619	17.180	N/A	0.0547	14.717	20.234	pt 1-2
24-Sep-02	8:50:29	14.013	3.898	23.467	17.263	N/A	0.0550	14.789	20.103	pt 1-2
24-Sep-02	8:50:59	13.878	3.898	23.619	17.180	N/A	0.0547	14.434	19.844	pt 1-2
24-Sep-02	8:51:29	14.001	3.896	23.713	17.222	N/A	0.0549	14.727	20.278	pt 1-2
24-Sep-02	8:51:59	13.934	3.900	23.624	17.176	N/A	0.0547	14.547	20.009	pt 1-2
24-Sep-02	8:52:21	14.001	3.900	23.565	17.180	N/A	0.0547	14.691	20.151	pt 1-3
24-Sep-02	8:52:51	14.013	3.906	23.674	17.176	N/A	0.0546	14.714	20.280	pt 1-3
24-Sep-02	8:53:21	14.003	3.906	23.619	17.259	N/A	0.0549	14.764	20.205	pt 1-3
24-Sep-02	8:53:51	14.001	3.908	23.413	17.305	N/A	0.0550	14.798	20.021	pt 1-3
24-Sep-02	8:54:21	13.946	3.915	23.467	17.263	N/A	0.0547	14.648	19.911	pt 1-3
24-Sep-02	8:54:35	14.001	3.921	23.472	17.263	N/A	0.0547	14.762	20.072	pt 1-4
24-Sep-02	8:55:05	13.944	3.923	23.674	17.222	N/A	0.0545	14.607	20.079	pt 1-4
24-Sep-02	8:55:35	13.878	3.947	23.865	17.305	N/A	0.0544	14.539	20.051	pt 1-4
24-Sep-02	8:56:05	14.001	3.959	27.957	16.925	N/A	0.0531	14.473	23.907	pt 1-4
24-Sep-02	8:56:35	13.946	3.943	32.422	16.879	N/A	0.0532	14.321	27.509	pt 1-4
24-Sep-02	8:56:47	13.934	3.943	32.417	16.925	N/A	0.0533	14.335	27.457	pt 1-5
24-Sep-02	8:57:17	14.003	3.937	30.971	16.921	N/A	0.0534	14.475	26.494	pt 1-5
24-Sep-02	8:57:47	14.013	3.925	31.320	16.921	N/A	0.0535	14.495	26.831	pt 1-5
24-Sep-02	8:58:17	14.001	3.921	31.714	16.967	N/A	0.0537	14.509	27.120	pt 1-5
24-Sep-02	8:58:47	14.082	3.915	28.267	17.180	N/A	0.0545	14.866	24.459	pt 1-5
24-Sep-02	8:58:59	14.133	3.900	26.073	17.134	N/A	0.0546	14.939	22.734	pt 1-6
24-Sep-02	8:59:29	14.079	3.898	23.713	17.180	N/A	0.0547	14.861	20.512	pt 1-6
24-Sep-02	8:59:59	14.067	3.899	23.916	17.223	N/A	0.0549	14.872	20.651	pt 1-6
24-Sep-02	9:00:29	14.013	3.897	23.714	17.348	N/A	0.0553	14.863	20.316	pt 1-6
24-Sep-02	9:00:59	14.082	3.899	23.867	17.394	N/A	0.0554	15.053	20.654	pt 1-6
24-Sep-02	9:01:14	14.067	3.899	23.817	17.432	N/A	0.0555	15.052	20.566	pt 1-7
24-Sep-02	9:01:44	14.082	3.899	23.822	17.465	N/A	0.0556	15.114	20.615	pt 1-7
24-Sep-02	9:02:14	14.082	3.895	23.768	17.436	N/A	0.0556	15.089	20.569	pt 1-7
24-Sep-02	9:02:44	14.067	3.899	23.562	17.394	N/A	0.0554	15.020	20.346	pt 1-7

APPENDIX G

Test Run Data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Print Screen
Cogen
HRSG
WaterPlant
WTQuality
DuctBurn
GasComp
FeedPump
MUWater
NOxStm
250Press
70Press Temp
AirSys
PCW
HeatPlant
HRSGSys
UF COGEN GT PERFORMANCE DATA
GEN OUTPUT 46.18 MW
AUX PWR 731 KW
EXP PWR 45.5 MW
AMB TEMP AV 83.7 DEGF
AMB PRESS 29.82 INHGA
AMB HUMID 101 PCT
FLTR LOSS 2.2 "H2O
GT HUMID 101 PCT
INLET T2 77 DEGF
INLET P2 14.5 PSIA
VBV POS 1.0 PCT
VSV POS 94 PCT
GT T25 201 DEGF
GT P25 (B) 31.6 PSIA
GT T3 1008 DEGF
GT P3 (A) 422 PSIA
T48 AVG 1597 DEGF
T48 SPRD 128 DEGF
T48 12:30 A 1582 DEGF
T48 2:30 B 1636 DEGF
T48 5:00 C 1670 DEGF
T48 6:15 D 1541 DEGF
T48 7:00 E 1558 DEGF
T48 9:00 F 1608 DEGF
T48 10:00 G 1581 DEGF
T48 11:45 H 1601 DEGF
GT P48 103 PSIA
XNSD A 3598 RPM
XN25 A 10454 RPM
GT EXH AVG 876 DEGF
DB EXH AVG 837 DEGF
HRSG EXH AVG 278 DEGF
Air Retwil
NOx Emissions 14.7 PPM
24.5 #/HR
NOx Limits 25.0 PPM
39.6 #/HR
GT INL VENT AIR NE 76.0 DEGF
GT INL VENT AIR NW 79.0 DEGF
GT INL COMB AIR NE 77.0 DEGF
GT INL COMB AIR NW 85.0 DEGF
GT OIL SUPPLY 69.0 PSIG
GT OIL SCAVENGE 24.0 PSIG
GT OIL SUPPLY 135.0 DEGF
GT ACC GB 194.0 DEGF
GT XFER GB (A) 228.0 DEGF
GT SUMP B (A) 247.0 DEGF
GT SUMP C (A) 288.0 DEGF
GT SUMP D (A) 243.0 DEGF
GT SUMP E (A) 238.0 DEGF
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CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
UPPER LIM 134 PSIA
GT THRUST BAL (A) 100 PSIA
LOWER LIM 70 PSIA
GAS FUEL SUPPLY 78.0 DEGF
GAS FUEL SUPPLY 614 PSIG
GAS FUEL MANIF 455 PSIG
GAS FUEL MV POS 85.0 PCT
NOX STM SUPPLY 702.0 DEGF
NOX STM BYPASS 686.0 DEGF
NOX STM PREHEAT 694.0 DEGF
NOX STM SPRHEAT 673.0 DEGF
NOX STM MANIF 686.0 DEGF
NOX STM SUPPLY 586.0 PSIG
NOX STM MANIF 472.0 PSIG
NOX STM DEMAND 88.6 PCT
GT ENCL #1 HIGH 153.0 DEGF
GT ENCL #2 LOW 88.0 DEGF
GEN ROOM 88.0 DEGF
GEN AIR OUT 164.0 DEGF
EXC AIR OUT 121.0 DEGF
REM I/O #1 99.0 DEGF
REM I/O #2 98.0 DEGF
GT LPC VIB 0.5 IN/SEC
GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 0.7 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
GEN OIL PRESS 29.0 PSIG
GEN OIL TEMP 135.0 DEGF
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GEN NDE DRAIN 168.0 DEGF
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GEN STATOR PHASE C 192.0 DEGF
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GEN STATOR PHASE B1 195.0 DEGF
GEN STATOR PHASE C1 195.0 DEGF
GEN VOLTS 14.1 KV
GEN AMPS ("A" Phase) 1939 AMPS
GEN MVARS 1.4 MVAR
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GT FUEL FLW 18.80 KPPH
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STM/FUEL 1.79 RATIO
HEAT RATE 8477 BTU/KWH
GT NOX TOT 268850 KPOUNDS
DCS NOX 36.2 #/HR
DB FUEL FLW 26.22 KSCFH
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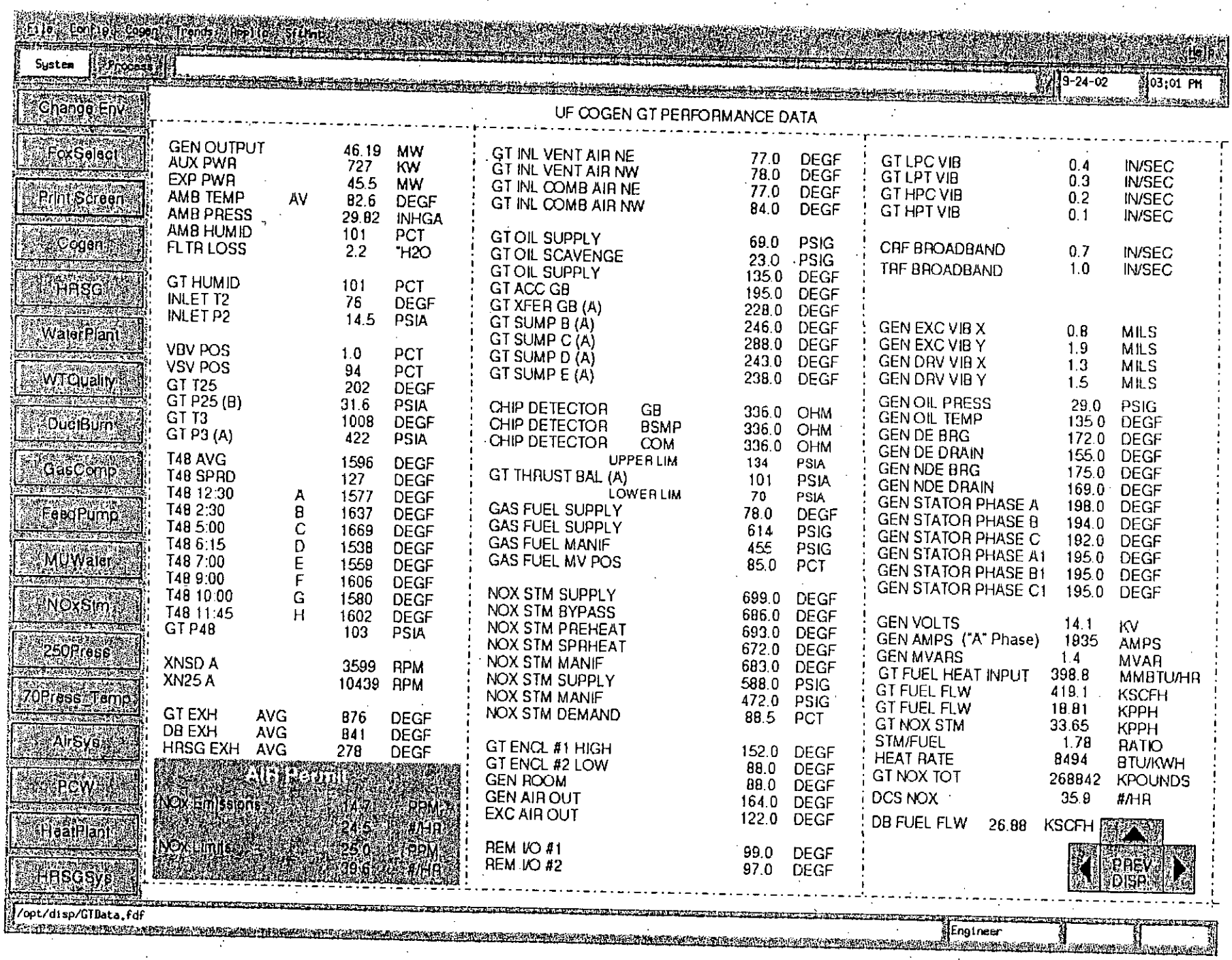
Engineer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DuctBurn
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FeedPump
MUWater
NOxSim
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70Press Temp
AirSys
PCW
HeatPlant
HRSGSys
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AUX PWR 727 KW
EXP PWR 45.5 MW
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FLTR LOSS 2.2 "H2O
GT HUMID 101 PCT
INLET T2 76 DEGF
INLET P2 14.5 PSIA
VBV POS 1.0 PCT
VSV POS 94 PCT
GT T25 202 DEGF
GT P25 (B) 31.6 PSIA
GT T3 1008 DEGF
GT P3 (A) 422 PSIA
T48 AVG 1596 DEGF
T48 SPRD 127 DEGF
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T48 11:45 H 1602 DEGF
GT P48 103 PSIA
XNSD A 3599 RPM
XN25 A 10439 RPM
GT EXH AVG 876 DEGF
DB EXH AVG 841 DEGF
HRSG EXH AVG 278 DEGF
Air Permit
NOX Emissions 14.7 PPMV
24.5 #/HR
NOX Limits 25.0 PPMV
39.6 #/HR
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GT INL VENT AIR NW 78.0 DEGF
GT INL COMB AIR NE 77.0 DEGF
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GT OIL SCAVENGE 23.0 PSIG
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CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
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GT THRUST BAL (A) 101 PSIA
LOWER LIM 70 PSIA
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GT ENCL #2 LOW 88.0 DEGF
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EXC AIR OUT 122.0 DEGF
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REM I/O #2 97.0 DEGF
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GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 0.7 IN/SEC
TRF BROADBAND 1.0 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
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GEN STATOR PHASE C 192.0 DEGF
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GEN VOLTS 14.1 KV
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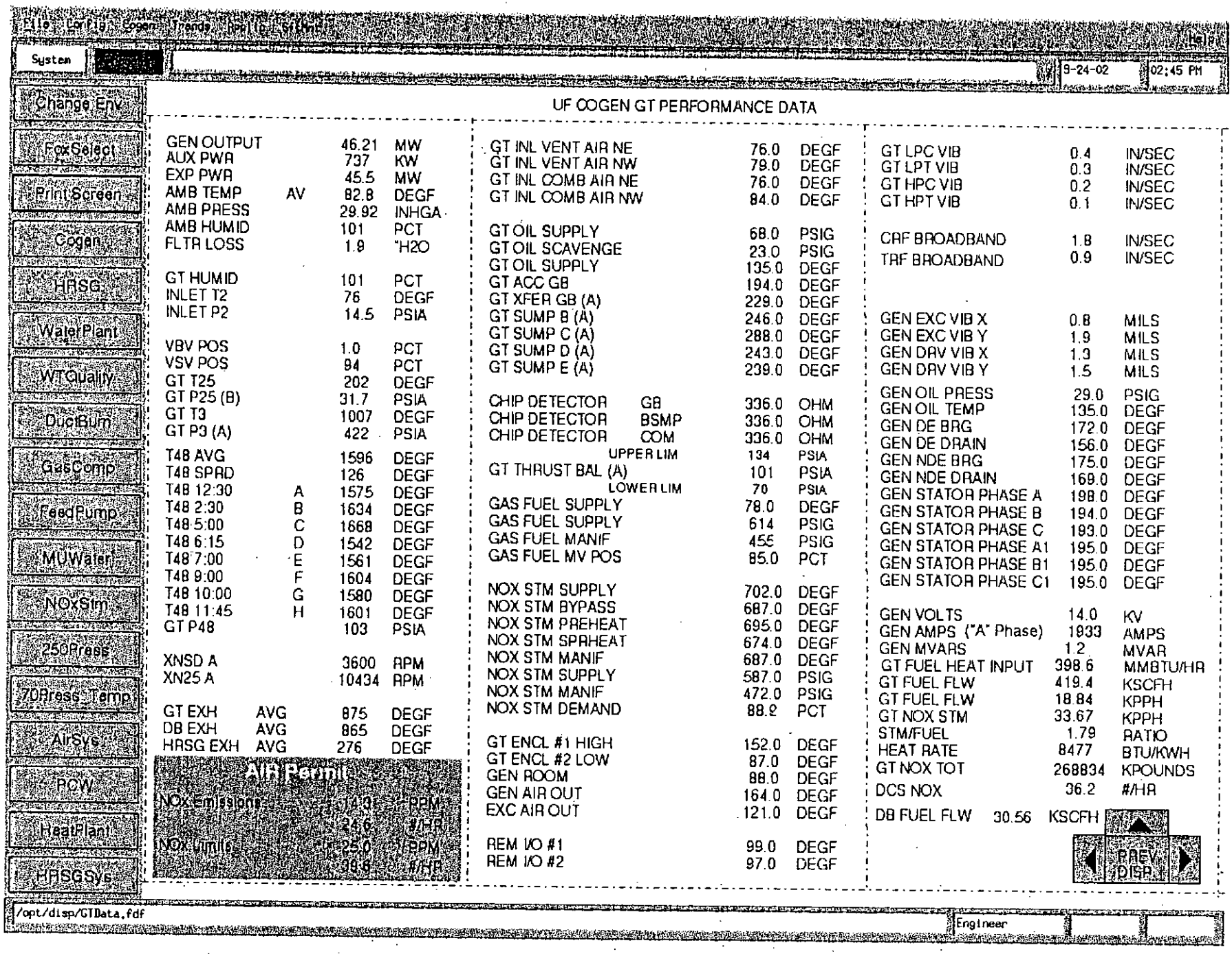
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FeedPump
MUWater
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AirSys
PCW
HeatPlant
HRSGSys
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EXP PWR 45.5 MW
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VSV POS 94 PCT
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GT P25 (B) 31.7 PSIA
GT T3 1007 DEGF
GT P3 (A) 422 PSIA
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NOx limits
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GT INL COMB AIR NW 84.0 DEGF
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GT OIL SUPPLY 135.0 DEGF
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GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
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TRF BROADBAND 0.9 IN/SEC
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GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
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GT FUEL HEAT INPUT 398.6 MMBTU/HR
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GT FUEL FLW 18.84 KPPH
GT NOX STM 33.67 KPPH
STM/FUEL 1.79 RATIO
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DCS NOX 36.2 #/HR
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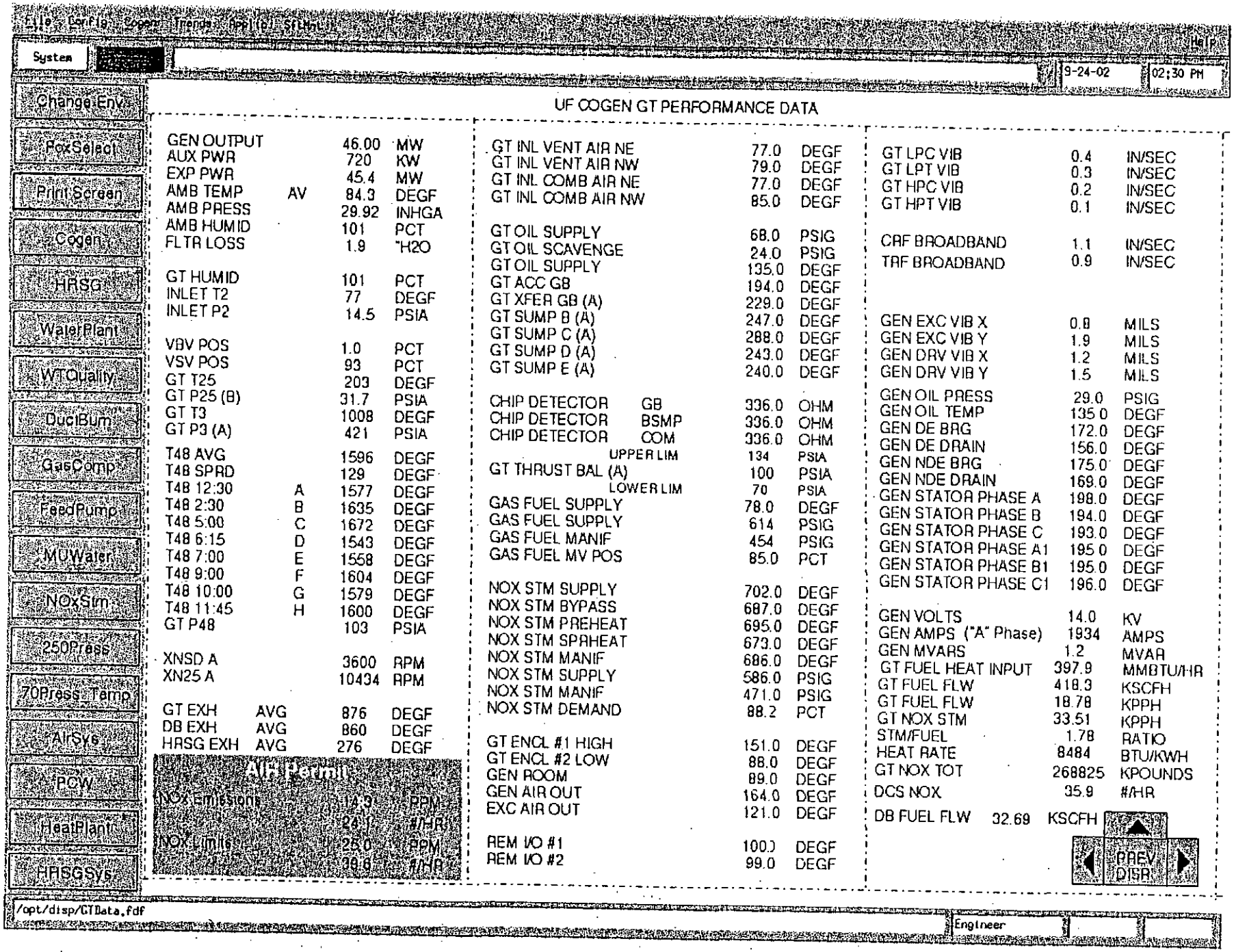
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AirSys
PCW
HeatPlant
HRSGSys
UF COGEN GT PERFORMANCE DATA
GEN OUTPUT 46.00 MW
AUX PWR 720 KW
EXP PWR 45.4 MW
AMB TEMP AV 84.3 DEGF
AMB PRESS 29.92 INHGA
AMB HUMID 101 PCT
FLTR LOSS 1.9 "H2O
GT HUMID 101 PCT
INLET T2 77 DEGF
INLET P2 14.5 PSIA
VBV POS 1.0 PCT
VSV POS 93 PCT
GT T25 203 DEGF
GT P25 (B) 31.7 PSIA
GT T3 1008 DEGF
GT P3 (A) 421 PSIA
T48 AVG 1596 DEGF
T48 SPRD 129 DEGF
T48 12:30 A 1577 DEGF
T48 2:30 B 1635 DEGF
T48 5:00 C 1672 DEGF
T48 6:15 D 1543 DEGF
T48 7:00 E 1558 DEGF
T48 9:00 F 1604 DEGF
T48 10:00 G 1579 DEGF
T48 11:45 H 1600 DEGF
GT P48 103 PSIA
XNSD A 3600 RPM
XN25 A 10434 RPM
GT EXH AVG 876 DEGF
DB EXH AVG 860 DEGF
HRSG EXH AVG 276 DEGF
Air Permit
NOx Emissions 14.9 PPM
24.1 #/HR
NOx Limits 25.0 PPM
39.6 #/HR
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GT INL COMB AIR NE 77.0 DEGF
GT INL COMB AIR NW 85.0 DEGF
GT OIL SUPPLY 68.0 PSIG
GT OIL SCAVENGE 24.0 PSIG
GT OIL SUPPLY 135.0 DEGF
GT ACC GB 194.0 DEGF
GT XFER GB (A) 229.0 DEGF
GT SUMP B (A) 247.0 DEGF
GT SUMP C (A) 288.0 DEGF
GT SUMP D (A) 243.0 DEGF
GT SUMP E (A) 240.0 DEGF
CHIP DETECTOR GB 336.0 OHM
CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
UPPER LIM 134 PSIA
GT THRUST BAL (A) 100 PSIA
LOWER LIM 70 PSIA
GAS FUEL SUPPLY 78.0 DEGF
GAS FUEL SUPPLY 614 PSIG
GAS FUEL MANIF 454 PSIG
GAS FUEL MV POS 85.0 PCT
NOX STM SUPPLY 702.0 DEGF
NOX STM BYPASS 687.0 DEGF
NOX STM PREHEAT 695.0 DEGF
NOX STM SPRHEAT 673.0 DEGF
NOX STM MANIF 686.0 DEGF
NOX STM SUPPLY 586.0 PSIG
NOX STM MANIF 471.0 PSIG
NOX STM DEMAND 88.2 PCT
GT ENCL #1 HIGH 151.0 DEGF
GT ENCL #2 LOW 88.0 DEGF
GEN ROOM 89.0 DEGF
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REM I/O #1 100.0 DEGF
REM I/O #2 99.0 DEGF
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GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 1.1 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.2 MILS
GEN DRV VIB Y 1.5 MILS
GEN OIL PRESS 29.0 PSIG
GEN OIL TEMP 135.0 DEGF
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GEN STATOR PHASE B 194.0 DEGF
GEN STATOR PHASE C 193.0 DEGF
GEN STATOR PHASE A1 195.0 DEGF
GEN STATOR PHASE B1 195.0 DEGF
GEN STATOR PHASE C1 196.0 DEGF
GEN VOLTS 14.0 KV
GEN AMPS ("A" Phase) 1934 AMPS
GEN MVARS 1.2 MVAR
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GT FUEL FLW 18.78 KPPH
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STM/FUEL 1.78 RATIO
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DB FUEL FLW 32.69 KSCFH
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Engineer

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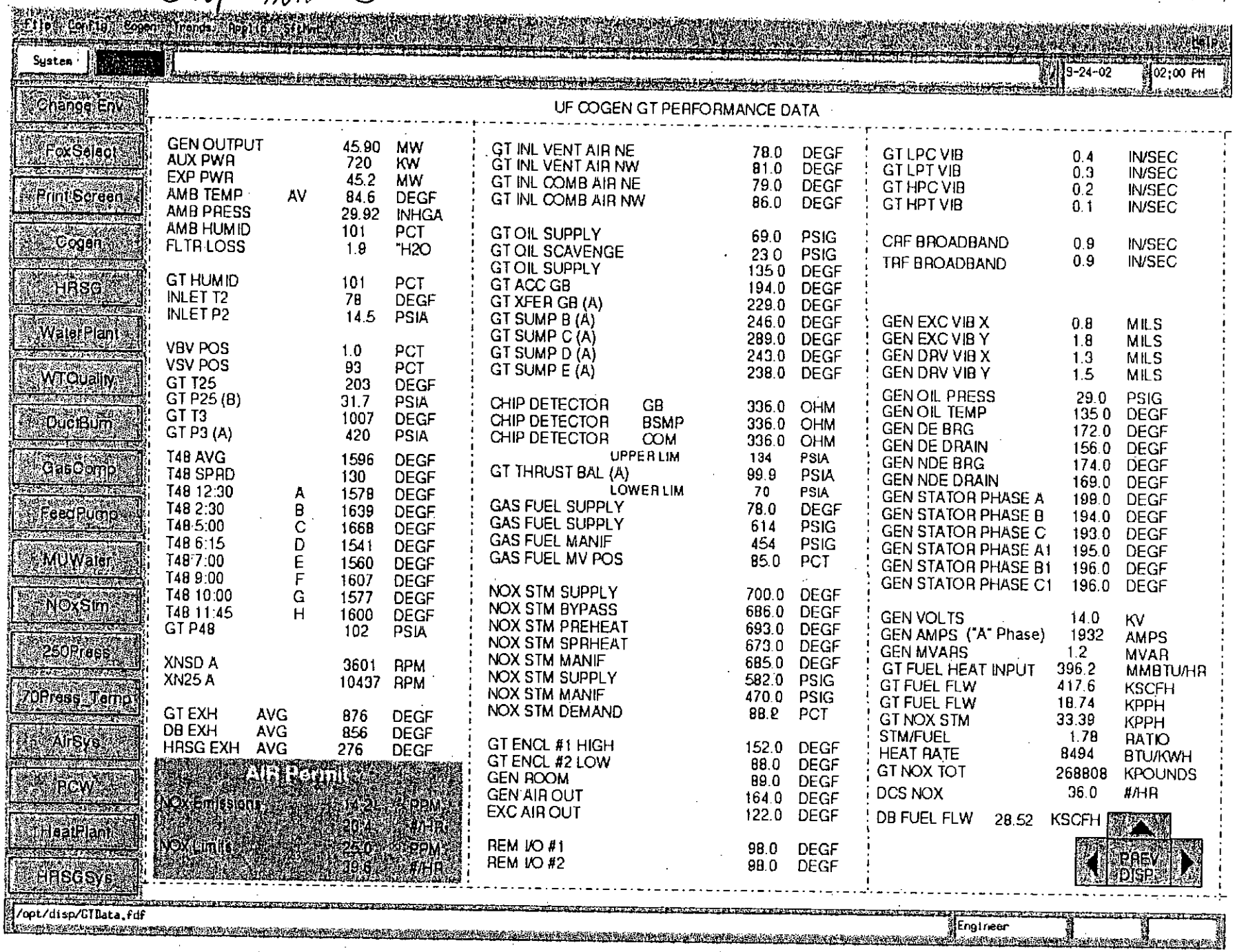
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DuctBurn
GasComp
FeedPump
MUWater
NOxSim
250Press
ZDPress Temp
AirSys
FCW
HeatPlant
HRSGSys
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GEN OUTPUT 45.90 MW
AUX PWR 720 KW
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FLTR LOSS 1.9 "H2O
GT HUMID 101 PCT
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VSV POS 93 PCT
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GT P25 (B) 31.7 PSIA
GT T3 1007 DEGF
GT P3 (A) 420 PSIA
T48 AVG 1596 DEGF
T48 SPRD 130 DEGF
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T48 11:45 H 1600 DEGF
GT P48 102 PSIA
XNSD A 3601 RPM
XN25 A 10437 RPM
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GT OIL SCAVENGE 23.0 PSIG
GT OIL SUPPLY 135.0 DEGF
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GT XFER GB (A) 229.0 DEGF
GT SUMP B (A) 246.0 DEGF
GT SUMP C (A) 289.0 DEGF
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CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
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GT THRUST BAL (A) 99.9 PSIA
LOWER LIM 70 PSIA
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GAS FUEL MANIF 454 PSIG
GAS FUEL MV POS 85.0 PCT
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NOX STM MANIF 685.0 DEGF
NOX STM SUPPLY 582.0 PSIG
NOX STM MANIF 470.0 PSIG
NOX STM DEMAND 88.2 PCT
GT ENCL #1 HIGH 152.0 DEGF
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GEN ROOM 89.0 DEGF
GEN AIR OUT 164.0 DEGF
EXC AIR OUT 122.0 DEGF
REM I/O #1 98.0 DEGF
REM I/O #2 98.0 DEGF
GT LPC VIB 0.4 IN/SEC
GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 0.9 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.8 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
GEN OIL PRESS 29.0 PSIG
GEN OIL TEMP 135.0 DEGF
GEN DE BRG 172.0 DEGF
GEN DE DRAIN 156.0 DEGF
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GEN NDE DRAIN 169.0 DEGF
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GEN STATOR PHASE B 194.0 DEGF
GEN STATOR PHASE C 193.0 DEGF
GEN STATOR PHASE A1 195.0 DEGF
GEN STATOR PHASE B1 196.0 DEGF
GEN STATOR PHASE C1 196.0 DEGF
GEN VOLTS 14.0 KV
GEN AMPS ("A" Phase) 1932 AMPS
GEN MVARS 1.2 MVAR
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STM/FUEL 1.78 RATIO
HEAT RATE 8494 BTU/KWH
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DCS NOX 36.0 #/HR
DB FUEL FLW 28.52 KSCFH
PREV DISP
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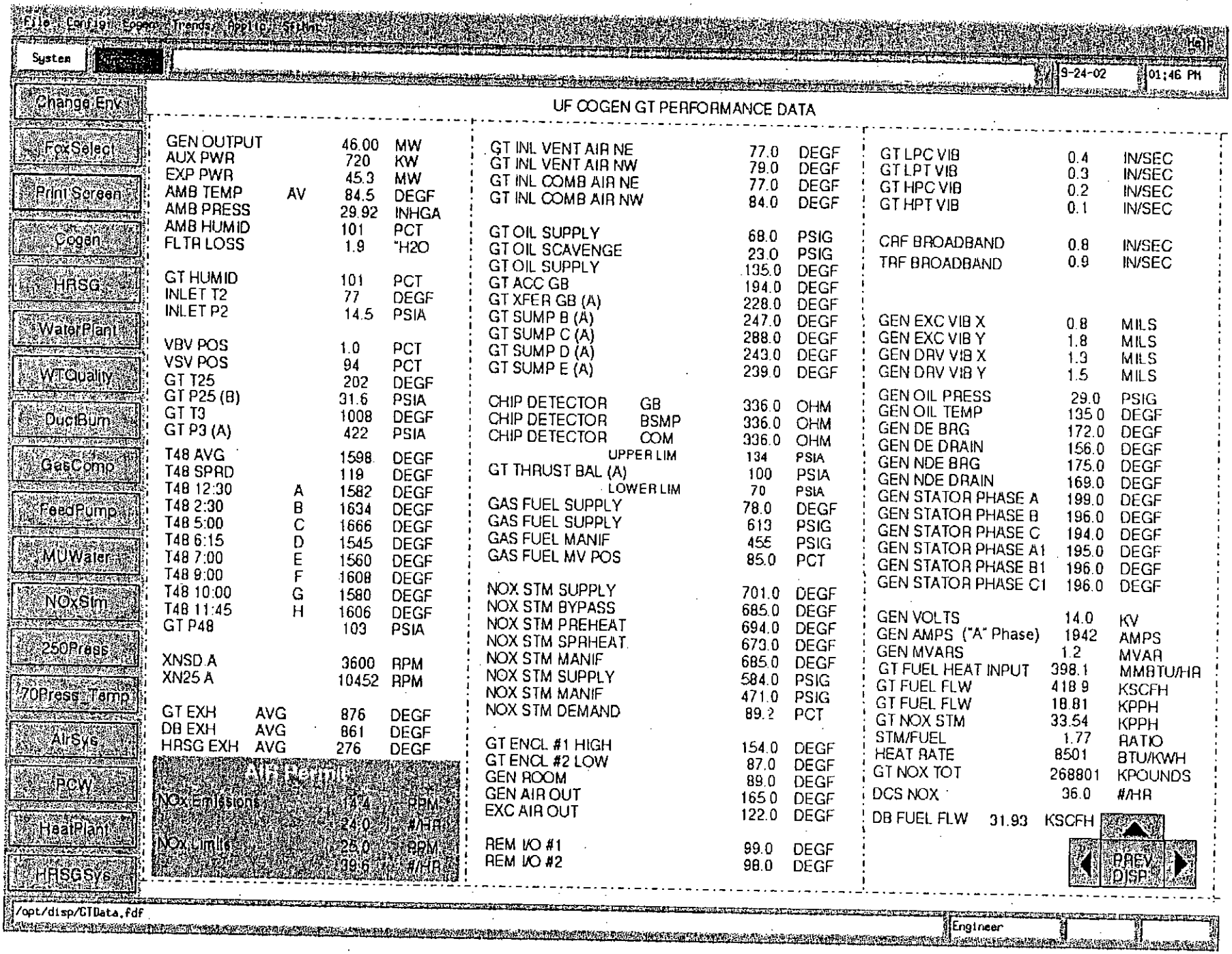
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AirSys
PCW
HeatPlant
HRSGSys
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GEN OUTPUT 46.00 MW
AUX PWR 720 KW
EXP PWR 45.3 MW
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GT HUMID 101 PCT
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INLET P2 14.5 PSIA
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GT P25 (B) 31.6 PSIA
GT T3 1008 DEGF
GT P3 (A) 422 PSIA
T48 AVG 1598 DEGF
T48 SPRD 119 DEGF
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XN25 A 10452 RPM
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24.0 #/HR
NOx Limits 25.0 PPM
99.6 #/HR
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GT INL VENT AIR NW 79.0 DEGF
GT INL COMB AIR NE 77.0 DEGF
GT INL COMB AIR NW 84.0 DEGF
GT OIL SUPPLY 68.0 PSIG
GT OIL SCAVENGE 23.0 PSIG
GT OIL SUPPLY 135.0 DEGF
GT ACC GB 194.0 DEGF
GT XFER GB (A) 228.0 DEGF
GT SUMP B (A) 247.0 DEGF
GT SUMP C (A) 288.0 DEGF
GT SUMP D (A) 243.0 DEGF
GT SUMP E (A) 239.0 DEGF
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CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
UPPER LIM 134 PSIA
GT THRUST BAL (A) 100 PSIA
LOWER LIM 70 PSIA
GAS FUEL SUPPLY 78.0 DEGF
GAS FUEL SUPPLY 613 PSIG
GAS FUEL MANIF 455 PSIG
GAS FUEL MV POS 85.0 PCT
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NOX STM BYPASS 685.0 DEGF
NOX STM PREHEAT 694.0 DEGF
NOX STM SPRHEAT 673.0 DEGF
NOX STM MANIF 685.0 DEGF
NOX STM SUPPLY 584.0 PSIG
NOX STM MANIF 471.0 PSIG
NOX STM DEMAND 89.2 PCT
GT ENCL #1 HIGH 154.0 DEGF
GT ENCL #2 LOW 87.0 DEGF
GEN ROOM 89.0 DEGF
GEN AIR OUT 165.0 DEGF
EXC AIR OUT 122.0 DEGF
REM I/O #1 99.0 DEGF
REM I/O #2 98.0 DEGF
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GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 0.8 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.8 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
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GEN STATOR PHASE B1 196.0 DEGF
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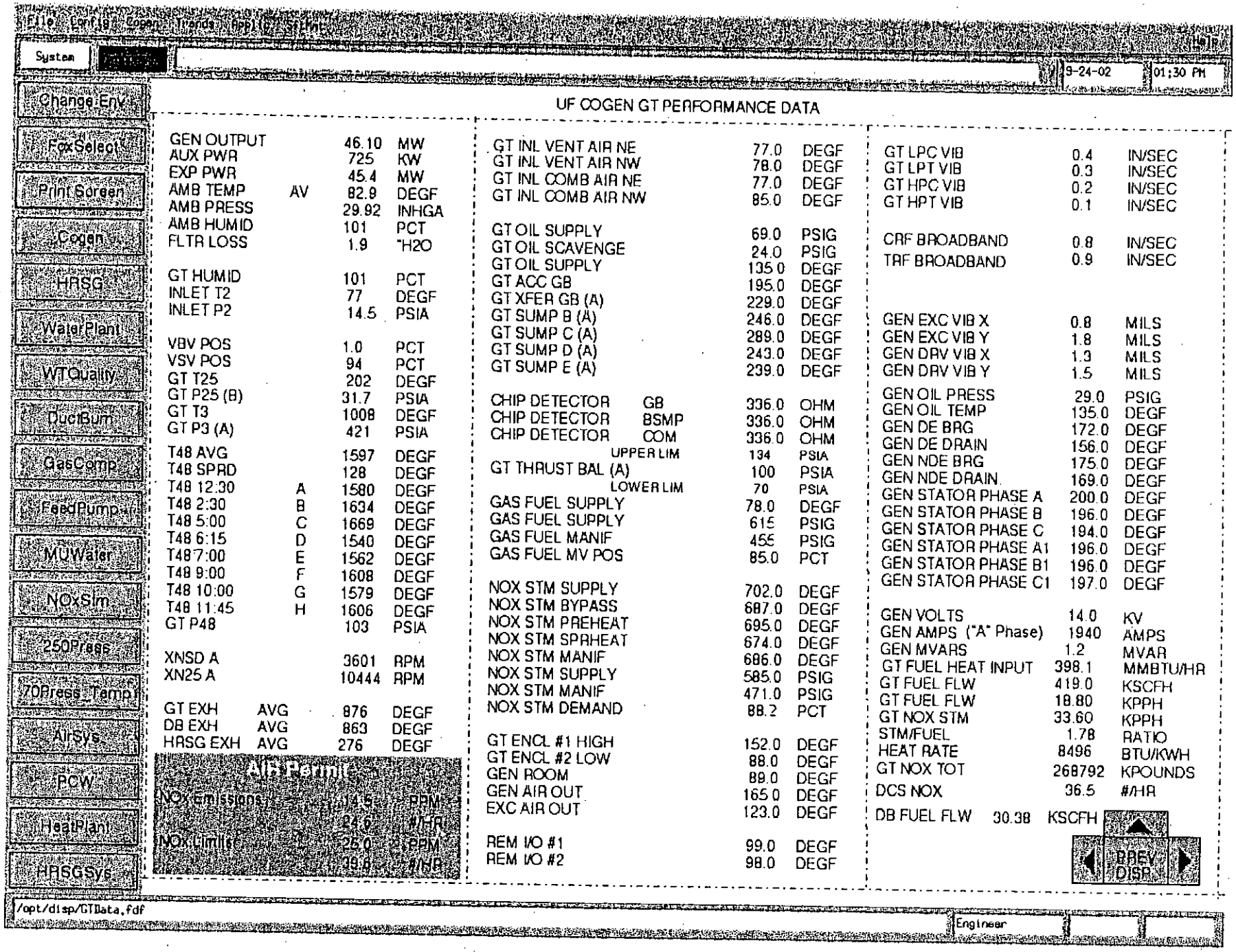
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NOxSim
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70Press Temp
AirSys
PCW
HeatPlant
HRSGSys
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AUX PWR 725 KW
EXP PWR 45.4 MW
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AMB HUMID 101 PCT
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GT HUMID 101 PCT
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VSV POS 94 PCT
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GT P25 (B) 31.7 PSIA
GT T3 1008 DEGF
GT P3 (A) 421 PSIA
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T48 11:45 H 1606 DEGF
GT P48 103 PSIA
XNSD A 3601 RPM
XN25 A 10444 RPM
GT EXH AVG 876 DEGF
DB EXH AVG 863 DEGF
HRSG EXH AVG 276 DEGF
Air Permit Limits
NOx emissions 14.5 PPM
24.0 #/HR
NOx Limits 25.0 PPM
99.6 #/HR
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GT INL COMB AIR NE 77.0 DEGF
GT INL COMB AIR NW 85.0 DEGF
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GT OIL SCAVENGE 24.0 PSIG
GT OIL SUPPLY 135.0 DEGF
GT ACC GB 195.0 DEGF
GT XFER GB (A) 229.0 DEGF
GT SUMP B (A) 246.0 DEGF
GT SUMP C (A) 289.0 DEGF
GT SUMP D (A) 243.0 DEGF
GT SUMP E (A) 239.0 DEGF
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CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
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GT THRUST BAL (A) 100 PSIA
LOWER LIM 70 PSIA
GAS FUEL SUPPLY 78.0 DEGF
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GAS FUEL MANIF 455 PSIG
GAS FUEL MV POS 85.0 PCT
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NOX STM BYPASS 687.0 DEGF
NOX STM PREHEAT 695.0 DEGF
NOX STM SPRHEAT 674.0 DEGF
NOX STM MANIF 686.0 DEGF
NOX STM SUPPLY 585.0 PSIG
NOX STM MANIF 471.0 PSIG
NOX STM DEMAND 88.2 PCT
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GT ENCL #2 LOW 88.0 DEGF
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GEN AIR OUT 165.0 DEGF
EXC AIR OUT 123.0 DEGF
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REM I/O #2 98.0 DEGF
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GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 0.8 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.8 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
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GEN DE DRAIN 156.0 DEGF
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GEN NDE DRAIN 169.0 DEGF
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GEN STATOR PHASE C 194.0 DEGF
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GEN VOLTS 14.0 KV
GEN AMPS ("A" Phase) 1940 AMPS
GEN MVARS 1.2 MVAR
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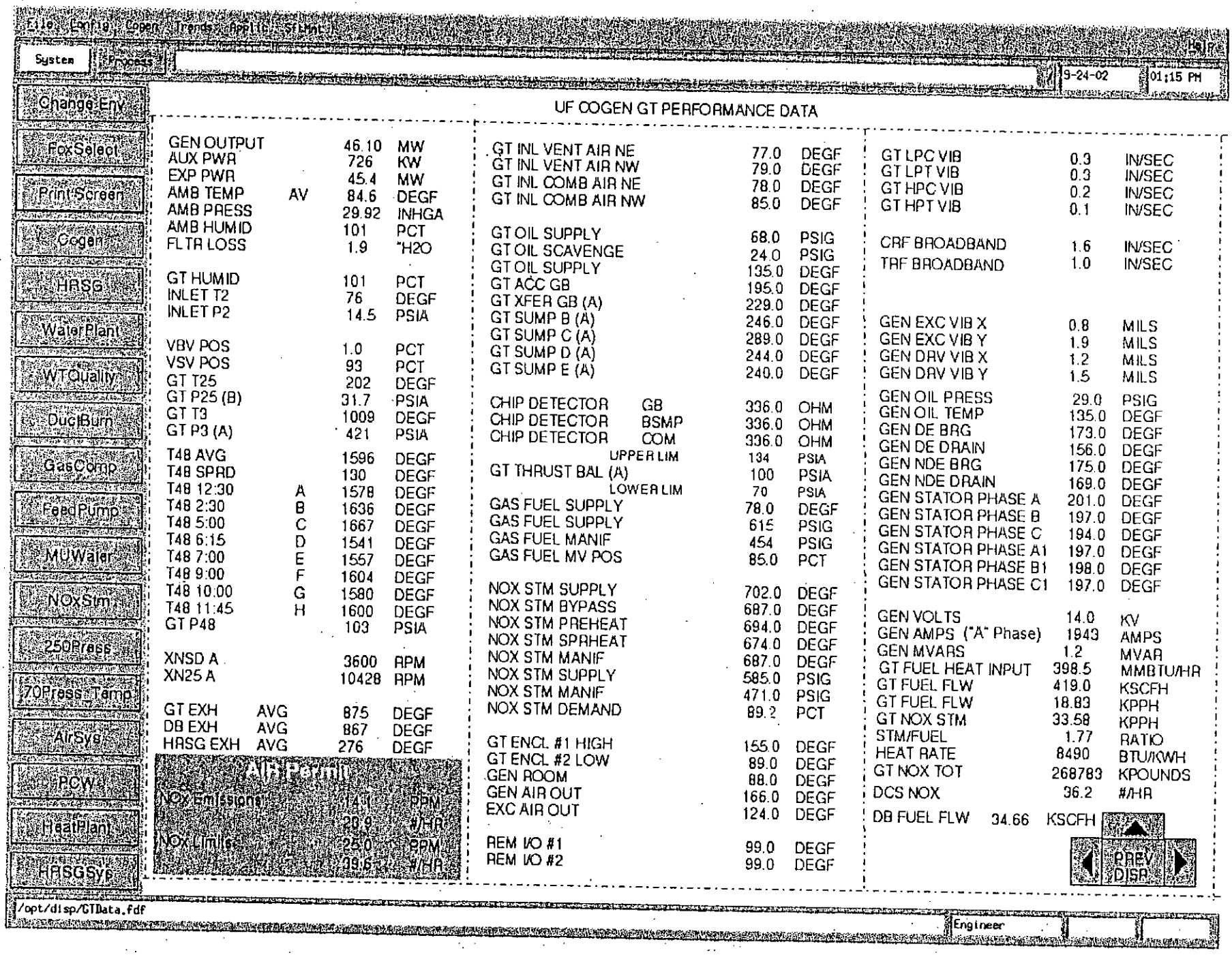
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250Press
70Press Temp
AirSys
PCWs
HeatPlant
HRSGSys
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VSV POS 93 PCT
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GT T3 1009 DEGF
GT P3 (A) 421 PSIA
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GT P48 103 PSIA
XNSD A 3600 RPM
XN25 A 10428 RPM
GT EXH AVG 875 DEGF
DB EXH AVG 867 DEGF
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20.9 #/HR
NOx Limits 25.0 PPM
99.6 #/HR
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GT INL VENT AIR NW 79.0 DEGF
GT INL COMB AIR NE 78.0 DEGF
GT INL COMB AIR NW 85.0 DEGF
GT OIL SUPPLY 68.0 PSIG
GT OIL SCAVENGE 24.0 PSIG
GT OIL SUPPLY 135.0 DEGF
GT ACC GB 195.0 DEGF
GT XFER GB (A) 229.0 DEGF
GT SUMP B (A) 246.0 DEGF
GT SUMP C (A) 289.0 DEGF
GT SUMP D (A) 244.0 DEGF
GT SUMP E (A) 240.0 DEGF
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CHIP DETECTOR COM 336.0 OHM
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GT THRUST BAL (A) 100 PSIA
LOWER LIM 70 PSIA
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GAS FUEL SUPPLY 615 PSIG
GAS FUEL MANIF 454 PSIG
GAS FUEL MV POS 85.0 PCT
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NOX STM BYPASS 687.0 DEGF
NOX STM PREHEAT 694.0 DEGF
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NOX STM MANIF 687.0 DEGF
NOX STM SUPPLY 585.0 PSIG
NOX STM MANIF 471.0 PSIG
NOX STM DEMAND 89.2 PCT
GT ENCL #1 HIGH 155.0 DEGF
GT ENCL #2 LOW 89.0 DEGF
GEN ROOM 88.0 DEGF
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EXC AIR OUT 124.0 DEGF
REM I/O #1 99.0 DEGF
REM I/O #2 99.0 DEGF
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GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 1.6 IN/SEC
TRF BROADBAND 1.0 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.2 MILS
GEN DRV VIB Y 1.5 MILS
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GEN OIL TEMP 135.0 DEGF
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GEN MVARS 1.2 MVAR
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GT FUEL FLW 419.0 KSCFH
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STM/FUEL 1.77 RATIO
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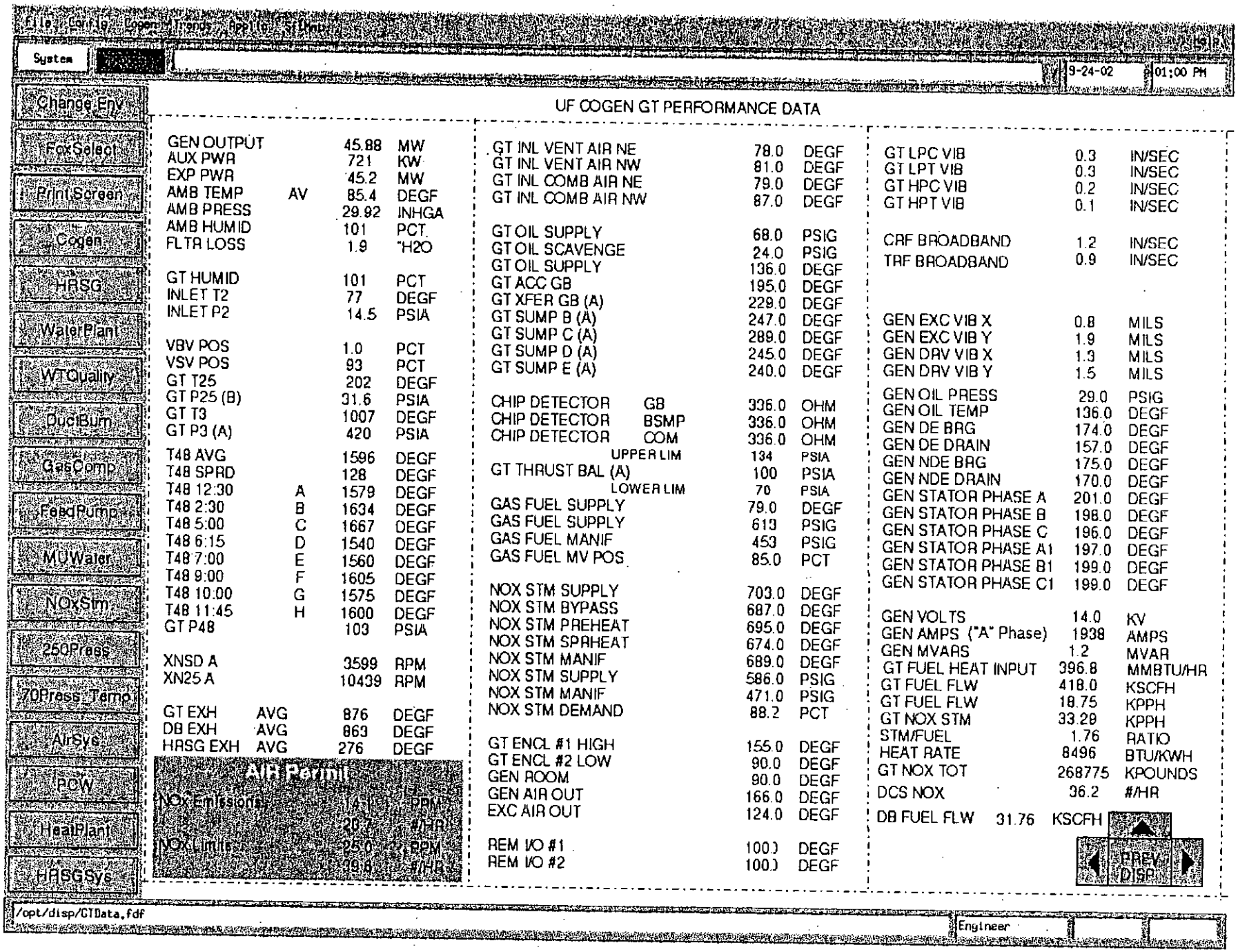
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250Press
70Press Temp
AirSys
PCW
HeatPlant
HRSGSys
UF COGEN GT PERFORMANCE DATA
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EXP PWR 45.2 MW
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AMB HUMID 101 PCT
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VBV POS 1.0 PCT
VSV POS 93 PCT
GT T25 202 DEGF
GT P25 (B) 31.6 PSIA
GT T3 1007 DEGF
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T48 10:00 G 1575 DEGF
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GT P48 103 PSIA
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XN25 A 10439 RPM
GT EXH AVG 876 DEGF
DB EXH AVG 869 DEGF
HRSG EXH AVG 276 DEGF
Air Permit
NOx Emissions 14.1 PPM
20.7 #/HR
NOX Limits 25.0 PPM
29.8 #/HR
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GT OIL SCAVENGE 24.0 PSIG
GT OIL SUPPLY 136.0 DEGF
GT ACC GB 195.0 DEGF
GT XFER GB (A) 229.0 DEGF
GT SUMP B (A) 247.0 DEGF
GT SUMP C (A) 289.0 DEGF
GT SUMP D (A) 245.0 DEGF
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CHIP DETECTOR BSMP 336.0 OHM
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GT THRUST BAL (A) 100 PSIA
LOWER LIM 70 PSIA
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GAS FUEL SUPPLY 613 PSIG
GAS FUEL MANIF 453 PSIG
GAS FUEL MV POS 85.0 PCT
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NOX STM PREHEAT 695.0 DEGF
NOX STM SPRHEAT 674.0 DEGF
NOX STM MANIF 689.0 DEGF
NOX STM SUPPLY 586.0 PSIG
NOX STM MANIF 471.0 PSIG
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GT LPT VIB 0.3 IN/SEC
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GT HPT VIB 0.1 IN/SEC
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TRF BROADBAND 0.9 IN/SEC
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GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
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GEN OIL TEMP 136.0 DEGF
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GEN DE DRAIN 157.0 DEGF
GEN NDE BRG 175.0 DEGF
GEN NDE DRAIN 170.0 DEGF
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GEN STATOR PHASE B 198.0 DEGF
GEN STATOR PHASE C 196.0 DEGF
GEN STATOR PHASE A1 197.0 DEGF
GEN STATOR PHASE B1 199.0 DEGF
GEN STATOR PHASE C1 199.0 DEGF
GEN VOLTS 14.0 KV
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STM/FUEL 1.76 RATIO
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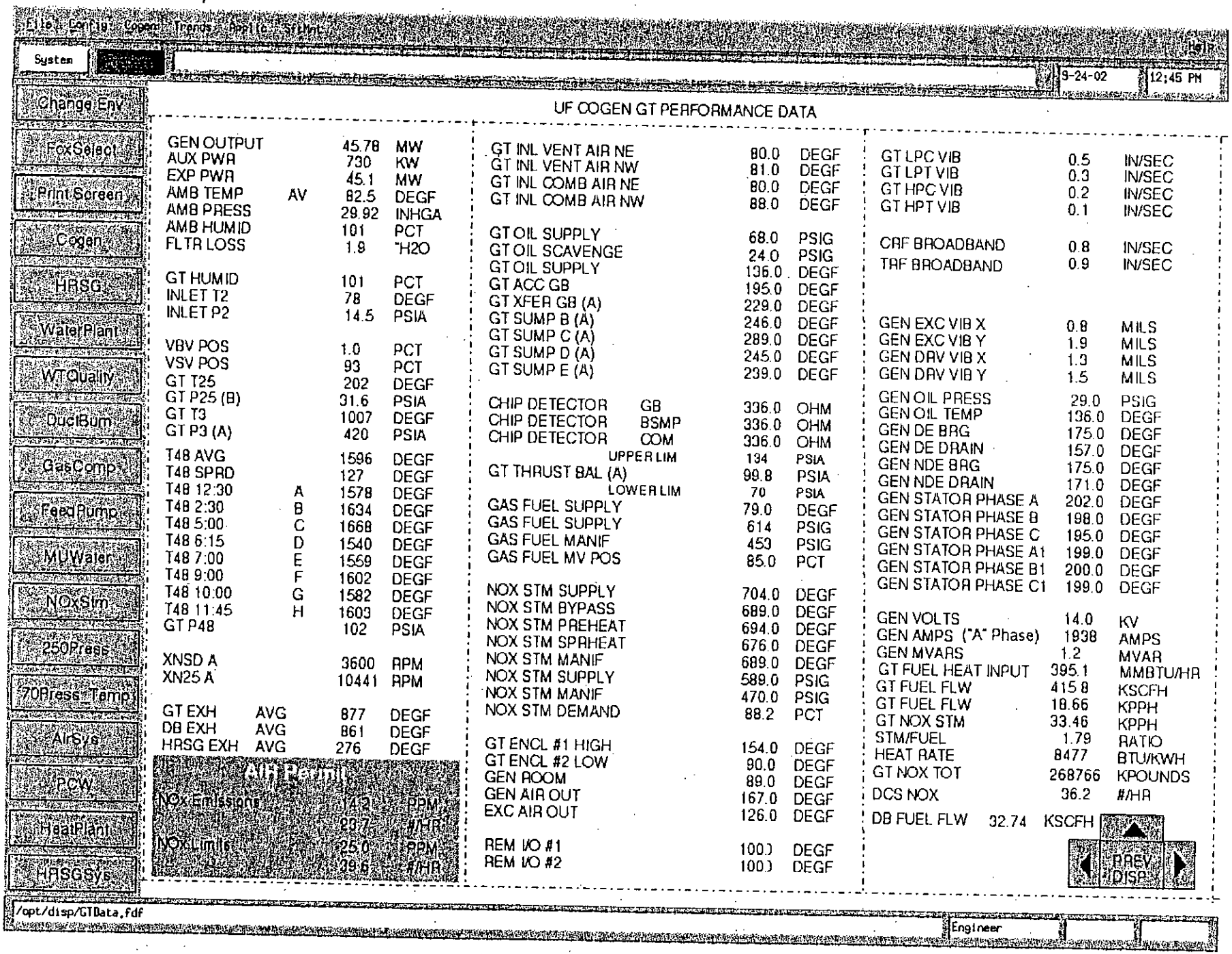
Slop Run #2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GasComp
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NOxSim
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70Press Temp
AirSys
PCW
HeatPlant
HRSGSys
UF COGEN GT PERFORMANCE DATA
GEN OUTPUT 45.78 MW
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EXP PWR 45.1 MW
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AMB HUMID 101 PCT
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GT P3 (A) 420 PSIA
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NOX STM DEMAND 88.2 PCT
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GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 0.8 IN/SEC
TRF BROADBAND 0.9 IN/SEC
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GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
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GEN STATOR PHASE C 195.0 DEGF
GEN STATOR PHASE A1 199.0 DEGF
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GEN STATOR PHASE C1 199.0 DEGF
GEN VOLTS 14.0 KV
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DB FUEL FLW 32.74 KSCFH
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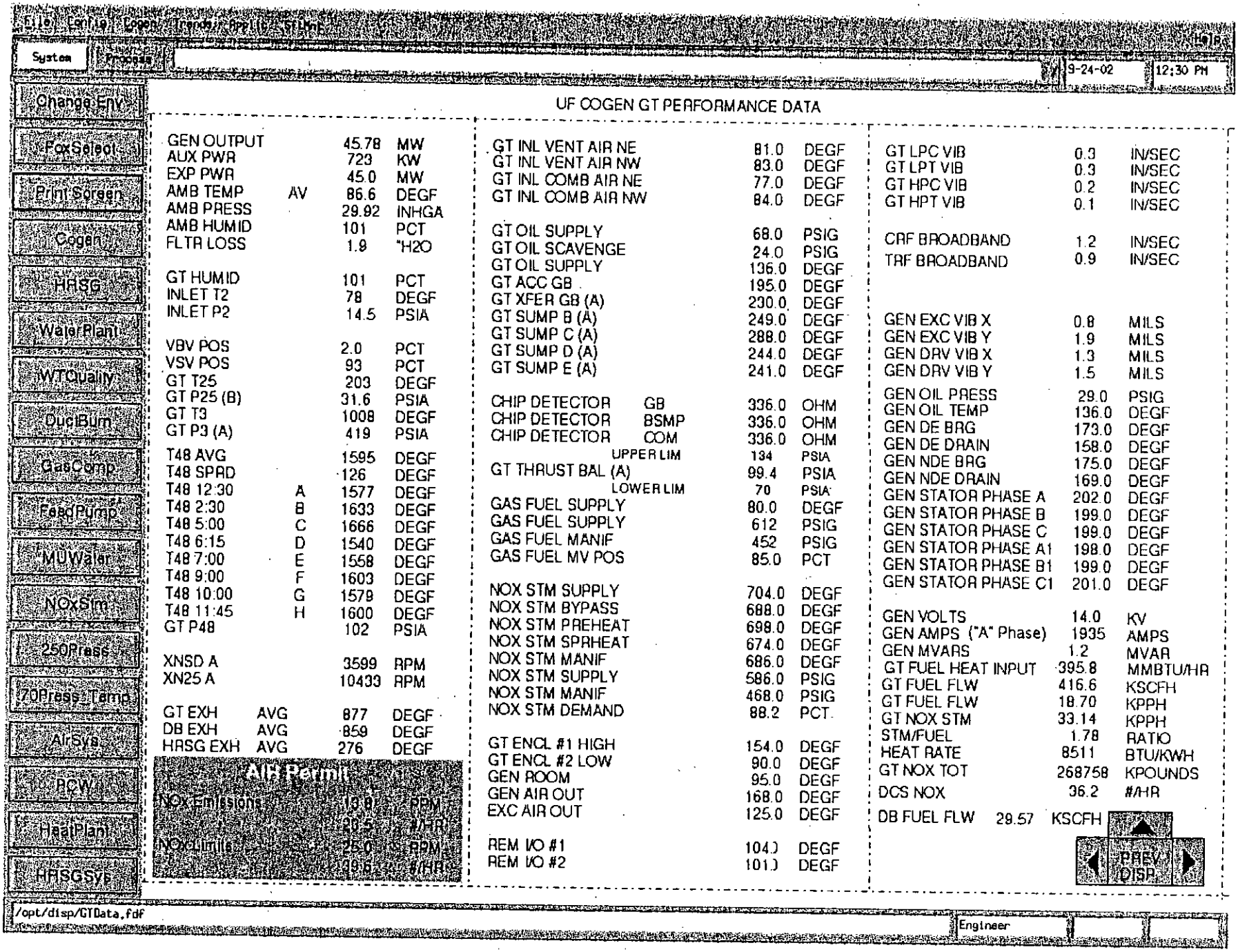
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AirSys
RCW
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GT P3 (A) 419 PSIA
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T48 11:45 H 1600 DEGF
GT P48 102 PSIA
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XN25 A 10433 RPM
GT EXH AVG 877 DEGF
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NOx Limits 25.0 PPM
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GT OIL SUPPLY 68.0 PSIG
GT OIL SCAVENGE 24.0 PSIG
GT OIL SUPPLY 136.0 DEGF
GT ACC GB 195.0 DEGF
GT XFER GB (A) 230.0 DEGF
GT SUMP B (A) 249.0 DEGF
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NOX STM MANIF 686.0 DEGF
NOX STM SUPPLY 586.0 PSIG
NOX STM MANIF 468.0 PSIG
NOX STM DEMAND 88.2 PCT
GT ENCL #1 HIGH 154.0 DEGF
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GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 1.2 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
GEN OIL PRESS 29.0 PSIG
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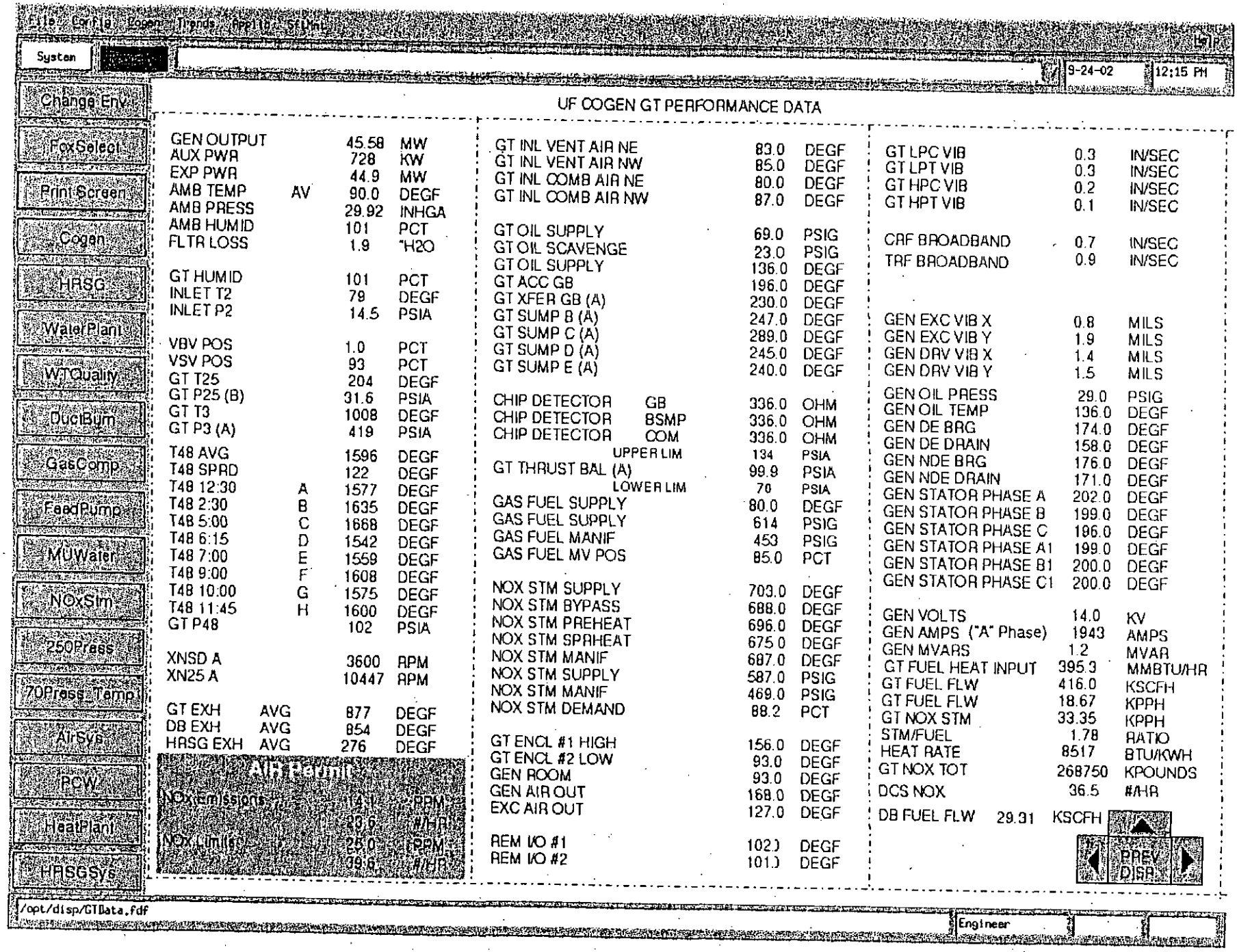
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PCW
HeatPlant
HRSGSys
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GT T3 1008 DEGF
GT P3 (A) 419 PSIA
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T48 11:45 H 1600 DEGF
GT P48 102 PSIA
XNSD A 3600 RPM
XN25 A 10447 RPM
GT EXH AVG 877 DEGF
DB EXH AVG 854 DEGF
HRSG EXH AVG 276 DEGF
Air Emiss
NOx emissions 14.1 PPM
23.6 #/HR
NOx Limits 25.0 PPM
39.6 #/HR
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GT INL COMB AIR NE 80.0 DEGF
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GT OIL SCAVENGE 23.0 PSIG
GT OIL SUPPLY 136.0 DEGF
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GT XFER GB (A) 230.0 DEGF
GT SUMP B (A) 247.0 DEGF
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GT SUMP D (A) 245.0 DEGF
GT SUMP E (A) 240.0 DEGF
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LOWER LIM 70 PSIA
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TRF BROADBAND 0.9 IN/SEC
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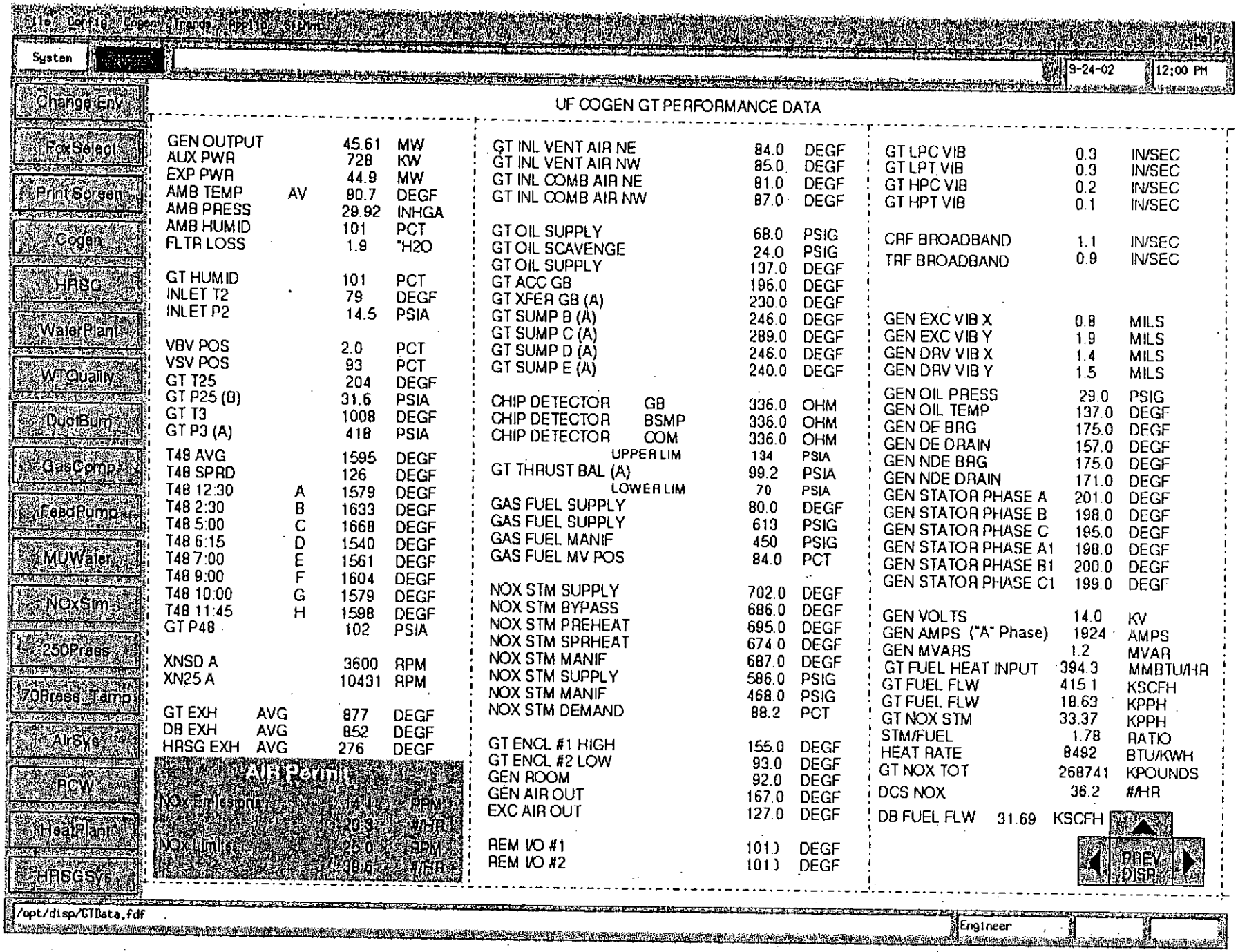
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FeedPump
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70Press Temp
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RCW
HeatPlant
HRSGSys
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GT INL COMB AIR NE 81.0 DEGF
GT INL COMB AIR NW 87.0 DEGF
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GT OIL SCAVENGE 24.0 PSIG
GT OIL SUPPLY 137.0 DEGF
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GT XFER GB (A) 230.0 DEGF
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GT HPC VIB 0.2 IN/SEC
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TRF BROADBAND 0.9 IN/SEC
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GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.4 MILS
GEN DRV VIB Y 1.5 MILS
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GEN STATOR PHASE A1 198.0 DEGF
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GEN VOLTS 14.0 KV
GEN AMPS ("A" Phase) 1924 AMPS
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STM/FUEL 1.78 RATIO
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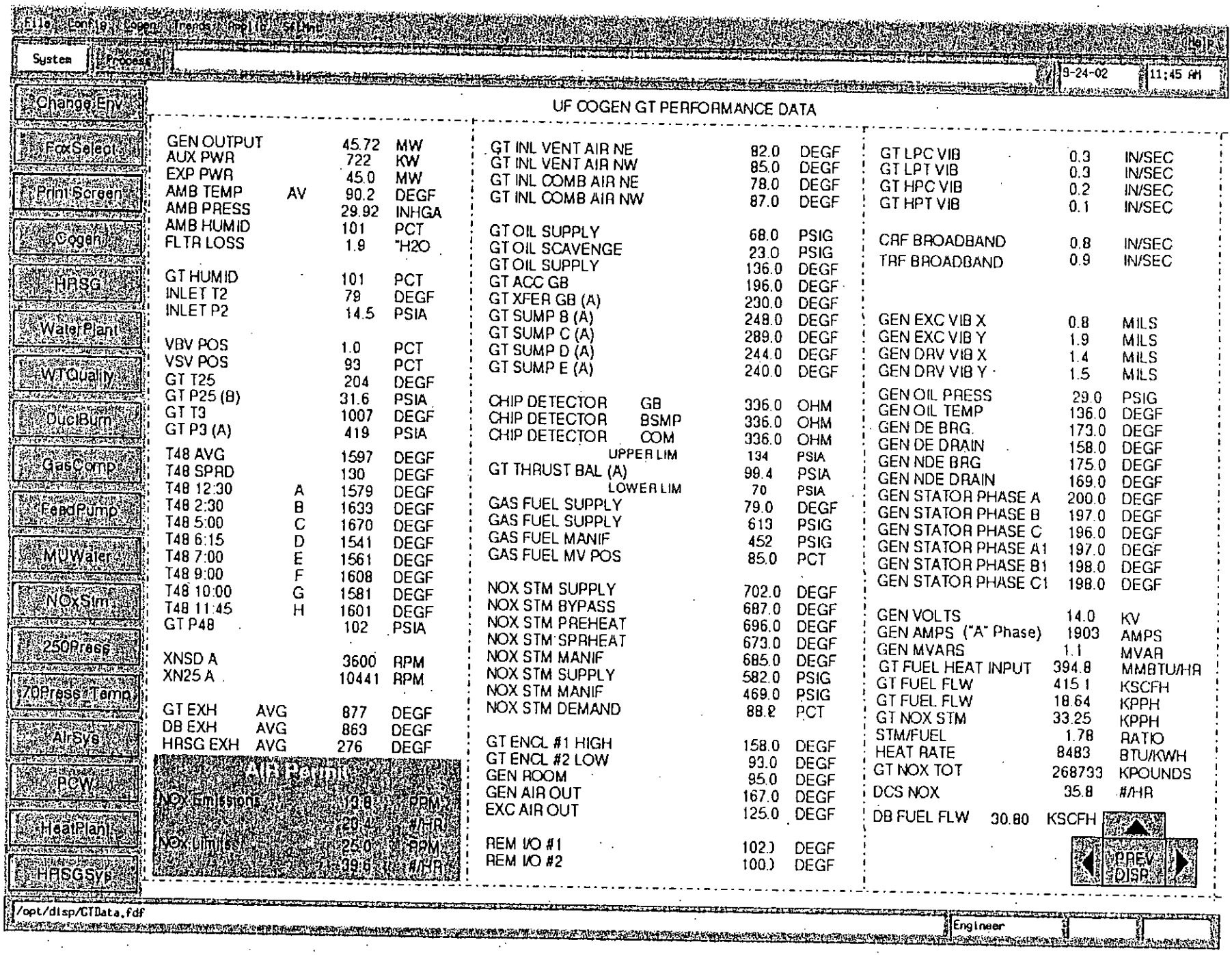
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XN25 A 10441 RPM
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HRSG EXH AVG 276 DEGF
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NOX Limits 25.0 PPMV
39.6 #/HR
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GT INL COMB AIR NW 87.0 DEGF
GT OIL SUPPLY 68.0 PSIG
GT OIL SCAVENGE 23.0 PSIG
GT OIL SUPPLY 136.0 DEGF
GT ACC GB 196.0 DEGF
GT XFER GB (A) 230.0 DEGF
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GT SUMP C (A) 289.0 DEGF
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CHIP DETECTOR BSMP 336.0 OHM
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LOWER LIM 70 PSIA
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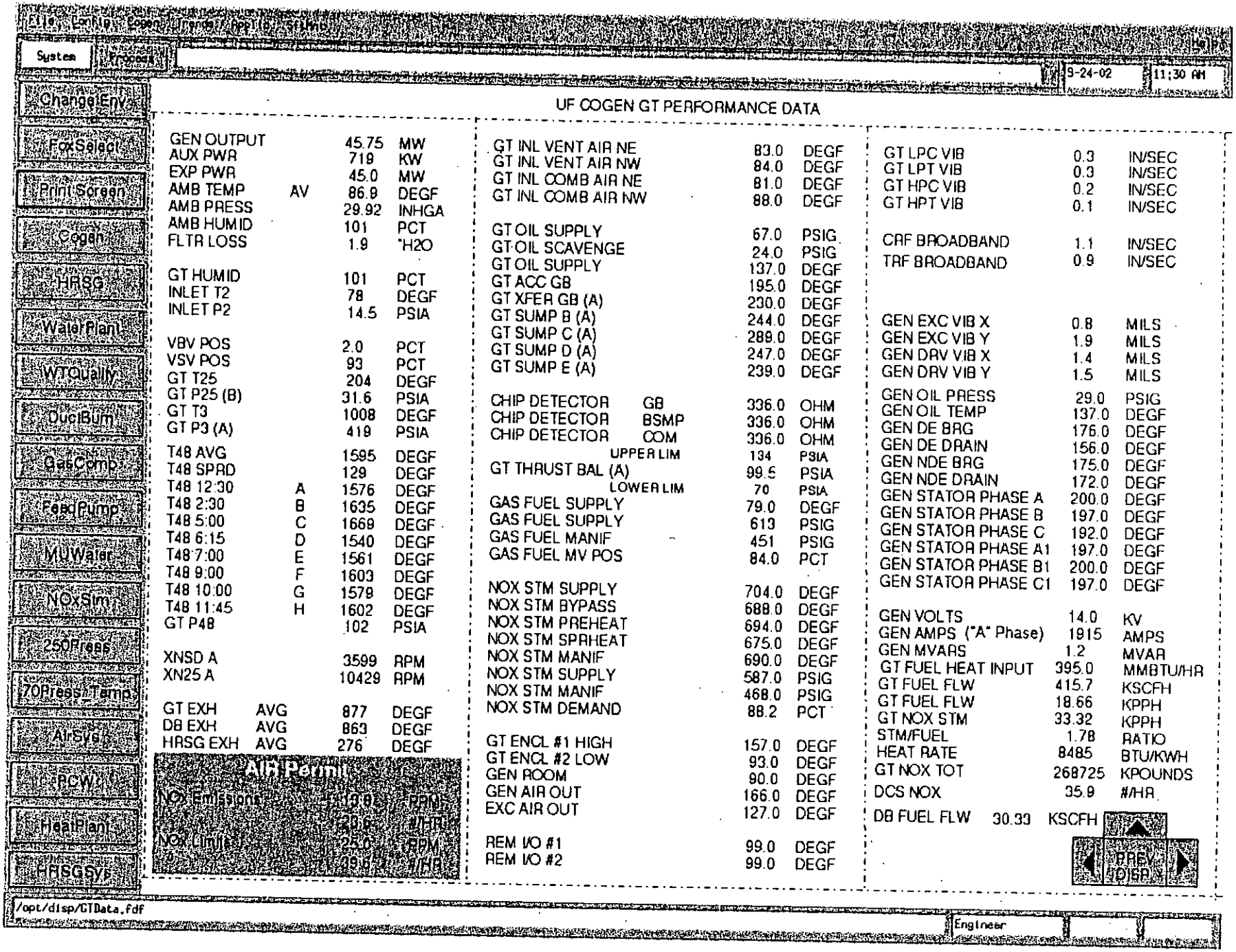
Engineer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MUWater
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GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 1.1 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.4 MILS
GEN DRV VIB Y 1.5 MILS
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GEN OIL TEMP 137.0 DEGF
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Engineer

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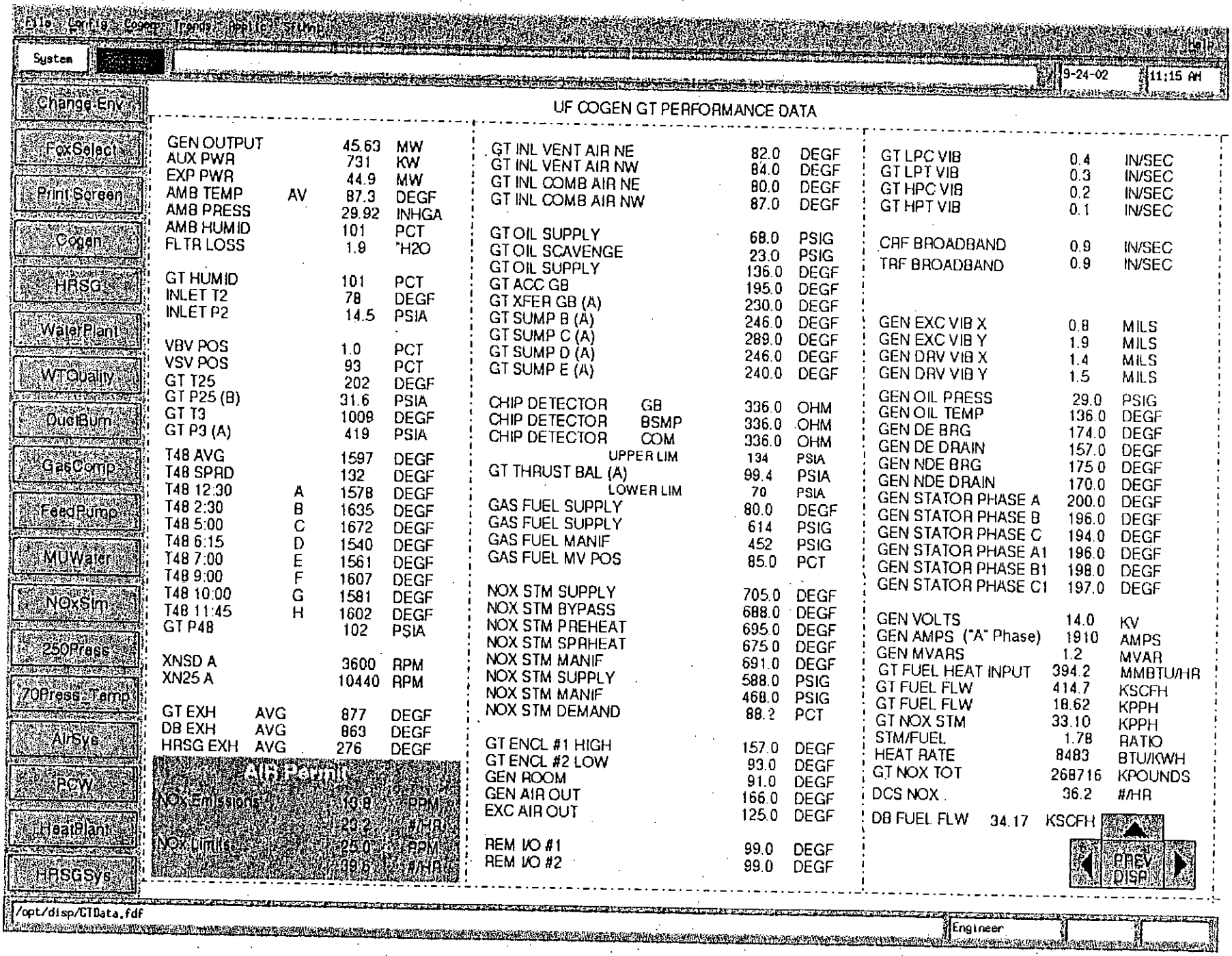
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DuctBurn
GasComp
FeedPump
MUWater
NOxSim
250Press
70Press Temp
AirSys
PCW
HeatPlant
HRSGSys
UF COGEN GT PERFORMANCE DATA
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AUX PWR 731 KW
EXP PWR 44.9 MW
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AMB HUMID 101 PCT
FLTR LOSS 1.9 "H2O
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INLET P2 14.5 PSIA
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DB EXH AVG 863 DEGF
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99.6 #/HR
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CHIP DETECTOR COM 336.0 OHM
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LOWER LIM 70 PSIA
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NOX STM MANIF 691.0 DEGF
NOX STM SUPPLY 588.0 PSIG
NOX STM MANIF 468.0 PSIG
NOX STM DEMAND 88.2 PCT
GT ENCL #1 HIGH 157.0 DEGF
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GEN AIR OUT 166.0 DEGF
EXC AIR OUT 125.0 DEGF
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REM I/O #2 99.0 DEGF
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GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 0.9 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
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GEN DRV VIB X 1.4 MILS
GEN DRV VIB Y 1.5 MILS
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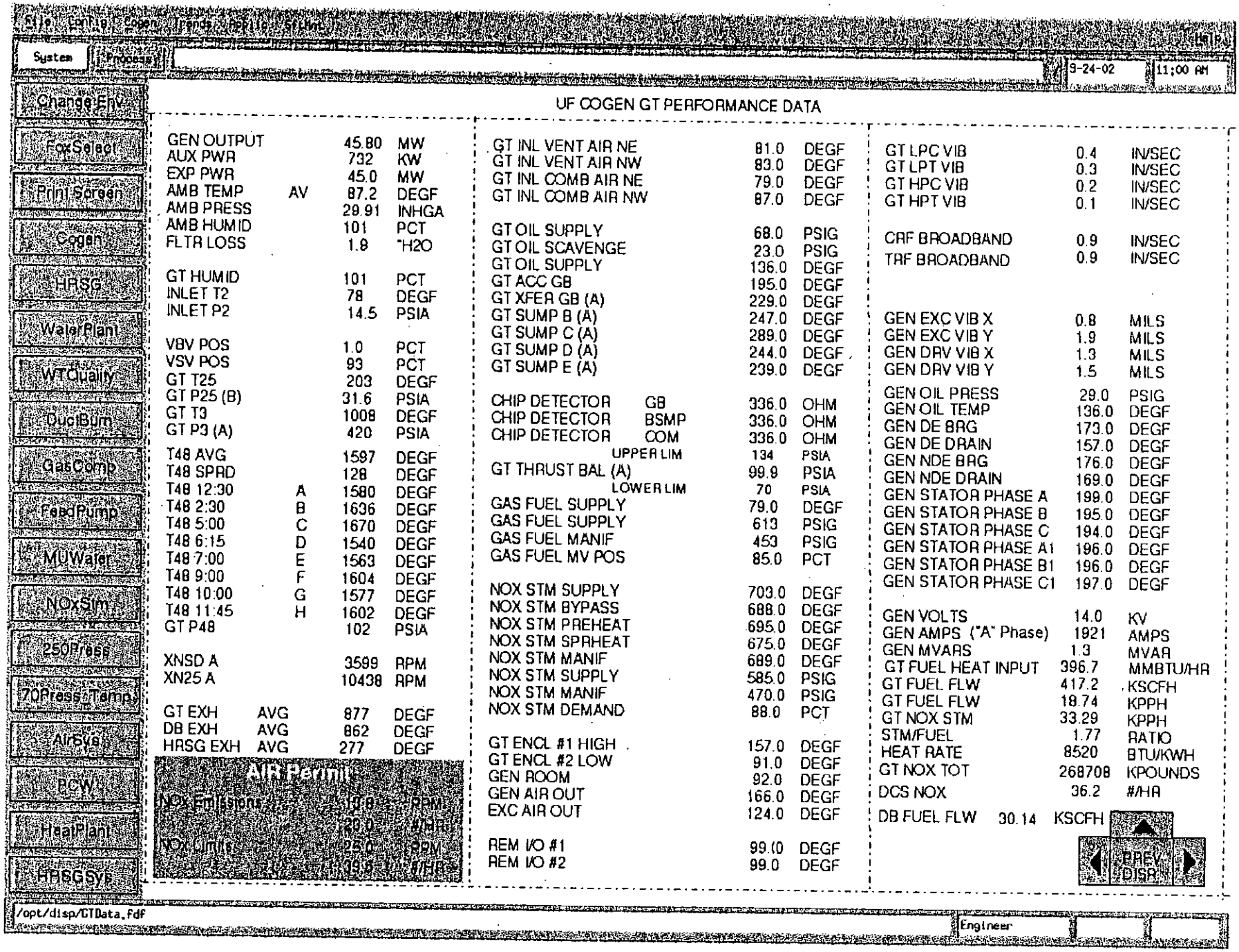
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BCW
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XN25 A 10438 RPM
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DB EXH AVG 862 DEGF
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GT OIL SUPPLY 136.0 DEGF
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TRF BROADBAND 0.9 IN/SEC
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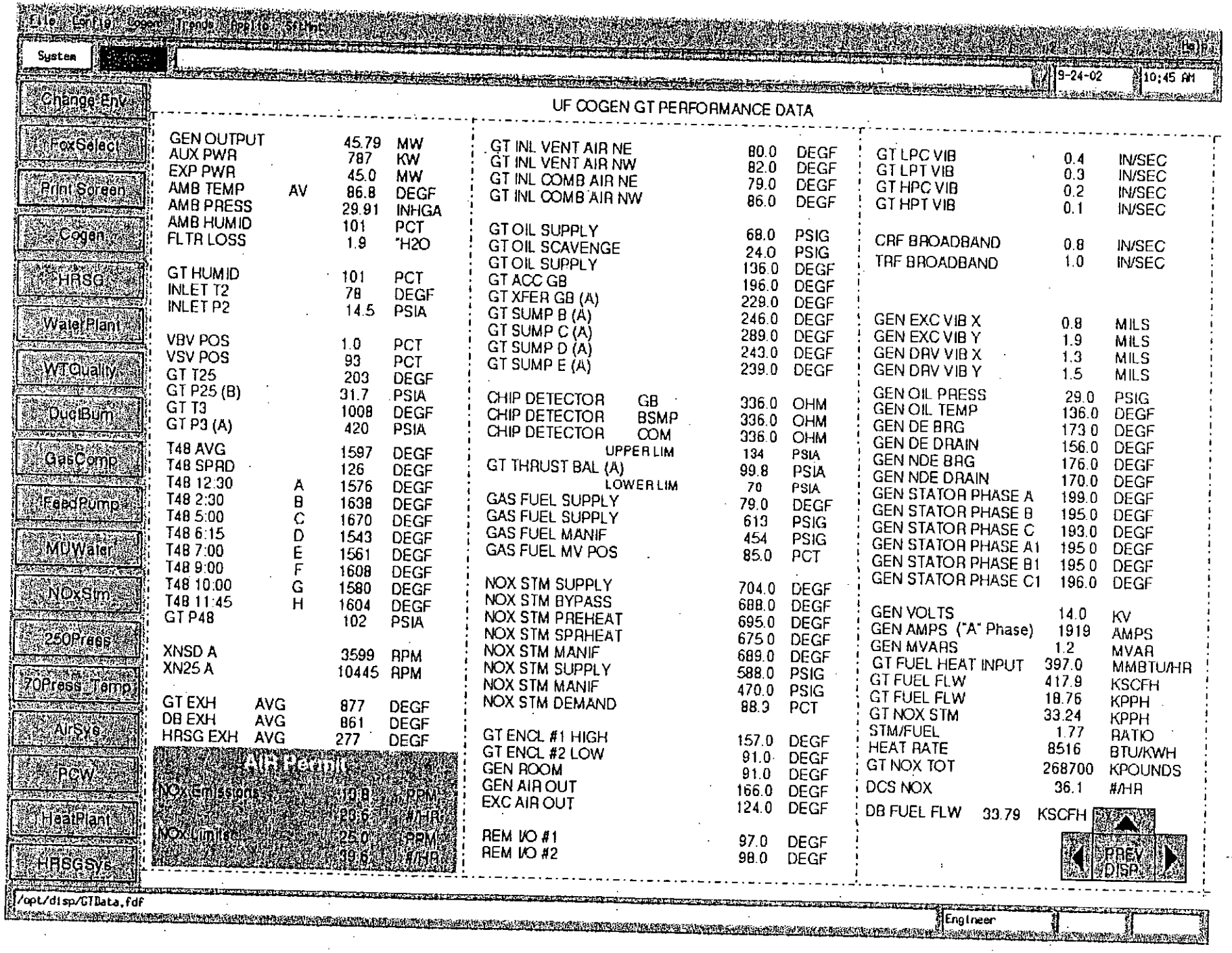
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PCW
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GT OIL SUPPLY 136.0 DEGF
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GT XFER GB (A) 229.0 DEGF
GT SUMP B (A) 246.0 DEGF
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TRF BROADBAND 1.0 IN/SEC
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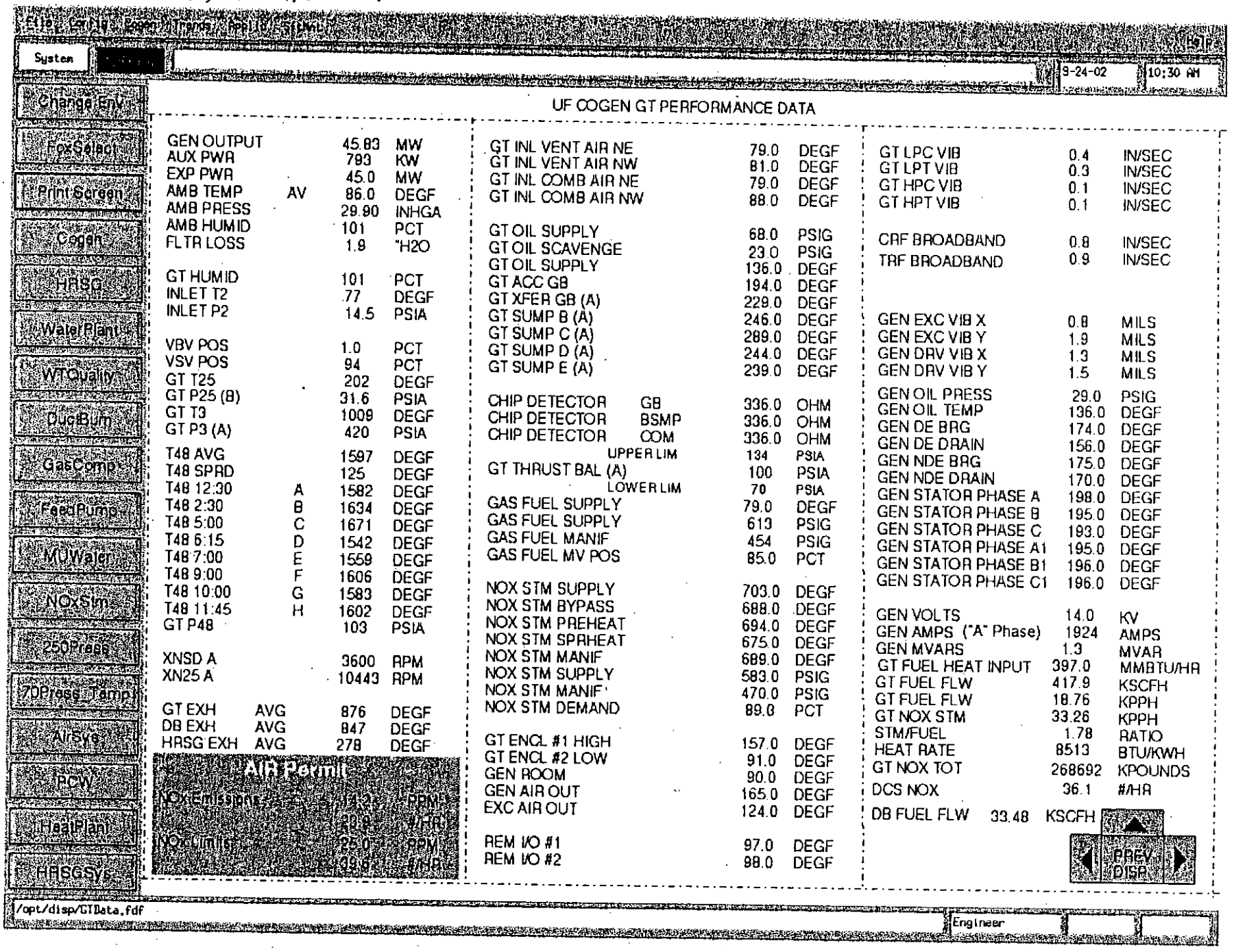
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GT P48 103 PSIA
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30.8 #/HR
NOx Limits 25.0 PPMV
99.6 #/HR
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GT INL COMB AIR NE 79.0 DEGF
GT INL COMB AIR NW 88.0 DEGF
GT OIL SUPPLY 68.0 PSIG
GT OIL SCAVENGE 23.0 PSIG
GT OIL SUPPLY 136.0 DEGF
GT ACC GB 194.0 DEGF
GT XFER GB (A) 229.0 DEGF
GT SUMP B (A) 246.0 DEGF
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GT SUMP D (A) 244.0 DEGF
GT SUMP E (A) 239.0 DEGF
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CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
UPPER LIM 134 PSIA
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LOWER LIM 70 PSIA
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NOX STM MANIF 689.0 DEGF
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NOX STM MANIF 470.0 PSIG
NOX STM DEMAND 89.8 PCT
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GT ENCL #2 LOW 91.0 DEGF
GEN ROOM 90.0 DEGF
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GT HPT VIB 0.1 IN/SEC
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TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
GEN OIL PRESS 29.0 PSIG
GEN OIL TEMP 136.0 DEGF
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GEN STATOR PHASE A 198.0 DEGF
GEN STATOR PHASE B 195.0 DEGF
GEN STATOR PHASE C 193.0 DEGF
GEN STATOR PHASE A1 195.0 DEGF
GEN STATOR PHASE B1 196.0 DEGF
GEN STATOR PHASE C1 196.0 DEGF
GEN VOLTS 14.0 KV
GEN AMPS ("A" Phase) 1924 AMPS
GEN MVARS 1.3 MVAR
GT FUEL HEAT INPUT 397.0 MMBTU/HR
GT FUEL FLW 417.9 KSCFH
GT FUEL FLW 18.76 KPPH
GT NOX STM 33.26 KPPH
STM/FUEL 1.78 RATIO
HEAT RATE 8513 BTU/KWH
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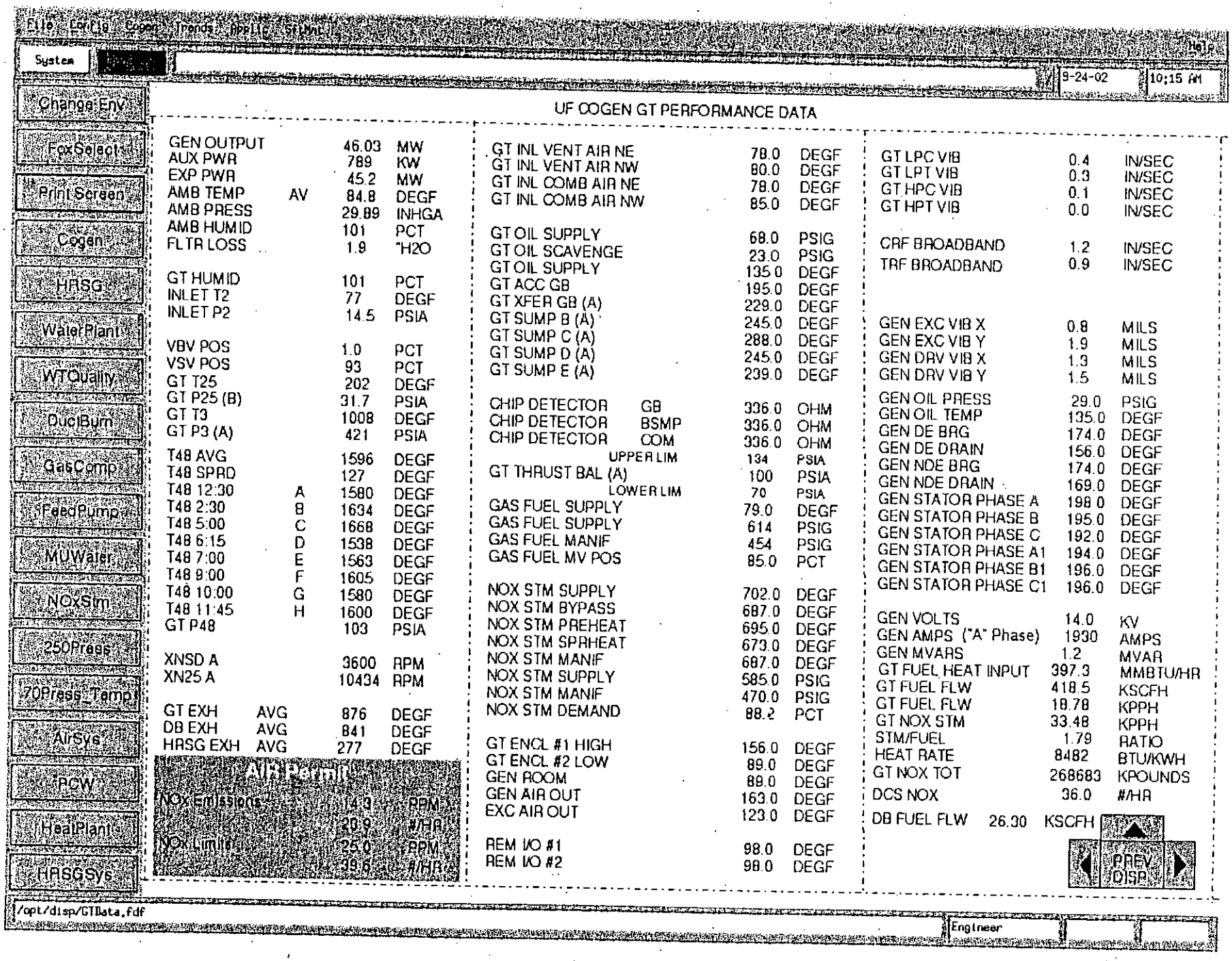
Engineer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Print Screen
Cogen
HRSG
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DuctBurn
GasComp
FeedPump
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AirSys
PCW
HealPlant
HRSGSys
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AMB HUMID 101 PCT
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INLET P2 14.5 PSIA
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VSV POS 93 PCT
GT T25 202 DEGF
GT P25 (B) 31.7 PSIA
GT T3 1008 DEGF
GT P3 (A) 421 PSIA
T48 AVG 1596 DEGF
T48 SPRD 127 DEGF
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T48 11:45 H 1600 DEGF
GT P48 103 PSIA
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XN25 A 10434 RPM
GT EXH AVG 876 DEGF
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Air Permit
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20.9 #/HR
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39.6 #/HR
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GT OIL SCAVENGE 23.0 PSIG
GT OIL SUPPLY 135.0 DEGF
GT ACC GB 195.0 DEGF
GT XFER GB (A) 229.0 DEGF
GT SUMP B (A) 245.0 DEGF
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GT SUMP D (A) 245.0 DEGF
GT SUMP E (A) 239.0 DEGF
CHIP DETECTOR GB 336.0 OHM
CHIP DETECTOR BSMP 336.0 OHM
CHIP DETECTOR COM 336.0 OHM
UPPER LIM 134 PSIA
GT THRUST BAL (A) 100 PSIA
LOWER LIM 70 PSIA
GAS FUEL SUPPLY 79.0 DEGF
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NOX STM DEMAND 88.2 PCT
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EXC AIR OUT 123.0 DEGF
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REM I/O #2 98.0 DEGF
GT LPC VIB 0.4 IN/SEC
GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.1 IN/SEC
GT HPT VIB 0.0 IN/SEC
CRF BROADBAND 1.2 IN/SEC
TRF BROADBAND 0.9 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.5 MILS
GEN OIL PRESS 29.0 PSIG
GEN OIL TEMP 135.0 DEGF
GEN DE BRG 174.0 DEGF
GEN DE DRAIN 156.0 DEGF
GEN NDE BRG 174.0 DEGF
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GEN STATOR PHASE A 198.0 DEGF
GEN STATOR PHASE B 195.0 DEGF
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GEN STATOR PHASE A1 194.0 DEGF
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GEN STATOR PHASE C1 196.0 DEGF
GEN VOLTS 14.0 KV
GEN AMPS ("A" Phase) 1930 AMPS
GEN MVARS 1.2 MVAR
GT FUEL HEAT INPUT 397.3 MMBTU/HR
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GT NOX STM 33.48 KPPH
STM/FUEL 1.79 RATIO
HEAT RATE 8482 BTU/KWH
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DB FUEL FLW 26.30 KSCFH
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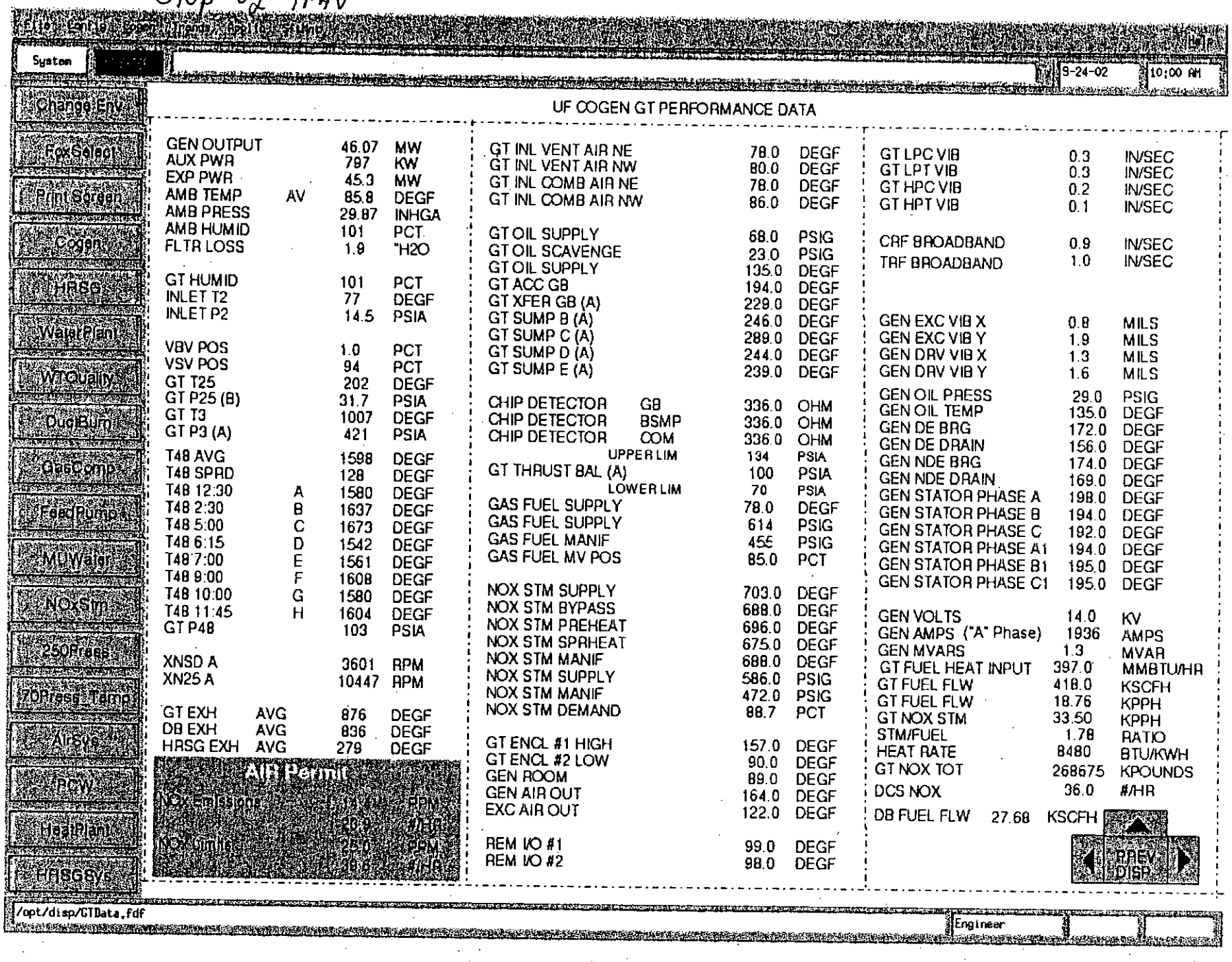
Engineer

— Stop O2 Trav —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FoxSelect
Print Screen
Cogen
HRSGs
WaterPlant
WTQuality
DuctBurn
GasComp
FeedPump
MUWater
NOxStm
250Press
70Press Temp
AirSys
RCW
HeatPlant
HRSGSys
UF COGEN GT PERFORMANCE DATA
GEN OUTPUT 46.07 MW
AUX PWR 797 KW
EXP PWR 45.3 MW
AMB TEMP AV 85.8 DEGF
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AMB HUMID 101 PCT
FLTR LOSS 1.9 "H2O
GT HUMID 101 PCT
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INLET P2 14.5 PSIA
VBV POS 1.0 PCT
VSV POS 94 PCT
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GT P25 (B) 31.7 PSIA
GT T3 1007 DEGF
GT P3 (A) 421 PSIA
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GT OIL SCAVENGE 23.0 PSIG
GT OIL SUPPLY 135.0 DEGF
GT ACC GB 194.0 DEGF
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GT SUMP B (A) 246.0 DEGF
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CHIP DETECTOR BSMP 336.0 OHM
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GT THRUST BAL (A) 100 PSIA
LOWER LIM 70 PSIA
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NOX STM SUPPLY 586.0 PSIG
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GT ENCL #2 LOW 90.0 DEGF
GEN ROOM 89.0 DEGF
GEN AIR OUT 164.0 DEGF
EXC AIR OUT 122.0 DEGF
REM I/O #1 99.0 DEGF
REM I/O #2 98.0 DEGF
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GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 0.9 IN/SEC
TRF BROADBAND 1.0 IN/SEC
GEN EXC VIB X 0.8 MILS
GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.3 MILS
GEN DRV VIB Y 1.6 MILS
GEN OIL PRESS 29.0 PSIG
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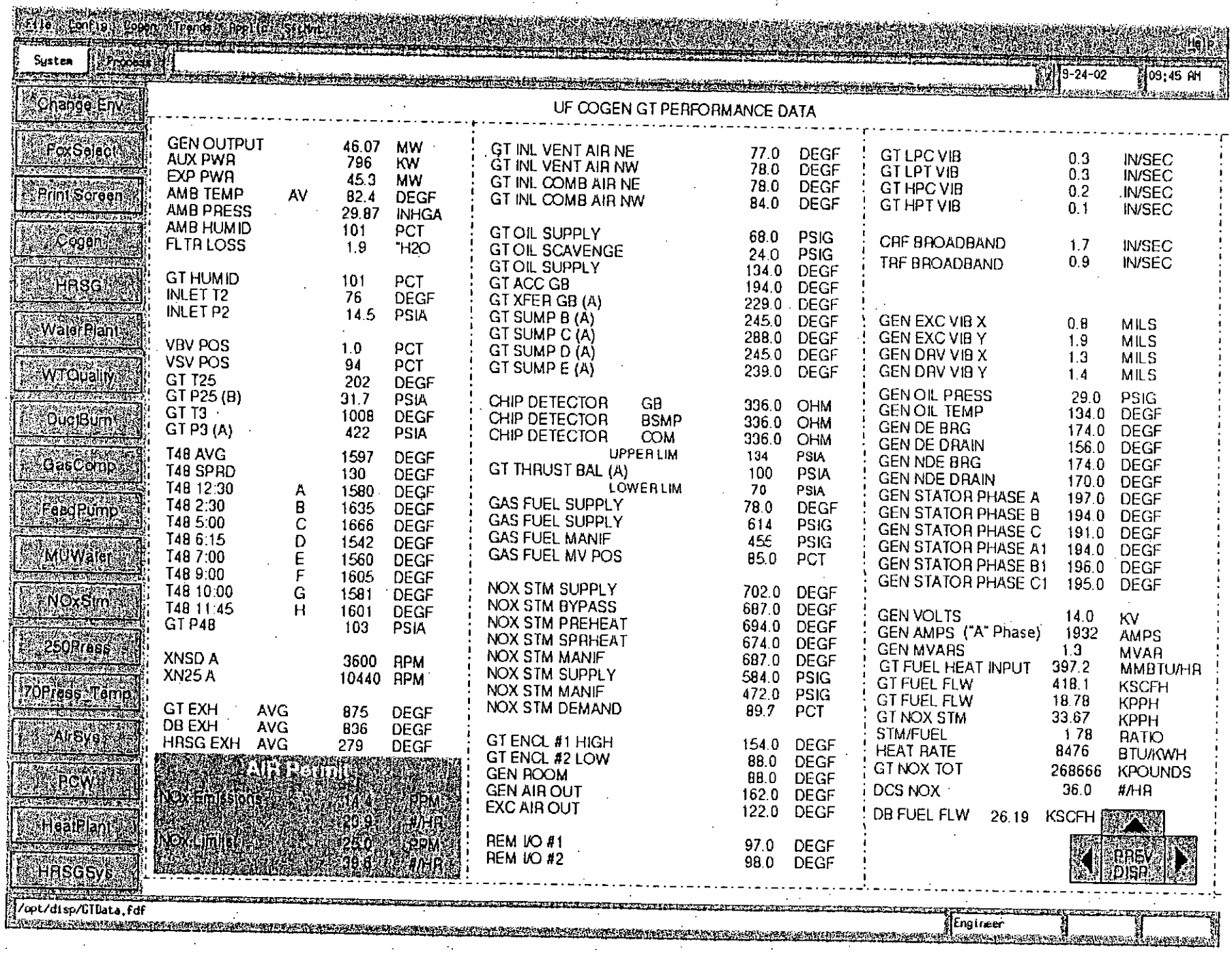
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70Press Temp
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PCW
HeatPlant
HRSGSys
9-24-02
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GEN OUTPUT 46.07 MW
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FLTR LOSS 1.9 "H2O
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VSV POS 94 PCT
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XN25 A 10440 RPM
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GT OIL SCAVENGE 24.0 PSIG
GT OIL SUPPLY 134.0 DEGF
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EXC AIR OUT 122.0 DEGF
REM I/O #1 97.0 DEGF
REM I/O #2 98.0 DEGF
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GT LPT VIB 0.3 IN/SEC
GT HPC VIB 0.2 IN/SEC
GT HPT VIB 0.1 IN/SEC
CRF BROADBAND 1.7 IN/SEC
TRF BROADBAND 0.9 IN/SEC
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GEN EXC VIB Y 1.9 MILS
GEN DRV VIB X 1.3 MILS
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Engineer

— START O2 TRAV. —