



TAMPA ELECTRIC

June 18, 2004

RECEIVED

JUN 21 2004

BUREAU OF AIR REGULATION

Mr. Jeffery F. Koerner, P.E.
New Source Review Section
Florida Department of Environmental Protection
111 South Magnolia Avenue, Suite 4
Tallahassee, Florida 32301

Via FedEx
Airbill No. 7926 6616 9874

**Re: Request for Additional Information
H.L. Culbreath Bayside Power Station
Project No. 0570040-021-AC, Permit No. PSD-FL-301A
Minor modifications to PSD Permit, Specific Condition 17**

Dear Mr. Koerner:

Tampa Electric Company (TEC) has received your letter dated March 19, 2004 (received by TEC on March 29, 2004), requesting additional information with regards to H.L. Culbreath Bayside Power Station (Bayside) modifications to the existing PSD permit. This correspondence is intended to provide a response to each specific issue raised by the Department. The Responsible Official Certification and the Professional Engineer Certification are provided in Attachment A. For your convenience, TEC has restated each point and provided a response below each specific issue.

FDEP Item 1

Low Load Conditions: The application requests the ability to operate at loads lower than 50% load as long as the emissions standards are met. This may be acceptable as long as the unit is operating in full "lean pre-mix mode" with the low CO and NOx characteristics. Is this the case?

TEC Response

Yes, this is the case.

FDEP Item 2: CEMS Data Exclusion

Malfunctions: The application requests removal of the requirement to notify the Compliance Authority within one working day of a malfunction that results in elevated emissions. Note that only malfunctions resulting in the exclusion of emissions data must be documented. Notification may be by telephone, facsimile transmittal, or electronic mail. The purpose of this notification is to ensure that malfunctions are quickly recognized and corrected. It is important that the Compliance Authority be aware of frequently recurring malfunctions so that they do not become "normal operation" for a facility. A part of

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the authority for this requirement is based on Rule 62-4.130, F.A.C., which requires "immediate" notification. Please comment.

Steam Turbine Cold Startup: The application requests retaining the 16 hours of data exclusion for a cold startup and 8 hours of data exclusion for a warm startup. The PSD permit requires, "... the permittee shall submit a revised plan to the Department based on actual operating data and experience. The Department shall review the actual operational data and determine whether data exclusion allowed for a steam turbine cold startup defined in Condition 23 of this section shall be modified to represent good operational practices. The Department shall also evaluate the operational information and determine whether a separate "warm startup" requirement shall be specified in the Title V operation permit for startup after the steam turbine has been offline for 24 hours or more, but less than 48 hours." To support your request, please provide the following "operational data": the number of cold and warm steam turbine startups to date; the hours operated at each of the six phases of startup defined in Attachment D; the CO emissions, NOx emissions, gas turbine load (MW), and first stage metal temperature during each 1-hour block of startup. Have the requirements of the current condition prevented a "warm startup" and caused additional cold startups? Similar to a cold startup, is only one gas turbine operated at low load during a warm startup?

Tuning: The application requests removing the 5-day advance notice prior to a tuning session and allowing all data collected during a tuning session to be excluded from the compliance demonstration. Please provide an example of emissions (CO and NOx) and load data during a major tuning session to support this request. Is the SCR functioning during a tuning session? Is the request limited to the exclusion of CO data? Approximately how many major tuning sessions are necessary each year?

Drying After an Off-Line Compressor Water Wash: The application requests up to two hours to perform a water wash of the compressor for maintenance purposes. Are such compressor water washes regularly scheduled by General Electric performed on an "as needed" basis, or both? During the drying period, is the gas turbine operated at loads less than 10 MW?

TEC Response

Malfunctions: Malfunctions are currently reported in both the BPS Excess emissions report and the BPS Subpart GG report. Based on recent discussions with the Department, TEC does not believe that the full intent of the permit condition is clear in the permit and would like to explore modifications to the language to reflect more clearly the Departments' concerns. TEC would appreciate further discussions on this item with FDEP's Jeff Koerner to clarify this issue.

Steam Turbine Cold Startup: BPS has experienced a total of 16 steam turbine (ST) cold startups and several instances where a ST warm startup procedure would have been utilized if the permit allowed. For the hours operated at each of the six phases of startup, please see Attachment D (Revised). For CO emissions, NOx emissions, gas turbine load, and first stage metal temperature during each 1-hour block of startup, please see Attachment H – Operational Data: Cold Startup.

The requirements of the current permit have not resulted in additional ST cold startups at this point. TEC requests a ST warm startup procedure in the existing permit to give the facility the flexibility it may need to more efficiently operate the plant while minimizing emissions. Some examples of potential ST warm startups follow:

- On February 28th, 2004, the ST needed to be brought back up after the ST tripped. While attempting to bring the ST back on-line, it experienced a malfunction and the subsequent startup resulted in a total of six hours of excess emissions before the ST was on-line. The first hour of excess emissions began in the last hour on February 28, 2004. Five hours of excess emissions were observed during the ST startup on February 29, 2004, and per the permit, four hours were excluded. Averaging in the fifth hour as part of the 24-hour block average resulted in an exceedance of both NO_x and CO. This particular event would qualify under a warm startup procedure since the ST was not off-line for 24 hours or more, or the first stage turbine metal temperature was not 250°F or less.
- On June 5, 2004, a lightning strike hit an insulator near the substation at Bayside (BPS), which caused a problem with the ST voltage regulator on BPS 2 ST. When the lightning hit, it caused the voltage regulator to go into manual mode, and putting it back into automatic mode caused the ST to trip on June 6, 2004. After troubleshooting, an attempt to bring the ST online was made using BPS Unit 2C at 20:00 on June 6, 2004. The load on Unit 2C was reduced to 10MW, and experienced excess emissions until 00:00 on June 7, 2004. It was later found that there was a problem with the timer in the voltage regulator. As a result, BPS Unit 2C experienced a total of five hours of excess emissions during startup of Unit 2 ST. Although at the end of the 24-hour block period, the unit was in compliance with both the NO_x and CO emission limits, neither criterion for a ST cold startup was met before the ST came on-line. This would qualify as a ST warm startup, under the ST warm startup procedure.

TEC has provided two examples above that demonstrate the need for a warm startup procedure and supporting data in Attachment H: Operational Data – Warm Startup, to back its request. TEC believes that a ST warm startup procedure results in the best operational practices for the plant, and as a result minimizes emissions. During startup of the ST, the permit only allows data exclusion hours if we are experiencing a cold startup. Once the ST is on-line and trips, for example, the permit does not make any provisions for data exclusion hours during such an event. The request to wait 24 hours or until the first stage turbine metal temperature is less than 250°F does not allow for any flexibility, and attempting to bring the ST back on-line may result in excess emissions that cannot be excluded. Requesting that the ST remain off-line for 24 hours before it can be brought back on-line (the cold startup provision) is not an option for TEC and would lead to additional excess emissions over a warm startup. Attempting to bring the ST back on-line, and starting up a new CT, would result in more total hours of excess emissions, although those hours can be excluded. TEC believes that with a ST warm startup, the total number of hours of excess emissions will be less if we are allowed to continue startup with an already hot/warm CT.

Yes, only one gas turbine is operated at low loads during a warm startup. This is reflected in the revised Warm Startup Procedure. Please see Attachment E (Revised)

Tuning: Please see Attachment H: Operational data – Tuning, for examples of Emissions (CO and NO_x) and load data as recorded during a tuning session. The SCR is not functioning during a tuning session and thus, both CO and NO_x are exceeded during such an event. Tuning sessions can be determined by both GE and TEC and can be based on the result of either a major component change-out or through a review of operational data. Thus, it is difficult to say with any certainty how many tuning sessions are necessary each year.

Drying After an Off-Line Compressor Water Wash: Compressor water washes are scheduled when there is a reduction in efficiency at the combustion turbine. They are scheduled as needed and are required to have a drying period, during which they shall be operated at 10 MW or less.

FDEP Item 3: Startup Plans

The application requests removal of the requirement to provide a 24-hour notice prior to a cold steam turbine startup. To support this request, please submit the "operational data" for startups as requested above. For Attachments D and E (Plans for Steam Turbine Cold and Warm Startups) of the application, please clarify the loads at each of the six identified operating steps.

TEC Response

Please see Attachment D (Revised) and Attachment E (Revised) for clarification of the loads at each of the six identified operating steps.

Upon further discussions with the plant after the initial submittal of the clean-up application to FDEP, TEC decided to add one additional requirement under Condition 17 - CEMS Data Exclusion. In conversations with FDEP, the request for data exclusion during an Over Speed Trip test and TEC's suggested permit language for inclusion into the BPS permit is addressed below.

TEC Additional Permit Revision Request: Over Speed Trip Test data exclusion

1.0 STARTUP, SHUTDOWN, AND LOW LOAD OPERATION

1.1.8 OVER SPEED TRIP TEST DATA EXCLUSION EXPLANATION

An Over Speed trip test is a requirement by both GE and TEC's insurance carrier, FM Global. It is an annual test that is performed to prevent the turbine from over speed, i.e. @ 3960rpm, and is typically performed when a unit is coming out of an outage or has experienced a major overhaul. The turbine reaches speed at 3600rpm. The speed is slowly increased to 3960 rpm (110%) and a trip is initiated. During this operation, the CO and NOx emission levels are elevated to greater than the permitted emission limits. (See Attachment J)

2.0 SUGGESTED PERMIT LANGUAGE

TEC proposes the following language to effect the requested change.

Add:

A.17(c)(6) Over Speed Trip Test: For each gas turbine, periods of data excluded due to an overspeed trip test shall not exceed six 1-hour emission averages in a 24-hour block. During this activity, the gas turbine shall operate at FSNL. {Permitting Note: This is a period maintenance activity required by the manufacturer and TEC's insurance carrier. It is expected to occur approximately once per year, per CT, at a minimum.}

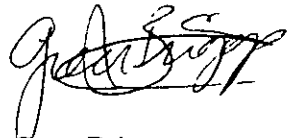
Mr. Jeffery F. Koerner, P.E.

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TEC appreciates your consideration in this matter and if you have any questions, please call me at (813) 228-4302.

Sincerely,

A handwritten signature in black ink, appearing to read "Greer Briggs", written over a horizontal line.

Greer Briggs
Environmental Engineer
Environmental, Health & Safety

EHS\gm\GMB189

Attachments

c/att: Mr. Jerry Kissel, FDEP-SWD
Mr. Jerry Campbell, EPCHC
Mr. Jim Little, EPA Region 4
Mr. John Bunyak, NPS

Attachment A
Responsible Official Certification
Professional Engineer Certification

Responsible Official Certification

I hereby certify that the Minor Modifications to the Prevention of Significant Deterioration (PSD) Application, Condition 17, being submitted for Bayside Power Station is authentic and accurate to the best of my knowledge.

Date: 6/15/04

Signature: 

Wade A. Maye

General Manager

H.L. Culbreath Bayside Power Station

**TAMPA ELECTRIC COMPANY
H.L. CULBREATH BAYSIDE POWER STATION
MODIFICATIONS TO PERMIT PSD-FL-301A**

Professional Engineer Certification

Professional Engineer Statement:

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

(1) To the best of my knowledge, the information presented in the Tampa Electric Company (TEC) response to the Department's Request for Additional Information (RAI) dated March 19, 2004 concerning minor modifications to Permit No. PSD-FL-301A are true, accurate, and complete based on my review of material provided by TEC engineering and environmental staff; and

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

Signature

Date

(seal)

* Certification is applicable to the Tampa Electric Company (TEC) response to the Department's Request for Additional Information (RAI) dated March 19, 2004 concerning minor modifications to Permit No. PSD-FL-301A.

ATTACHMENT D (REVISED)

**STEAM TURBINE
COLD START-UP PLAN**

ST COLD START-UP

Below is the ST cold startup procedure for Bayside:

1. Fire the CT to minimum load of 10 MW to begin the steam turbine steam line warm-up. The cold startup process requires that 10 MW be maintained to keep the exhaust gas temperatures to a minimum during the warm-up period.

10 MW Approximately 1 hour*

2. Warm the main steam, and hot reheat lines to the steam turbine.

10 MW Approximately 8 to 10 hours*

3. The steam turbine is heated slowly, such that the rotating and stationary elements can heat and grow at the same rate. The steam turbine rotor must then be allowed to heat up such that the temperature differential between the inner bore and surface meet stress requirements. The CT remains at low MWs to ensure the steam temperatures are kept low, so that the steam turbine is not heated too quickly.

10 MW Approximately 2 to 4 hours*

4. The steam turbine must complete a low load soak. This allows the steam turbine to grow while the steam turbine is rolling.

10 MW Approximately 1 hour*

5. The cold reheat line is then heated up. These lines cannot be heated up until the steam turbine is rolling because they return to the HRSG.

6. CT load can be increased to bring the steam turbine load up and maintain emissions.

35 MW to Max Total: 12 to 16 hours*

- * Cold steam turbine startup times vary depending on the steam turbine metal temperatures.

ATTACHMENT E (REVISED)

**STEAM TURBINE
WARM START-UP PLAN**

ST WARM START-UP

Below is the ST warm startup procedure for Bayside:

1. Fire the CT to minimum load of 10 MW to begin the steam turbine steam line warm-up. The cold startup process requires that 10 MW be maintained to keep the exhaust gas temperatures to a minimum during the warm-up period.

10 MW Approximately 1 hour*

2. Warm the main steam, and hot reheat lines to the steam turbine.

10 MW Approximately 2 to 4 hours*

3. The steam turbine is heated slowly, such that the rotating and stationary elements can heat and grow at the same rate. The steam turbine rotor must then be allowed to heat up such that the temperature differential between the inner bore and surface meet stress requirements. The CT remains at low MWs to ensure the steam temperatures are kept low, so that the steam turbine is not heated too quickly.

10 MW Approximately 1 to 2 hours*

4. The steam turbine must complete a low load soak. This allows the steam turbine to grow while the steam turbine is rolling.

10 MW Approximately 1 hour*

5. The cold reheat line is then heated up. These lines cannot be heated up until the steam turbine is rolling because they return to the HRSG.

6. CT load can be increased to bring the steam turbine load up and maintain emissions.

35 MW to Max Total: 5 to 8 hours*

- * Warm steam turbine startup times vary depending on the steam turbine metal temperatures.

ATTACHMENT H

OPERATIONAL DATA



COLD START-UP

CO, NO_x EMISSIONS & GAS TURBINE LOAD (MW)

FIRST STAGE METAL TEMPERATURE

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Tampa Electric Company
 Bayside CT2C
 Hillsborough County, Florida

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Today's Date: 03/18/2004
 Time: 13:08:07

Reporting Period
 Day: 12/21/2003

Time	CO2 %	NOx ppm	Daily Emissions Log				Gen MW	HTIP lb/mmBtu
			NOx lb/mmBtu	NOx @15% O2	CO ppm	CO @15% O2		
0100	4.0	3.6	0.011	3.0	1.2	1.0	121.2	1379.6
0200	4.0	3.6	0.011	3.0	1.2	1.0	143.0	1536.7
0300	4.0	3.6	0.011	3.0	1.2	1.0	161.0	1674.1
0400	4.0	3.6	0.011	3.0	1.2	1.0	157.0	1643.1
0500	4.0	3.5	0.011	2.9	1.2	1.0	148.8	1581.1
0600	4.0	3.6	0.011	3.0	1.3	1.1	146.1	1563.6
0700	4.0	3.5	0.011	2.9	1.2	1.0	132.8	1463.0
0800	4.0	3.6	0.011	3.0	1.2	1.0	118.5	1363.7
0900	4.0	3.5	0.011	2.9	1.2	1.0	128.9	1434.6
1000	4.0	3.5	0.011	2.9	1.2	1.0	161.9	1684.2
1100	4.0	3.6	0.011	3.0	1.1	0.9	165.1	1711.7
1200	3.0	16.3	0.067	18.3	230.7	259.2	68.5	863.9
1300	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1400	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1500	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1600	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1700	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1800	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1900	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
2000	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
2100	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
2200	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
2300	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
2400	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
AVG	2.0	2.3	0.008	2.1	10.2	11.3	68.9	745.8

Legend
 C - Out of Control
 D - Out of Service
 I - Insufficient Data
 M - Maintenance Fault
 A - Calibration Error
 X - Calibration Expired

1st Stage Turbine Metal Temperature

Time Tag	2TMIT1914	Start Time	Stop Time	Interval
21-Dec-03 00:00:00	877.04425	12/21/2003 0:00	12/21/2003 23:00	1 hr
21-Dec-03 01:00:00	878.81073			
21-Dec-03 02:00:00	878.65863			
21-Dec-03 03:00:00	868.7417			
21-Dec-03 04:00:00	876.21997			
21-Dec-03 05:00:00	876.21265			
21-Dec-03 06:00:00	876.87433			
21-Dec-03 07:00:00	879.38959			
21-Dec-03 08:00:00	879.25549			
21-Dec-03 09:00:00	878.33575			
21-Dec-03 10:00:00	868.46613			
21-Dec-03 11:00:00	865.77484			
21-Dec-03 12:00:00	870.62213			
21-Dec-03 13:00:00	860.64825			
21-Dec-03 14:00:00	854.90808			
21-Dec-03 15:00:00	848.87048			
21-Dec-03 16:00:00	842.13837			
21-Dec-03 17:00:00	835.17279			
21-Dec-03 18:00:00	828.12909			
21-Dec-03 19:00:00	821.07727			
21-Dec-03 20:00:00	813.89203			
21-Dec-03 21:00:00	806.5368			
21-Dec-03 22:00:00	799.06482			
21-Dec-03 23:00:00	792.04169			

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Tampa Electric Company
 Bayside CTIC
 Hillsborough County, Florida

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Today's Date: 08/15/2003
 Time: 14:09:49

Reporting Period
 Day: 07/23/2003

Time	CO2 %	NOx ppm	Daily Emissions Log				Gen MW	HTIP lb/mmBtu
			NOx lb/mmBtu	NOx @15% O2	CO ppm	CO @15% O2		
0100	4.1	3.7	0.011	3.0	1.1	0.9	137.6	1543.2
0200	4.1	3.8	0.012	3.1	1.1	0.9	124.2	1437.8
0300	4.1	3.6	0.011	3.0	1.1	0.9	101.0	1269.2
0400	4.1	3.7	0.011	3.0	1.1	0.9	98.2	1249.4
0500	4.1	3.7	0.011	3.0	1.1	0.9	97.2	1243.6
0600	4.1	3.6	0.011	3.0	1.1	0.9	94.9	1227.2
0700	4.1	3.6	0.011	3.0	1.1	0.9	98.7	1253.2
0800	4.1	3.7	0.011	3.0	1.1	0.9	118.2	1395.0
0900	4.1	3.7	0.011	3.0	1.1	0.9	103.5	1284.5
1000	4.1	3.7	0.011	3.0	1.1	0.9	105.9	1304.5
1100	4.1	3.7	0.011	3.0	1.1	0.9	147.3	1630.7
1200	4.1	3.7	0.011	3.0	1.0	0.8	106.0	1305.8
1300	4.1	3.6	0.011	3.0	1.0	0.8	125.7	1450.0
1400	3.8	14.7	0.048	13.0	122.3	108.5	93.1	1200.5
1500	2.1	20.1	0.119	32.3	192.0	308.2	8.7	492.3
1600	2.6	27.3	0.130	35.4	269.6	349.5	20.9	612.6
1700	4.0	11.7	0.036	9.9	14.2	12.0	116.4	1381.6
1800	4.1	3.7	0.011	3.0	1.1	0.9	130.3	1482.6
1900	4.1	3.7	0.011	3.0	1.0	0.8	124.8	1442.5
2000	4.1	3.6	0.011	3.0	1.0	0.8	112.3	1348.4
2100	4.1	3.8	0.012	3.1	1.1	0.9	139.1	1555.8
2200	4.1	3.7	0.011	3.0	1.1	0.9	114.3	1361.4
2300	4.1	3.6	0.011	3.0	1.1	0.9	109.4	1329.3
2400	4.1	3.7	0.011	3.0	1.0	0.8	100.9	1267.8
AVG	3.9	6.1	0.023	6.3	25.8	33.2	105.4	1294.5

Operating Hours: 24

Legend

- C - Out of Control
- D - Out of Service
- I - Insufficient Data
- M - Maintenance Fault
- A - Calibration Error
- X - Calibration Expired

1st Stage Turbine Metal Temperature

Time Tag	1-TMITI913	Start Time	Stop Time	Interval
23-Jul-03 00:00:00	808.56604	7/23/2003 0:00	7/23/2003 23:00	1 hr
23-Jul-03 01:00:00	813.14178			
23-Jul-03 02:00:00	811.56506			
23-Jul-03 03:00:00	810.112			
23-Jul-03 04:00:00	807.97107			
23-Jul-03 05:00:00	807.55798			
23-Jul-03 06:00:00	807.09735			
23-Jul-03 07:00:00	806.87469			
23-Jul-03 08:00:00	806.93512			
23-Jul-03 09:00:00	805.85852			
23-Jul-03 10:00:00	802.90369			
23-Jul-03 11:00:00	808.93011			
23-Jul-03 12:00:00	814.32025			
23-Jul-03 13:00:00	810.18719			
23-Jul-03 14:00:00	810.3053			
23-Jul-03 15:00:00	827.19604			
23-Jul-03 16:00:00	823.6026			
23-Jul-03 17:00:00	748.15338			
23-Jul-03 18:00:00	798.01141			
23-Jul-03 19:00:00	815.52441			
23-Jul-03 20:00:00	816.77875			
23-Jul-03 21:00:00	814.08789			
23-Jul-03 22:00:00	818.15149			
23-Jul-03 23:00:00	814.6557			

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Tampa Electric Company
 Bayside CT1A
 Hillsborough County, Florida

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Today's Date: 07/16/2003
 Time: 09:30:46

Reporting Period
 Day: 06/02/2003

Time	CO2 %	NOx ppm	Daily Emissions Log				Gen MW	HTIP lb/mmBtu
			NOx lb/mmBtu	NOx @15% O2	CO ppm	CO @15% O2		
0100	4.2	3.7	0.011	3.0	0.4	0.3	140.2	1523.3
0200	4.2	3.7	0.011	3.0	0.4	0.3	139.5	1516.3
0300	4.2	3.7	0.011	3.0	0.4	0.3	123.3	1390.0
0400	4.2	3.7	0.011	3.0	0.4	0.3	126.0	1410.6
0500	4.2	3.8	0.011	3.0	0.4	0.3	115.8	1335.3
0600	4.2	3.7	0.011	3.0	0.3	0.2	134.8	1478.7
0700	4.2	3.8	0.011	3.0	0.4	0.3	117.7	1350.0
0800	4.2	3.8	0.011	3.0	0.4	0.3	134.9	1483.8
0900	4.2	3.7	0.011	3.0	0.4	0.3	147.7	1584.4
1000	4.2	3.7	0.011	3.0	0.4	0.3	149.5	1598.6
1100	4.1	3.7	0.011	3.0	0.4	0.3	142.0	1536.3
1200	4.2	3.7	0.011	3.0	0.5	0.4	141.0	1527.9
1300	4.2	3.7	0.011	3.0	0.5	0.4	135.1	1479.2
1400	4.1	3.7	0.011	3.0	0.5	0.4	121.9	1375.8
1500	4.1	3.7	0.011	3.0	0.5	0.4	144.8	1556.4
1600	4.1	3.7	0.011	3.0	0.5	0.4	148.5	1588.0
1700	4.1	3.8	0.012	3.1	0.4	0.3	145.1	1557.9
1800	4.2	3.7	0.011	3.0	0.4	0.3	150.7	1609.5
1900	2.5	23.3	0.116	31.4	132.1	178.1	23.2	595.4
2000	2.7	29.7	0.137	37.1	254.6	317.8	25.9	637.4
2100	2.4	25.7	0.133	36.1	231.6	325.3	16.3	553.2
2200	3.7	26.0	0.087	23.7	152.7	139.1	88.1	1135.8
2300	4.2	3.7	0.011	3.0	0.4	0.3	153.9	1637.4
2400	4.2	3.8	0.011	3.0	0.5	0.4	155.2	1647.8
AVG	4.0	7.5	0.029	7.9	32.5	40.3	121.7	1379.5

Operating Hours: 24

- Legend
- C - Out of Control
 - D - Out of Service
 - I - Insufficient Data
 - M - Maintenance Fault
 - A - Calibration Error
 - X - Calibration Expired

1st Stage Turbine Metal Temperature

Time Tag	1-TMITI913	Start Time	Stop Time	Interval
02-Jun-03 00:00:00	814.1225	6/2/2003 0:00	6/2/2003 23:00	1 hr
02-Jun-03 01:00:00	814.55634			
02-Jun-03 02:00:00	815.64783			
02-Jun-03 03:00:00	816.49811			
02-Jun-03 04:00:00	815.31384			
02-Jun-03 05:00:00	814.98389			
02-Jun-03 06:00:00	813.46808			
02-Jun-03 07:00:00	814.85425			
02-Jun-03 08:00:00	812.08832			
02-Jun-03 09:00:00	815.60425			
02-Jun-03 10:00:00	816.76758			
02-Jun-03 11:00:00	816.61078			
02-Jun-03 12:00:00	815.50848			
02-Jun-03 13:00:00	817.50909			
02-Jun-03 14:00:00	815.37854			
02-Jun-03 15:00:00	814.12848			
02-Jun-03 16:00:00	817.15289			
02-Jun-03 17:00:00	817.51141			
02-Jun-03 18:00:00	828.61475			
02-Jun-03 19:00:00	830.50244			
02-Jun-03 20:00:00	829.25977			
02-Jun-03 21:00:00	815.77869			
02-Jun-03 22:00:00	759.52209			
02-Jun-03 23:00:00	756.98108			

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Tampa Electric Company
 Bayside CT1B
 Hillsborough County, Florida

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Today's Date: 03/18/2004
 Time: 12:57:04

Reporting Period
 Day: 01/19/2004

Time	CO2 %	NOx ppm	Daily Emissions Log				Gen MW	HTIP lb/mmBtu
			NOx lb/mmBtu	NOx @15% O2	CO ppm	CO @15% O2		
0100	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0200	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0300	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0400	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0500	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0600	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0700	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0800	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0900	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1000	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1100	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1200	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1300	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1400	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1500	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1600	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1700	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1800	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1900	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
2000	2.0	23.2	0.144	39.1	461.7	778.1	4.5	451.5
2100	2.3	27.7	0.150	40.6	785.2	1150.7	9.7	563.8
2200	2.3	27.8	0.150	40.7	781.3	1145.0	9.7	564.0
2300	2.6	34.7	0.166	45.0	595.3	771.8	17.2	632.1
2400	2.3	28.9	0.156	42.4	786.4	1152.5	9.7	566.6
AVG	2.3	28.5	0.153	41.6	682.0	999.6	10.2	555.6

Operating Hours: 5

Legend

- C - Out of Control
- D - Out of Service
- I - Insufficient Data
- M - Maintenance Fault
- A - Calibration Error
- X - Calibration Expired

1st Stage Turbine Metal Temperature

Time Tag	1-TMITI913	Start Time	Stop Time	Interval
19-Jan-04 00:00:00	441.28732	1/19/2004 0:00	1/19/2004 23:00	1 hr
19-Jan-04 01:00:00	437.44492			
19-Jan-04 02:00:00	433.603			
19-Jan-04 03:00:00	429.8074			
19-Jan-04 04:00:00	426.04636			
19-Jan-04 05:00:00	422.48642			
19-Jan-04 06:00:00	418.78479			
19-Jan-04 07:00:00	415.1991			
19-Jan-04 08:00:00	411.68439			
19-Jan-04 09:00:00	408.30667			
19-Jan-04 10:00:00	404.66486			
19-Jan-04 11:00:00	401.15854			
19-Jan-04 12:00:00	397.94122			
19-Jan-04 13:00:00	394.51248			
19-Jan-04 14:00:00	391.13638			
19-Jan-04 15:00:00	387.96725			
19-Jan-04 16:00:00	384.79755			
19-Jan-04 17:00:00	381.94336			
19-Jan-04 18:00:00	378.46954			
19-Jan-04 19:00:00	375.2991			
19-Jan-04 20:00:00	300.74966			
19-Jan-04 21:00:00	315.97156			
19-Jan-04 22:00:00	307.60596			
19-Jan-04 23:00:00	472.35843			

Tampa Electric Company
 Bayside CT1B
 Hillsborough County, Florida

Today's Date: 03/18/2004
 Time: 12:57:18

Reporting Period
 Day: 01/20/2004

Time	CO2 %	NOx ppm	Daily Emissions Log				Gen MW	HTIP lb/mmBtu
			NOx lb/mmBtu	NOx @15% O2	CO ppm	CO @15% O2		
0100	2.3	28.6	0.154	41.9	787.1	1153.5	9.7	567.5
0200	2.2	28.8	0.163	44.1	788.7	1208.4	9.7	568.7
0300	3.1	39.0	0.156	42.4	317.1	344.8	62.7	1023.1
0400	3.8	3.1	0.010	2.7	2.0	1.8	135.2	1632.5
0500	3.7	3.2	0.011	2.9	2.0	1.8	120.1	1492.3
0600	3.5	3.2	0.011	3.1	1.9	1.8	113.6	1437.7
0700	3.5	3.1	0.011	3.0	1.9	1.8	129.6	1572.9
0800	3.5	3.2	0.011	3.1	1.9	1.8	129.7	1572.1
0900	3.5	3.1	0.011	3.0	2.0	1.9	129.7	1572.3
1000	2.9	27.5	0.118	32.0	180.6	209.9	56.3	937.8
1100	4.0	19.6	0.061	16.5	6.3	5.3	137.9	1543.4
1200	4.0	3.7	0.011	3.1	1.9	1.6	158.5	1699.0
1300	4.0	3.6	0.011	3.0	1.9	1.6	160.9	1721.8
1400	3.9	3.5	0.011	3.0	1.9	1.6	136.6	1523.8
1500	3.9	3.5	0.011	3.0	1.9	1.6	141.2	1561.0
1600	3.9	3.5	0.011	3.0	1.9	1.6	116.7	1372.4
1700	3.9	3.5	0.011	3.0	1.9	1.6	138.2	1536.7
1800	3.9	3.6	0.011	3.1	1.9	1.6	107.3	1308.1
1900	3.9	3.4	0.011	2.9	1.9	1.6	121.9	1414.3
2000	4.0	3.5	0.011	2.9	1.9	1.6	167.2	1776.2
2100	4.0	3.5	0.011	2.9	1.9	1.6	171.6	1811.0
2200	4.0	3.6	0.011	3.0	1.9	1.6	154.3	1665.7
2300	4.0	3.5	0.011	2.9	1.9	1.6	155.8	1680.8
2400	2.3	24.6	0.133	36.1	424.4	622.0	20.3	425.9
AVG	3.6	9.6	0.041	11.1	105.8	148.9	116.0	1392.4

Operating Hours: 24

Legend

- C - Out of Control
- D - Out of Service
- I - Insufficient Data
- M - Maintenance Fault
- A - Calibration Error
- X - Calibration Expired

1st Stage Turbine Metal Temperature

Time Tag	1-TMITI913	Start Time	Stop Time	Interval
20-Jan-04 00:00:00	528.62134	1/20/2004 0:00	1/20/2004 23:00	1 hr
20-Jan-04 01:00:00	571.90521			
20-Jan-04 02:00:00	598.42163			
20-Jan-04 03:00:00	682.43396			
20-Jan-04 04:00:00	750.35779			
20-Jan-04 05:00:00	758.04724			
20-Jan-04 06:00:00	755.56116			
20-Jan-04 07:00:00	721.62305			
20-Jan-04 08:00:00	763.12775			
20-Jan-04 09:00:00	766.09534			
20-Jan-04 10:00:00	746.9989			
20-Jan-04 11:00:00	756.87634			
20-Jan-04 12:00:00	762.55011			
20-Jan-04 13:00:00	763.55096			
20-Jan-04 14:00:00	762.16669			
20-Jan-04 15:00:00	762.14581			
20-Jan-04 16:00:00	761.43738			
20-Jan-04 17:00:00	761.94971			
20-Jan-04 18:00:00	761.67957			
20-Jan-04 19:00:00	768.18457			
20-Jan-04 20:00:00	768.62769			
20-Jan-04 21:00:00	768.43311			
20-Jan-04 22:00:00	768.97345			
20-Jan-04 23:00:00	765.78809			

Tampa Electric Company
 Bayside CT2A
 Hillsborough County, Florida

Today's Date: 03/18/2004
 Time: 13:07:10

Reporting Period
 Day: 01/06/2004

Time	CO2 %	NOx ppm	Daily Emissions Log		CO ppm	CO @15% O2	Gen MW	HTIP lb/mmBtu
			NOx lb/mmBtu	NOx @15% O2				
0100	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0200	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0300	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0400	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0500	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0600	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0700	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0800	2.0	28.9	0.179	48.7	160.7	270.8	9.5	452.8
0900	2.1	40.9	0.242	65.6	113.0	181.4	9.6	505.5
1000	2.1	39.9	0.236	64.0	110.8	177.8	9.7	504.3
1100	2.1	40.2	0.238	64.5	108.3	173.8	9.6	502.4
1200	2.1	40.5	0.239	65.0	105.9	170.0	9.7	502.1
1300	2.1	40.9	0.242	65.6	102.5	164.5	9.7	500.6
1400	2.1	40.0	0.237	64.2	106.3	170.6	9.6	500.8
1500	2.2	40.9	0.231	62.7	137.0	209.9	12.0	524.2
1600	3.8	29.1	0.095	25.8	53.7	47.6	89.0	1161.6
1700	4.0	10.6	0.033	8.9	6.4	5.4	129.9	1464.0
1800	4.1	3.7	0.011	3.0	0.2	0.2	165.5	1735.8
1900	4.1	3.7	0.011	3.0	0.2	0.2	166.5	1742.3
2000	4.1	3.6	0.011	3.0	0.2	0.2	167.6	1748.7
2100	4.1	3.6	0.011	3.0	0.2	0.2	169.1	1760.5
2200	4.0	3.6	0.011	3.0	0.2	0.2	170.1	1767.3
2300	4.0	3.6	0.011	3.0	0.2	0.2	170.1	1764.8
2400	4.0	3.6	0.011	3.0	0.2	0.2	170.1	1765.0
AVG	2.2	15.7	0.085	23.2	41.9	65.6	61.6	787.6

Legend

- C - Out of Control
- D - Out of Service
- I - Insufficient Data
- M - Maintenance Fault
- A - Calibration Error
- X - Calibration Expired

1st Stage Turbine Metal Temperature

Time Tag	2TMITI914	Start Time	Stop Time	Interval
06-Jan-04 00:00:00	172.83743	1/6/2004 0:00	1/6/2004 23:00	1 hr
06-Jan-04 01:00:00	173.40399			
06-Jan-04 02:00:00	173.67232			
06-Jan-04 03:00:00	173.88994			
06-Jan-04 04:00:00	163.99524			
06-Jan-04 05:00:00	166.75822			
06-Jan-04 06:00:00	168.49409			
06-Jan-04 07:00:00	163.64369			
06-Jan-04 08:00:00	170.65755			
06-Jan-04 09:00:00	174.19032			
06-Jan-04 10:00:00	177.29666			
06-Jan-04 11:00:00	180.41318			
06-Jan-04 12:00:00	185.40952			
06-Jan-04 13:00:00	443.77582			
06-Jan-04 14:00:00	555.63586			
06-Jan-04 15:00:00	603.31732			
06-Jan-04 16:00:00	681.26288			
06-Jan-04 17:00:00	808.32892			
06-Jan-04 18:00:00	859.55664			
06-Jan-04 19:00:00	875.62537			
06-Jan-04 20:00:00	877.56909			
06-Jan-04 21:00:00	877.83569			
06-Jan-04 22:00:00	877.93951			
06-Jan-04 23:00:00	876.39276			

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Tampa Electric Company
 Bayside CT1C
 Hillsborough County, Florida

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Today's Date: 08/15/2003
 Time: 14:07:34

Reporting Period
 Day: 07/20/2003

Time	Daily Emissions Log							
	CO2 %	NOx ppm	NOx lb/mmBtu	NOx @15% O2	CO ppm	CO @15% O2	Gen MW	HTIP lb/mmBtu
0100	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0200	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0300	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0400	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0500	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0600	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0700	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0800	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0900	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1000	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1100	1.0	8.8	0.109	29.7	126.8	427.4	5.6	239.0
1200	2.4	32.6	0.169	45.8	364.1	511.4	14.8	531.8
1300	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1400	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1500	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1600	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1700	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1800	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1900	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
2000	0.9	10.1	0.125	34.0	88.1	297.0	2.3	174.4
2100	2.2	37.1	0.209	56.8	121.3	185.8	10.0	511.7
2200	2.2	37.9	0.214	58.1	119.4	182.9	10.1	511.3
2300	2.2	37.3	0.211	57.1	124.5	190.8	10.0	511.4
2400	3.1	48.6	0.195	52.8	168.0	182.7	40.9	793.3
AVG	2.0	30.3	0.176	47.8	158.9	282.6	13.4	467.6

Operating Hours: 7

- Legend
- C - Out of Control
 - D - Out of Service
 - I - Insufficient Data
 - M - Maintenance Fault
 - A - Calibration Error
 - X - Calibration Expired

1st Stage Turbine Metal Temperature

Time Tag	1-TMITI913	Start Time	Stop Time	Interval
20-Jul-03 00:00:00	523.34045	7/20/2003 0:00	7/20/2003 23:00	1 hr
20-Jul-03 01:00:00	522.87823			
20-Jul-03 02:00:00	519.93878			
20-Jul-03 03:00:00	517.44818			
20-Jul-03 04:00:00	516.15131			
20-Jul-03 05:00:00	509.05551			
20-Jul-03 06:00:00	505.77679			
20-Jul-03 07:00:00	502.48962			
20-Jul-03 08:00:00	Bad Input			
20-Jul-03 09:00:00	496.22437			
20-Jul-03 10:00:00	492.81625			
20-Jul-03 11:00:00	489.82413			
20-Jul-03 12:00:00	483.48001			
20-Jul-03 13:00:00	455.13492			
20-Jul-03 14:00:00	434.61349			
20-Jul-03 15:00:00	430.13196			
20-Jul-03 16:00:00	435.237			
20-Jul-03 17:00:00	438.52374			
20-Jul-03 18:00:00	445.13428			
20-Jul-03 19:00:00	428.19708			
20-Jul-03 20:00:00	417.16946			
20-Jul-03 21:00:00	417.23978			
20-Jul-03 22:00:00	432.93381			
20-Jul-03 23:00:00	520.98822			

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 Tampa Electric Company
 Bayside CT1C
 Hillsborough County, Florida
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Today's Date: 03/18/2004
 Time: 12:56:18

Reporting Period
 Day: 12/22/2003

Time	Daily Emissions Log							
	CO2 %	NOx ppm	NOx lb/mmBtu	NOx @15% O2	CO ppm	CO @15% O2	Gen MW	HTIP lb/mmBtu
0100	0.4	0.6	0.007	2.0	76.7	258.5	0.0	78.4
0200	2.1	35.6	0.211	57.1	133.4	214.1	9.2	512.7
0300	1.7	30.2	0.221	59.9	248.9	493.5	5.0	313.0
0400	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0500	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0600	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0700	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0800	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0900	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1000	2.1	32.2	0.190	51.7	291.1	467.2	14.2	507.4
1100	2.1	34.3	0.203	55.1	112.5	180.6	7.3	496.6
1200	2.1	27.4	0.162	44.0	104.7	168.1	9.7	510.9
1300	2.1	27.6	0.163	44.3	102.9	165.2	9.7	510.2
1400	2.1	27.9	0.165	44.8	101.4	162.8	9.6	509.5
1500	2.1	28.3	0.167	45.4	100.8	161.8	9.7	509.7
1600	2.4	32.4	0.168	45.5	372.0	522.5	17.3	589.8
1700	2.9	35.6	0.152	41.4	519.6	603.9	27.8	692.5
1800	2.9	37.3	0.160	43.4	471.0	547.4	30.0	708.1
1900	4.0	22.0	0.068	18.5	22.3	18.8	92.7	1208.7
2000	4.2	3.7	0.011	3.0	0.8	0.6	142.3	1574.3
2100	4.2	3.6	0.011	2.9	0.7	0.6	158.4	1703.1
2200	4.2	3.6	0.011	2.9	0.7	0.6	159.8	1714.2
2300	4.2	3.6	0.011	2.9	0.7	0.6	158.3	1700.1
2400	4.2	3.6	0.011	2.9	0.7	0.6	154.8	1671.2
AVG	2.8	21.6	0.116	31.5	147.8	220.4	56.4	861.7

Operating Hours: 18

- Legend
 C - Out of Control
 D - Out of Service
 I - Insufficient Data
 M - Maintenance Fault
 A - Calibration Error
 X - Calibration Expired

1st Stage Turbine Metal Temperature

Time Tag	1-TMITI913	Start Time	Stop Time	Interval
22-Dec-03 00:00:00	193.67216	12/22/2003 0:00	12/22/2003 23:00	1 hr
22-Dec-03 01:00:00	192.8961			
22-Dec-03 02:00:00	220.38617			
22-Dec-03 03:00:00	213.09689			
22-Dec-03 04:00:00	205.43056			
22-Dec-03 05:00:00	198.81625			
22-Dec-03 06:00:00	195.7123			
22-Dec-03 07:00:00	192.72508			
22-Dec-03 08:00:00	189.5361			
22-Dec-03 09:00:00	189.07248			
22-Dec-03 10:00:00	191.12173			
22-Dec-03 11:00:00	203.9184			
22-Dec-03 12:00:00	213.26074			
22-Dec-03 13:00:00	220.71762			
22-Dec-03 14:00:00	267.12967			
22-Dec-03 15:00:00	347.61676			
22-Dec-03 16:00:00	438.78586			
22-Dec-03 17:00:00	498.91794			
22-Dec-03 18:00:00	556.38654			
22-Dec-03 19:00:00	677.98895			
22-Dec-03 20:00:00	755.04926			
22-Dec-03 21:00:00	781.87079			
22-Dec-03 22:00:00	792.50751			
22-Dec-03 23:00:00	794.34637			

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Tampa Electric Company
 Bayside CT2C
 Hillsborough County, Florida

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Today's Date: 03/18/2004
 Time: 13:08:24

Reporting Period
 Day: 02/08/2004

Daily Emissions Log								
Time	CO2 %	NOx ppm	NOx lb/mmBtu	NOx @15% O2	CO ppm	CO @15% O2	Gen MW	HTIP lb/mmBtu
0100	2.1	44.2	0.261	70.9	0.0	0.0	10.0	489.6
0200	2.1	37.7	0.223	60.5	0.0	0.0	10.0	489.3
0300	2.1	44.4	0.263	71.3	0.0	0.0	10.0	489.4
0400	2.0	44.7	0.278	75.3	0.0	0.0	10.0	489.3
0500	2.0	44.7	0.278	75.3	0.0	0.0	9.9	488.5
0600	2.7	52.7	0.242	65.8	0.0	0.0	24.1	626.7
0700	2.9	57.1	0.244	66.4	0.0	0.0	35.0	728.3
0800	3.5	43.3	0.154	41.7	0.0	0.0	89.9	1144.7
0900	4.0	4.3	0.013	3.6	0.0	0.0	179.1	1807.6
1000	4.0	3.7	0.011	3.1	0.0	0.0	178.5	1803.0
1100	4.0	3.6	0.011	3.0	0.0	0.0	161.8	1678.8
1200	4.0	3.6	0.011	3.0	0.0	0.0	123.8	1394.7
1300	4.1	3.6	0.011	3.0	0.8	0.7	149.8	1578.9
1400	4.1	3.6	0.011	3.0	0.8	0.7	136.6	1480.9
1500	4.0	3.6	0.011	3.0	0.8	0.7	119.5	1357.7
1600	4.0	3.5	0.011	2.9	0.8	0.7	102.9	1244.4
1700	3.9	3.5	0.011	3.0	0.8	0.7	102.4	1240.0
1800	4.0	3.5	0.011	2.9	0.9	0.8	117.7	1343.2
1900	4.0	3.6	0.011	3.0	0.9	0.8	152.2	1597.9
2000	4.0	3.6	0.011	3.0	0.8	0.7	174.1	1767.8
2100	4.0	3.6	0.011	3.0	0.9	0.8	166.0	1700.1
2200	4.0	3.5	0.011	2.9	0.9	0.8	147.0	1555.0
2300	4.0	3.6	0.011	3.0	0.9	0.8	139.9	1505.5
2400	4.0	3.5	0.011	2.9	0.9	0.8	135.8	1480.7
AVG	3.5	17.8	0.088	24.0	0.4	0.4	103.6	1228.4

Legend
 C - Out of Control
 D - Out of Service
 I - Insufficient Data
 M - Maintenance Fault
 A - Calibration Error
 X - Calibration Expired

1st Stage Turbine Metal Temperature

Time Tag	2TMITI914	Start Time	Stop Time	Interval
08-Feb-04 00:00:00	486.25464	2/8/2004 0:00	2/8/2004 23:00	1 hr
08-Feb-04 01:00:00	479.83585			
08-Feb-04 02:00:00	472.52377			
08-Feb-04 03:00:00	465.26883			
08-Feb-04 04:00:00	458.53574			
08-Feb-04 05:00:00	446.51157			
08-Feb-04 06:00:00	552.19751			
08-Feb-04 07:00:00	608.5249			
08-Feb-04 08:00:00	759.43701			
08-Feb-04 09:00:00	809.15668			
08-Feb-04 10:00:00	819.2467			
08-Feb-04 11:00:00	836.25482			
08-Feb-04 12:00:00	857.69373			
08-Feb-04 13:00:00	862.83539			
08-Feb-04 14:00:00	863.76898			
08-Feb-04 15:00:00	860.75122			
08-Feb-04 16:00:00	852.08972			
08-Feb-04 17:00:00	848.22351			
08-Feb-04 18:00:00	849.16223			
08-Feb-04 19:00:00	867.57098			
08-Feb-04 20:00:00	868.79761			
08-Feb-04 21:00:00	866.26959			
08-Feb-04 22:00:00	868.6272			
08-Feb-04 23:00:00	862.45337			

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Tampa Electric Company
 Bayside CT2C
 Hillsborough County, Florida

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Today's Date: 03/18/2004
 Time: 13:09:30

Reporting Period
 Day: 01/27/2004

Time	CO2 %	NOx ppm	Daily Emissions Log				Gen MW	HTIP lb/mmBtu
			NOx lb/mmBtu	NOx @15% O2	CO ppm	CO @15% O2		
0100	1.4	20.9	0.185	50.3	119.2	287.0	5.5	296.1
0200	2.2	39.0	0.220	59.8	122.4	187.5	10.0	484.5
0300	2.1	39.1	0.231	62.8	120.1	192.8	10.0	482.2
0400	2.1	40.5	0.239	65.0	119.0	191.0	10.6	487.7
0500	2.4	41.3	0.214	58.0	480.9	675.4	16.5	556.8
0600	2.2	21.7	0.122	33.2	995.6	1525.4	15.0	571.8
0700	2.5	32.4	0.161	43.7	771.4	1040.1	22.2	626.9
0800	4.1	10.7	0.032	8.8	26.4	21.7	141.8	1530.4
0900	4.1	3.8	0.012	3.1	0.9	0.7	164.0	1695.8
1000	4.1	3.7	0.011	3.0	0.9	0.7	163.8	1695.4
1100	4.1	3.7	0.011	3.0	0.9	0.7	163.5	1691.1
1200	4.1	3.7	0.011	3.0	0.9	0.7	162.8	1685.3
1300	4.1	3.7	0.011	3.0	0.9	0.7	163.1	1686.5
1400	4.1	3.7	0.011	3.0	0.9	0.7	163.8	1692.4
1500	4.1	3.6	0.011	3.0	0.9	0.7	164.1	1694.0
1600	4.1	3.7	0.011	3.0	0.9	0.7	165.3	1702.5
1700	4.1	3.7	0.011	3.0	0.9	0.7	166.1	1707.1
1800	4.1	3.7	0.011	3.0	0.9	0.7	167.7	1717.8
1900	4.1	3.6	0.011	3.0	0.9	0.7	169.0	1726.9
2000	4.0	3.6	0.011	3.0	0.9	0.8	169.1	1726.4
2100	4.0	3.6	0.011	3.0	0.9	0.8	169.1	1726.4
2200	4.0	3.6	0.011	3.0	0.9	0.8	169.0	1725.1
2300	4.0	3.6	0.011	3.0	0.9	0.8	170.4	1736.2
2400	4.0	3.6	0.011	3.0	0.9	0.8	171.1	1741.7
AVG	3.5	12.7	0.066	17.9	115.4	172.2	120.6	1349.5

Legend
 C - Out of Control
 D - Out of Service
 I - Insufficient Data
 M - Maintenance Fault
 A - Calibration Error
 X - Calibration Expired

1st Stage Turbine Metal Temperature

Time Tag	2TMITI914	Start Time	Stop Time	Interval
27-Jan-04 00:00:00	537.93744	1/27/2004 0:00	1/27/2004 23:00	1 hr
27-Jan-04 01:00:00	536.48969			
27-Jan-04 02:00:00	533.25366			
27-Jan-04 03:00:00	527.15588			
27-Jan-04 04:00:00	520.63104			
27-Jan-04 05:00:00	512.15588			
27-Jan-04 06:00:00	502.96188			
27-Jan-04 07:00:00	646.93066			
27-Jan-04 08:00:00	786.42603			
27-Jan-04 09:00:00	855.8606			
27-Jan-04 10:00:00	873.52722			
27-Jan-04 11:00:00	885.11975			
27-Jan-04 12:00:00	884.78687			
27-Jan-04 13:00:00	887.44672			
27-Jan-04 14:00:00	889.50177			
27-Jan-04 15:00:00	890.20917			
27-Jan-04 16:00:00	890.2359			
27-Jan-04 17:00:00	888.56934			
27-Jan-04 18:00:00	887.96722			
27-Jan-04 19:00:00	887.21753			
27-Jan-04 20:00:00	884.31805			
27-Jan-04 21:00:00	883.01379			
27-Jan-04 22:00:00	882.54077			
27-Jan-04 23:00:00	883.98035			

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Tampa Electric Company
 Bayside CT2A
 Hillsborough County, Florida

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Today's Date: 03/18/2004
 Time: 13:07:30

Reporting Period
 Day: 01/10/2004

Time	Daily Emissions Log							
	CO2 %	NOx ppm	NOx lb/mmBtu	NOx @15% O2	CO ppm	CO @15% O2	Gen MW	HTIP lb/mmBtu
0100	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0200	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0300	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0400	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0500	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0600	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0700	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0800	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0900	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1000	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1100	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1200	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1300	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1400	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1500	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1600	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1700	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1800	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1900	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
2000	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
2100	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
2200	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
2300	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
2400	1.8	32.3	0.223	60.5	147.3	275.8	5.4	444.9
AVG	0.1	1.3	0.009	2.5	6.1	11.5	0.2	18.5

Legend
 C - Out of Control
 D - Out of Service
 I - Insufficient Data
 M - Maintenance Fault
 A - Calibration Error
 X - Calibration Expired

1st Stage Turbine Metal Temperature

Time Tag	2TMITI914	Start Time	Stop Time	Interval
10-Jan-04 00:00:00	531.00159	1/10/2004 0:00	1/10/2004 23:00	1 hr
10-Jan-04 01:00:00	527.13434			
10-Jan-04 02:00:00	522.82721			
10-Jan-04 03:00:00	518.74451			
10-Jan-04 04:00:00	514.67249			
10-Jan-04 05:00:00	510.59048			
10-Jan-04 06:00:00	506.84695			
10-Jan-04 07:00:00	502.72455			
10-Jan-04 08:00:00	498.9437			
10-Jan-04 09:00:00	494.98529			
10-Jan-04 10:00:00	491.22226			
10-Jan-04 11:00:00	487.3855			
10-Jan-04 12:00:00	483.5434			
10-Jan-04 13:00:00	479.83887			
10-Jan-04 14:00:00	475.83844			
10-Jan-04 15:00:00	471.89441			
10-Jan-04 16:00:00	468.39966			
10-Jan-04 17:00:00	464.52017			
10-Jan-04 18:00:00	460.81195			
10-Jan-04 19:00:00	456.91046			
10-Jan-04 20:00:00	453.13199			
10-Jan-04 21:00:00	449.75882			
10-Jan-04 22:00:00	445.88425			
10-Jan-04 23:00:00	438.05344			

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Tampa Electric Company
 Bayside CT2A
 Hillsborough County, Florida

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Today's Date: 03/18/2004
 Time: 13:07:47

Reporting Period
 Day: 01/11/2004

Time	Daily Emissions Log							
	CO2 %	NOx ppm	NOx lb/mmBtu	NOx @15% O2	CO ppm	CO @15% O2	Gen MW	HTIP lb/mmBtu
0100	2.0	45.8	0.284	77.2	103.3	174.1	9.5	503.7
0200	2.0	45.2	0.281	76.2	103.3	174.1	9.6	503.9
0300	2.0	45.3	0.281	76.3	103.3	174.1	9.6	504.0
0400	2.1	46.3	0.274	74.3	187.4	300.8	13.1	538.2
0500	3.7	58.7	0.197	53.5	115.1	104.9	118.3	1368.7
0600	4.0	3.3	0.010	2.8	0.6	0.5	180.2	1821.1
0700	4.0	3.4	0.011	2.9	0.6	0.5	180.1	1820.8
0800	4.0	3.5	0.011	2.9	0.6	0.5	180.4	1822.0
0900	4.0	3.5	0.011	2.9	0.6	0.5	180.0	1819.0
1000	4.0	3.5	0.011	2.9	0.6	0.5	178.8	1810.9
1100	4.0	3.5	0.011	2.9	0.6	0.5	177.5	1801.0
1200	4.0	3.5	0.011	2.9	0.6	0.5	176.1	1790.2
1300	4.1	3.5	0.011	2.9	0.6	0.5	173.4	1769.5
1400	4.1	3.6	0.011	3.0	0.5	0.4	150.8	1598.9
1500	4.1	3.5	0.011	2.9	0.5	0.4	110.2	1292.5
1600	4.1	3.5	0.011	2.9	0.5	0.4	110.2	1292.2
1700	4.1	3.5	0.011	2.9	0.5	0.4	110.2	1292.7
1800	4.1	3.5	0.011	2.9	0.5	0.4	110.1	1292.1
1900	4.1	3.5	0.011	2.9	0.5	0.4	117.5	1344.0
2000	4.1	3.6	0.011	3.0	0.5	0.4	110.1	1293.1
2100	4.1	3.5	0.011	2.9	0.5	0.4	109.9	1291.6
2200	4.1	3.5	0.011	2.9	0.5	0.4	109.8	1293.6
2300	4.1	3.5	0.011	2.9	0.5	0.4	109.9	1293.8
2400	4.1	3.5	0.011	2.9	0.5	0.4	109.8	1294.4
AVG	3.7	12.8	0.064	17.2	25.9	39.0	118.5	1352.2

Legend
 C - Out of Control
 D - Out of Service
 I - Insufficient Data
 M - Maintenance Fault
 A - Calibration Error
 X - Calibration Expired

1st Stage Turbine Metal Temperature

Time Tag	2TMIT914	Start Time	Stop Time	Interval
11-Jan-04 00:00:00	438.77783	1/11/2004 0:00	1/11/2004 23:00	1 hr
11-Jan-04 01:00:00	435.7222			
11-Jan-04 02:00:00	429.62271			
11-Jan-04 03:00:00	421.71561			
11-Jan-04 04:00:00	533.30621			
11-Jan-04 05:00:00	752.40442			
11-Jan-04 06:00:00	841.04236			
11-Jan-04 07:00:00	856.63446			
11-Jan-04 08:00:00	864.33173			
11-Jan-04 09:00:00	866.67072			
11-Jan-04 10:00:00	869.47888			
11-Jan-04 11:00:00	865.57513			
11-Jan-04 12:00:00	828.9281			
11-Jan-04 13:00:00	802.90704			
11-Jan-04 14:00:00	856.17651			
11-Jan-04 15:00:00	865.56702			
11-Jan-04 16:00:00	874.54449			
11-Jan-04 17:00:00	882.17993			
11-Jan-04 18:00:00	883.39319			
11-Jan-04 19:00:00	881.31354			
11-Jan-04 20:00:00	881.69543			
11-Jan-04 21:00:00	885.11072			
11-Jan-04 22:00:00	885.58539			
11-Jan-04 23:00:00	885.38177			

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 Tampa Electric Company
 Bayside CT1C
 Hillsborough County, Florida
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Today's Date: 06/18/2004
 Time: 12:56:07

Reporting Period
 Day: 04/29/2004

Time	Daily Emissions Log							
	CO2 %	NOx ppm	NOx lb/mmBtu	NOx @15% O2	CO ppm	CO @15% O2	Gen MW	HTIP lb/mmBtu
0000	1.9	25.0	0.163	44.4	137.1	243.2	6.4	431.7
0100	2.1	35.0	0.207	56.2	118.6	190.4	9.7	511.7
0200	2.1	32.3	0.191	51.8	122.0	195.8	9.7	511.8
0300	2.1	31.8	0.188	51.0	123.9	198.9	9.7	511.2
0400	2.1	31.7	0.187	50.9	125.2	201.0	9.7	509.4
0500	2.1	31.0	0.183	49.8	127.9	205.3	9.7	509.0
0600	2.1	30.5	0.180	49.0	130.7	209.8	9.7	508.5
0700	3.6	26.3	0.091	24.6	146.0	136.7	57.5	913.0
0800	4.2	3.7	0.011	3.0	0.9	0.7	112.2	1341.1
0900	4.2	3.7	0.011	3.0	0.9	0.7	124.6	1438.7
1000	4.2	3.8	0.011	3.0	0.9	0.7	142.3	1579.6
1100	4.2	3.7	0.011	3.0	0.8	0.6	116.1	1363.5
1200	4.2	3.7	0.011	3.0	0.8	0.6	138.5	1547.1
1300	4.2	3.8	0.011	3.0	0.8	0.6	137.0	1532.1
1400	4.2	3.7	0.011	3.0	0.8	0.6	133.1	1495.1
1500	4.2	3.7	0.011	3.0	0.8	0.6	144.9	1590.8
1600	4.2	3.7	0.011	3.0	0.8	0.6	145.2	1592.1
1700	4.2	3.7	0.011	3.0	0.8	0.6	139.3	1540.8
1800	4.2	3.8	0.011	3.0	0.8	0.6	133.6	1497.0
1900	4.2	3.7	0.011	3.0	0.8	0.6	129.4	1463.8
2000	4.2	3.8	0.011	3.0	0.8	0.6	140.2	1547.3
2100	4.2	3.8	0.011	3.0	0.8	0.6	138.2	1532.5
2200	4.2	3.7	0.011	3.0	0.8	0.6	132.2	1487.1
2300	4.2	3.8	0.011	3.0	0.8	0.6	123.4	1419.3
AVG	3.6	12.6	0.065	17.7	43.5	66.3	93.8	1182.3

Operating Hours: 24

- Legend
 C - Out of Control
 D - Out of Service
 I - Insufficient Data
 M - Maintenance Fault
 A - Calibration Error
 X - Calibration Expired

1st Stage Turbine Metal Temperature

Time Tag	1TMITI914	Start Time	Stop Time	Interval
29-Apr-04 00:00:00	129.4879	04/29/2004 0:00	04/29/2004 23:00	1 hr
29-Apr-04 01:00:00	129.792			
29-Apr-04 02:00:00	144.5206			
29-Apr-04 03:00:00	205.0604			
29-Apr-04 04:00:00	187.6278			
29-Apr-04 05:00:00	185.9981			
29-Apr-04 06:00:00	264.0794			
29-Apr-04 07:00:00	385.5679			
29-Apr-04 08:00:00	475.9723			
29-Apr-04 09:00:00	610.774			
29-Apr-04 10:00:00	742.0722			
29-Apr-04 11:00:00	790.0789			
29-Apr-04 12:00:00	855.5468			
29-Apr-04 13:00:00	868.0331			
29-Apr-04 14:00:00	884.2272			
29-Apr-04 15:00:00	902.0977			
29-Apr-04 16:00:00	903.5439			
29-Apr-04 17:00:00	904.8021			
29-Apr-04 18:00:00	904.8467			
29-Apr-04 19:00:00	905.6102			
29-Apr-04 20:00:00	906.8883			
29-Apr-04 21:00:00	901.9269			
29-Apr-04 22:00:00	903.8221			
29-Apr-04 23:00:00	904.2941			

=====
 Tampa Electric Company
 Bayside CT1C
 Hillsborough County, Florida
 =====

Today's Date: 06/18/2004
 Time: 12:58:59

Reporting Period
 Day: 06/09/2004

Time	Daily Emissions Log							
	CO2 %	NOx ppm	NOx lb/mmBtu	NOx @15% O2	CO ppm	CO @15% O2	Gen MW	HTIP lb/mmBtu
0000	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0100	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0200	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0300	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0400	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0500	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0600	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0700	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0800	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0900	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1000	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1100	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1200	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1300	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1400	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1500	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1600	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1700	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1800	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1900	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
2000	1.9	23.9	0.156	42.4	172.3	305.7	7.9	454.1
2100	2.1	29.5	0.174	47.4	147.3	236.4	9.6	506.5
2200	2.1	29.6	0.175	47.5	144.7	232.3	9.7	507.0
2300	2.1	29.6	0.175	47.5	144.0	231.1	9.7	507.3
AVG	2.1	28.2	0.170	46.2	152.1	251.4	9.2	493.7

Operating Hours: 4

Legend
 C - Out of Control
 D - Out of Service
 I - Insufficient Data
 M - Maintenance Fault
 A - Calibration Error
 X - Calibration Expired

1st Stage Turbine Metal Temperature

Time Tag	1TMITI914	Start Time	Stop Time	Interval
09-Jun-04 00:00:00	192.6917	06/09/2004 0:00	06/09/2004 23:00	1 hr
09-Jun-04 01:00:00	207.0292			
09-Jun-04 02:00:00	210.4829			
09-Jun-04 03:00:00	212.1342			
09-Jun-04 04:00:00	213.053			
09-Jun-04 05:00:00	212.3121			
09-Jun-04 06:00:00	211.4458			
09-Jun-04 07:00:00	210.4979			
09-Jun-04 08:00:00	209.6631			
09-Jun-04 09:00:00	208.8756			
09-Jun-04 10:00:00	208.1934			
09-Jun-04 11:00:00	207.0546			
09-Jun-04 12:00:00	206.6532			
09-Jun-04 13:00:00	206.0576			
09-Jun-04 14:00:00	205.4225			
09-Jun-04 15:00:00	204.343			
09-Jun-04 16:00:00	204.0654			
09-Jun-04 17:00:00	203.2433			
09-Jun-04 18:00:00	202.7427			
09-Jun-04 19:00:00	201.9375			
09-Jun-04 20:00:00	201.1621			
09-Jun-04 21:00:00	200.6423			
09-Jun-04 22:00:00	198.8152			
09-Jun-04 23:00:00	244.9938			

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 Tampa Electric Company
 Bayside CT2D
 Hillsborough County, Florida
 =====

Today's Date: 06/18/2004
 Time: 13:13:22

Reporting Period
 Day: 04/01/2004

Time	Daily Emissions Log							
	CO2 %	NOx ppm	NOx lb/mmBtu	NOx @15% O2	CO ppm	CO @15% O2	Gen MW	HTIP lb/mmBtu
0000	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0100	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0200	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0300	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0400	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0500	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0600	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0700	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0800	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0900	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1000	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1100	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1200	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1300	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1400	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1500	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1600	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1700	1.1	11.6	0.131	35.5	122.9	376.6	3.4	275.7
1800	2.2	41.7	0.235	63.9	112.6	172.5	9.9	504.4
1900	2.2	40.2	0.227	61.6	111.3	170.5	10.0	501.6
2000	2.2	40.7	0.230	62.4	113.3	173.6	9.9	501.0
2100	2.2	41.0	0.231	62.8	114.6	175.6	9.9	502.6
2200	2.2	42.3	0.239	64.8	112.2	171.9	10.6	508.8
2300	2.4	50.4	0.261	70.8	95.4	134.0	14.8	548.8
AVG	0.6	11.2	0.065	17.6	32.6	57.3	2.9	139.3

Legend
 C - Out of Control
 D - Out of Service
 I - Insufficient Data
 M - Maintenance Fault
 A - Calibration Error
 X - Calibration Expired

1st Stage Turbine Metal Temperature

Time Tag	2TMITI914	Start Time	Stop Time	Interval
01-Apr-04 00:00:00	83.5609	04/01/2004 0:00	04/01/2004 23:00	1 hr
01-Apr-04 01:00:00	83.58434			
01-Apr-04 02:00:00	83.59222			
01-Apr-04 03:00:00	83.44766			
01-Apr-04 04:00:00	83.3894			
01-Apr-04 05:00:00	83.51685			
01-Apr-04 06:00:00	83.29934			
01-Apr-04 07:00:00	83.19507			
01-Apr-04 08:00:00	83.29495			
01-Apr-04 09:00:00	83.17194			
01-Apr-04 10:00:00	83.05524			
01-Apr-04 11:00:00	83.05865			
01-Apr-04 12:00:00	82.96213			
01-Apr-04 13:00:00	82.88602			
01-Apr-04 14:00:00	82.84801			
01-Apr-04 15:00:00	82.72683			
01-Apr-04 16:00:00	82.73185			
01-Apr-04 17:00:00	82.70339			
01-Apr-04 18:00:00	87.66535			
01-Apr-04 19:00:00	98.53315			
01-Apr-04 20:00:00	119.5432			
01-Apr-04 21:00:00	124.8019			
01-Apr-04 22:00:00	124.9209			
01-Apr-04 23:00:00	127.7539			

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 Tampa Electric Company
 Bayside CT2C
 Hillsborough County, Florida
 =====

Today's Date: 06/18/2004
 Time: 13:21:57

Reporting Period
 Day: 06/06/2004

Time	Daily Emissions Log							
	CO2 %	NOx ppm	NOx lb/mmBtu	NOx @15% O2	CO ppm	CO @15% O2	Gen MW	HTIP lb/mmBtu
0000	4.1	3.7	0.011	3.0	1.2	1.0	157.9	1678.5
0100	4.1	3.7	0.011	3.0	1.2	1.0	157.8	1677.0
0200	4.1	3.7	0.011	3.0	1.2	1.0	158.4	1682.0
0300	4.1	3.7	0.011	3.0	1.2	1.0	158.9	1685.4
0400	4.1	3.7	0.011	3.0	1.2	1.0	159.2	1688.4
0500	4.1	3.6	0.011	3.0	1.2	1.0	147.2	1593.1
0600	4.1	3.6	0.011	3.0	1.2	1.0	110.1	1303.2
0700	4.1	3.6	0.011	3.0	1.2	1.0	110.1	1302.2
0800	4.1	3.6	0.011	3.0	1.2	1.0	117.8	1359.1
0900	4.1	3.7	0.011	3.0	1.2	1.0	124.6	1408.9
1000	4.1	3.7	0.011	3.0	1.1	0.9	125.1	1411.9
1100	4.1	3.7	0.011	3.0	1.1	0.9	132.1	1467.9
1200	4.1	3.7	0.011	3.0	1.1	0.9	140.2	1531.0
1300	4.1	3.7	0.011	3.0	1.1	0.9	140.1	1530.8
1400	4.1	3.7	0.011	3.0	1.1	0.9	120.9	1380.1
1500	4.1	3.7	0.011	3.0	1.1	0.9	120.1	1371.9
1600	4.1	3.7	0.011	3.0	1.1	0.9	124.1	1404.0
1700	4.1	3.7	0.011	3.0	1.1	0.9	129.4	1444.2
1800	4.1	3.7	0.011	3.0	1.1	0.9	110.7	1302.9
1900	4.1	3.6	0.011	3.0	1.1	0.9	110.0	1298.8
2000	3.9	11.8	0.038	10.2	118.6	102.5	91.3	1160.1
2100	2.2	17.5	0.099	26.8	995.7	1525.5	15.0	581.2
2200	2.7	39.8	0.183	49.7	456.0	569.3	25.6	652.7
2300	2.8	40.5	0.180	48.8	547.8	659.5	29.0	686.1
AVG	3.9	7.6	0.030	8.1	89.2	119.8	117.3	1358.4

Legend
 C - Out of Control
 D - Out of Service
 I - Insufficient Data
 M - Maintenance Fault
 A - Calibration Error
 X - Calibration Expired

1st Stage Turbine Metal Temperature

Time Tag	2TMITI914	Start Time	Stop Time	Interval
06-Jun-04 00:00:00	862.10095	06/06/2004 0:00	06/06/2004 23:00	1 hr
06-Jun-04 01:00:00	874.75781			
06-Jun-04 02:00:00	871.64941			
06-Jun-04 03:00:00	865.71338			
06-Jun-04 04:00:00	865.41443			
06-Jun-04 05:00:00	857.11456			
06-Jun-04 06:00:00	837.84045			
06-Jun-04 07:00:00	830.81506			
06-Jun-04 08:00:00	825.04865			
06-Jun-04 09:00:00	818.78497			
06-Jun-04 10:00:00	812.25806			
06-Jun-04 11:00:00	805.32465			
06-Jun-04 12:00:00	798.04083			
06-Jun-04 13:00:00	791.01404			
06-Jun-04 14:00:00	783.73102			
06-Jun-04 15:00:00	776.474			
06-Jun-04 16:00:00	769.37567			
06-Jun-04 17:00:00	762.40607			
06-Jun-04 18:00:00	755.55286			
06-Jun-04 19:00:00	748.86731			
06-Jun-04 20:00:00	742.25079			
06-Jun-04 21:00:00	736.00195			
06-Jun-04 22:00:00	729.37897			
06-Jun-04 23:00:00	770.63135			

WARM START-UP

CO, NO_x EMISSIONS & GAS TURBINE LOAD (MW)

FIRST STAGE METAL TEMPERATURE

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Tampa Electric Company
 Bayside CT1A
 Hillsborough County, Florida

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Today's Date: 03/18/2004
 Time: 13:07:45

Reporting Period
 Day: 02/28/2004

Time	Daily Emissions Log							
	CO2 %	NOx ppm	NOx lb/mmBtu	NOx @15% O2	CO ppm	CO @15% O2	Gen MW	HTIP lb/mmBtu
0100	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0200	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0300	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0400	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0500	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0600	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0700	1.3	17.3	0.165	44.9	186.7	484.1	11.9	344.6
0800	4.0	18.9	0.059	15.9	66.6	56.1	125.8	1434.8
0900	4.1	3.5	0.011	2.9	1.5	1.2	173.3	1806.7
1000	4.1	3.6	0.011	3.0	1.5	1.2	166.2	1747.8
1100	4.1	3.6	0.011	3.0	1.6	1.3	148.6	1603.5
1200	4.1	3.5	0.011	2.9	1.6	1.3	136.8	1513.2
1300	4.1	3.5	0.011	2.9	1.5	1.2	154.3	1652.6
1400	4.1	3.7	0.011	3.0	1.6	1.3	121.3	1395.7
1500	4.1	3.5	0.011	2.9	1.6	1.3	120.6	1389.5
1600	4.1	3.7	0.011	3.0	1.6	1.3	119.6	1383.1
1700	4.0	3.5	0.011	2.9	1.6	1.3	126.8	1436.8
1800	4.0	3.6	0.011	3.0	1.5	1.3	124.1	1415.5
1900	4.0	3.5	0.011	2.9	1.5	1.3	134.4	1495.1
2000	4.0	3.6	0.011	3.0	1.5	1.3	154.7	1654.9
2100	4.1	3.6	0.011	3.0	1.5	1.2	166.2	1752.4
2200	4.1	3.7	0.011	3.0	1.5	1.2	154.6	1656.0
2300	4.0	3.5	0.011	2.9	1.5	1.3	143.3	1566.4
2400	3.1	23.5	0.094	25.6	104.7	113.8	61.9	924.7
AVG	3.9	6.3	0.027	7.3	21.2	37.4	130.2	1454.1

Operating Hours: 18

Legend

- C - Out of Control
- D - Out of Service
- I - Insufficient Data
- M - Maintenance Fault
- A - Calibration Error
- X - Calibration Expired

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Tampa Electric Company
Bayside CT1A
Hillsborough County, Florida
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Today's Date: 03/18/2004
Time: 13:08:03

Reporting Period
Day: 02/29/2004

Time	CO2 %	NOx ppm	Daily Emissions Log		CO ppm	CO @15% O2	Gen MW	HTIP lb/mmBtu
			NOx lb/mmBtu	NOx @15% O2				
0100	1.9	33.9	0.222	60.1	149.2	264.7	7.8	480.4
0200	1.9	33.9	0.222	60.1	151.3	268.4	7.8	481.1
0300	2.6	44.0	0.210	57.0	197.7	256.3	30.8	688.7
0400	2.0	36.7	0.228	61.9	140.7	237.1	9.8	498.2
0500	2.4	43.1	0.223	60.5	181.8	255.3	23.3	620.5
0600	4.1	3.2	0.010	2.6	1.6	1.3	138.9	1528.6
0700	4.1	3.7	0.011	3.0	1.6	1.3	128.0	1445.3
0800	4.1	3.8	0.012	3.1	1.6	1.3	132.8	1481.3
0900	4.1	3.6	0.011	3.0	1.6	1.3	151.1	1622.6
1000	4.1	3.7	0.011	3.0	1.6	1.3	135.2	1500.3
1100	4.1	3.6	0.011	3.0	1.6	1.3	142.0	1553.3
1200	4.0	3.5	0.011	2.9	1.5	1.3	153.0	1644.8
1300	4.0	3.7	0.011	3.1	1.5	1.3	130.0	1459.6
1400	4.0	3.6	0.011	3.0	1.5	1.3	128.8	1451.1
1500	4.0	3.6	0.011	3.0	1.5	1.3	128.3	1447.8
1600	4.0	3.6	0.011	3.0	1.5	1.3	128.9	1451.7
1700	4.0	3.6	0.011	3.0	1.5	1.3	132.1	1476.0
1800	4.0	3.6	0.011	3.0	1.5	1.3	131.6	1472.4
1900	4.0	3.6	0.011	3.0	1.5	1.3	146.0	1586.3
2000	4.1	3.6	0.011	3.0	1.5	1.2	161.2	1713.3
2100	4.0	3.6	0.011	3.0	1.5	1.3	157.7	1681.7
2200	4.0	3.7	0.011	3.1	1.5	1.3	120.1	1386.4
2300	4.0	3.6	0.011	3.0	1.5	1.3	112.0	1327.7
2400	4.0	3.6	0.011	3.0	1.6	1.3	123.5	1412.0
AVG	3.6	10.8	0.055	14.9	35.4	54.4	110.9	1308.8

Operating Hours: 24

Legend

- C - Out of Control
- D - Out of Service
- I - Insufficient Data
- M - Maintenance Fault
- A - Calibration Error
- X - Calibration Expired

1st Stage Turbine Metal Temperature

Time Tag	1-TMITI913	Start Time	Stop Time	Interval
28-Feb-04 00:00:00	791.8775	2/28/2004 0:00	2/28/2004 23:00	1 hr
28-Feb-04 01:00:00	795.02765			
28-Feb-04 02:00:00	794.75415			
28-Feb-04 03:00:00	795.15796			
28-Feb-04 04:00:00	794.0993			
28-Feb-04 05:00:00	794.36853			
28-Feb-04 06:00:00	793.64691			
28-Feb-04 07:00:00	780.22211			
28-Feb-04 08:00:00	806.17969			
28-Feb-04 09:00:00	804.01239			
28-Feb-04 10:00:00	805.33435			
28-Feb-04 11:00:00	810.84344			
28-Feb-04 12:00:00	813.76257			
28-Feb-04 13:00:00	809.69586			
28-Feb-04 14:00:00	813.76965			
28-Feb-04 15:00:00	814.15503			
28-Feb-04 16:00:00	812.62823			
28-Feb-04 17:00:00	814.63452			
28-Feb-04 18:00:00	813.73712			
28-Feb-04 19:00:00	812.3371			
28-Feb-04 20:00:00	811.37976			
28-Feb-04 21:00:00	809.94672			
28-Feb-04 22:00:00	813.9801			
28-Feb-04 23:00:00	802.80316			

1st Stage Turbine Metal Temperature

Time Tag	1-TMITI913	Start Time	Stop Time	Interval
29-Feb-04 00:00:00	782.42999	2/29/2004 0:00	2/29/2004 23:00	1 hr
29-Feb-04 01:00:00	769.69055			
29-Feb-04 02:00:00	760.76471			
29-Feb-04 03:00:00	721.21851			
29-Feb-04 04:00:00	717.76624			
29-Feb-04 05:00:00	675.15405			
29-Feb-04 06:00:00	776.1839			
29-Feb-04 07:00:00	802.23352			
29-Feb-04 08:00:00	812.31403			
29-Feb-04 09:00:00	812.06122			
29-Feb-04 10:00:00	814.4942			
29-Feb-04 11:00:00	815.24756			
29-Feb-04 12:00:00	815.2887			
29-Feb-04 13:00:00	815.85291			
29-Feb-04 14:00:00	816.40607			
29-Feb-04 15:00:00	814.75372			
29-Feb-04 16:00:00	816.2951			
29-Feb-04 17:00:00	816.38141			
29-Feb-04 18:00:00	816.20331			
29-Feb-04 19:00:00	816.24512			
29-Feb-04 20:00:00	816.25183			
29-Feb-04 21:00:00	815.08777			
29-Feb-04 22:00:00	816.33356			
29-Feb-04 23:00:00	815.25476			

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 Tampa Electric Company
 Bayside CT2C
 Hillsborough County, Florida
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Today's Date: 06/08/2004
 Time: 09:37:06

Reporting Period
 Day: 06/06/2004

Time	Daily Emissions Log							
	CO2 %	NOx ppm	NOx lb/mmBtu	NOx @15% O2	CO ppm	CO @15% O2	Gen MW	HTIP lb/mmBtu
0000	4.1	3.7	0.011	3.0	1.2	1.0	157.9	1678.5
0100	4.1	3.7	0.011	3.0	1.2	1.0	157.8	1677.0
0200	4.1	3.7	0.011	3.0	1.2	1.0	158.4	1682.0
0300	4.1	3.7	0.011	3.0	1.2	1.0	158.9	1685.4
0400	4.1	3.7	0.011	3.0	1.2	1.0	159.2	1688.4
0500	4.1	3.6	0.011	3.0	1.2	1.0	147.2	1593.1
0600	4.1	3.6	0.011	3.0	1.2	1.0	110.1	1303.2
0700	4.1	3.6	0.011	3.0	1.2	1.0	110.1	1302.2
0800	4.1	3.6	0.011	3.0	1.2	1.0	117.8	1359.1
0900	4.1	3.7	0.011	3.0	1.2	1.0	124.6	1408.9
1000	4.1	3.7	0.011	3.0	1.1	0.9	125.1	1411.9
1100	4.1	3.7	0.011	3.0	1.1	0.9	132.1	1467.9
1200	4.1	3.7	0.011	3.0	1.1	0.9	140.2	1531.0
1300	4.1	3.7	0.011	3.0	1.1	0.9	140.1	1530.8
1400	4.1	3.7	0.011	3.0	1.1	0.9	120.9	1380.1
1500	4.1	3.7	0.011	3.0	1.1	0.9	120.1	1371.9
1600	4.1	3.7	0.011	3.0	1.1	0.9	124.1	1404.0
1700	4.1	3.7	0.011	3.0	1.1	0.9	129.4	1444.2
1800	4.1	3.7	0.011	3.0	1.1	0.9	110.7	1302.9
1900	4.1	3.6	0.011	3.0	1.1	0.9	110.0	1298.8
2000	3.9	11.8	0.038	10.2	118.6	102.5	91.3	1160.1
2100	2.2	17.5	0.099	26.8	995.7	1525.5	15.0	581.2
2200	2.7	39.8	0.183	49.7	456.0	569.3	25.6	652.7
2300	2.8	40.5	0.180	48.8	547.8	659.5	29.0	686.1
AVG	3.9	7.6	0.030	8.1	89.2	119.8	117.3	1358.4

Legend
 C - Out of Control
 D - Out of Service
 I - Insufficient Data
 M - Maintenance Fault
 A - Calibration Error
 X - Calibration Expired

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 Tampa Electric Company
 Bayside CT2C
 Hillsborough County, Florida
 =====

Today's Date: 06/08/2004
 Time: 09:31:32

Reporting Period
 Day: 06/07/2004

Time	Daily Emissions Log							
	CO2 %	NOx ppm	NOx lb/mmBtu	NOx @15% O2	CO ppm	CO @15% O2	Gen MW	HTIP lb/mmBtu
0000	2.7	44.6	0.205	55.7	260.5	325.2	32.5	699.7
0100	4.1	2.5	0.008	2.1	1.2	1.0	110.0	1303.0
0200	4.1	3.7	0.011	3.0	1.2	1.0	110.1	1302.0
0300	4.1	3.7	0.011	3.0	1.2	1.0	110.0	1302.0
0400	4.1	3.7	0.011	3.0	1.2	1.0	110.1	1302.1
0500	4.1	3.7	0.011	3.0	1.2	1.0	112.1	1317.5
0600	4.1	3.7	0.011	3.0	1.2	1.0	111.0	1309.5
0700	4.1	3.7	0.011	3.0	1.2	1.0	145.3	1572.5
0800	4.1	3.7	0.011	3.0	1.2	1.0	151.8	1628.8
0900	4.1	3.6	0.011	3.0	1.2	1.0	143.8	1561.1
1000	4.1	3.6	0.011	3.0	1.1	0.9	124.8	1410.6
1100	4.0	3.6	0.011	3.0	1.1	0.9	127.7	1433.3
1200	4.1	3.6	0.011	3.0	1.2	1.0	148.3	1602.3
1300	4.0	3.5	0.011	2.9	1.1	0.9	146.4	1586.6
1400	4.0	3.4	0.011	2.9	1.1	0.9	134.5	1486.2
1500	4.1	3.5	0.011	2.9	1.1	0.9	120.0	1371.4
1600	4.1	3.5	0.011	2.9	1.1	0.9	120.0	1370.7
1700	4.1	3.5	0.011	2.9	1.1	0.9	139.2	1523.6
1800	4.1	3.5	0.011	2.9	1.1	0.9	148.6	1599.8
1900	4.1	3.5	0.011	2.9	1.1	0.9	133.8	1479.5
2000	4.1	3.5	0.011	2.9	1.1	0.9	130.0	1449.8
2100	4.1	3.5	0.011	2.9	1.1	0.9	120.6	1378.5
2200	4.1	3.5	0.011	2.9	1.1	0.9	141.2	1541.1
2300	4.1	3.5	0.011	2.9	1.2	1.0	132.2	1468.5
AVG	4.0	5.2	0.019	5.1	12.0	14.5	125.2	1416.7

Legend
 C - Out of Control
 D - Out of Service
 I - Insufficient Data
 M - Maintenance Fault
 A - Calibration Error
 X - Calibration Expired

1st Stage Turbine Metal Temperature

Time Tag	2TMIT914	Start Time	Stop Time	Interval
06-Jun-04 00:00:00	862.100952	06/06/2004 0:00	06/07/2004 23:00	1 hr
06-Jun-04 01:00:00	874.757813			
06-Jun-04 02:00:00	871.649414			
06-Jun-04 03:00:00	865.713379			
06-Jun-04 04:00:00	865.414429			
06-Jun-04 05:00:00	857.114563			
06-Jun-04 06:00:00	837.840454			
06-Jun-04 07:00:00	830.815063			
06-Jun-04 08:00:00	825.048645			
06-Jun-04 09:00:00	818.784973			
06-Jun-04 10:00:00	812.258057			
06-Jun-04 11:00:00	805.324646			
06-Jun-04 12:00:00	798.040833			
06-Jun-04 13:00:00	791.014038			
06-Jun-04 14:00:00	783.731018			
06-Jun-04 15:00:00	776.473999			
06-Jun-04 16:00:00	769.375671			
06-Jun-04 17:00:00	762.406067			
06-Jun-04 18:00:00	755.552856			
06-Jun-04 19:00:00	748.86731			
06-Jun-04 20:00:00	742.250793			
06-Jun-04 21:00:00	736.001953			
06-Jun-04 22:00:00	729.378967			
06-Jun-04 23:00:00	770.631348			
07-Jun-04 00:00:00	837.682922			
07-Jun-04 01:00:00	840.233154			
07-Jun-04 02:00:00	832.462402			
07-Jun-04 03:00:00	808.722839			
07-Jun-04 04:00:00	869.075989			
07-Jun-04 05:00:00	827.603088			
07-Jun-04 06:00:00	803.226868			
07-Jun-04 07:00:00	843.834045			
07-Jun-04 08:00:00	857.295349			
07-Jun-04 09:00:00	867.082092			
07-Jun-04 10:00:00	876.431335			
07-Jun-04 11:00:00	881.344666			
07-Jun-04 12:00:00	881.383972			
07-Jun-04 13:00:00	881.25647			
07-Jun-04 14:00:00	883.459656			
07-Jun-04 15:00:00	883.042725			
07-Jun-04 16:00:00	883.087646			
07-Jun-04 17:00:00	881.973145			
07-Jun-04 18:00:00	882.008301			
07-Jun-04 19:00:00	882.727478			
07-Jun-04 20:00:00	883.271301			
07-Jun-04 21:00:00	882.834534			
07-Jun-04 22:00:00	883.142639			
07-Jun-04 23:00:00	881.216675			

TUNING

CO, NO_x EMISSIONS & GAS TURBINE LOAD (MW)

Tampa Electric Company
 Bayside CT1B
 Hillsborough County, Florida

Today's Date: 05/27/2003
 Time: 09:49:57

Reporting Period
 Day: 05/11/2003

Time	Daily Emissions Log							
	CO2 %	NOx ppm	NOx lb/mmBtu	NOx @15% O2	CO ppm	CO @15% O2	Gen MW	HTIP lb/mmBtu
0100	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0200	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0300	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0400	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0500	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0600	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0700	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0800	1.6	11.5	0.089	24.2	241.2	508.1	2.8	247.3
0900	3.3	44.9	0.169	45.9	332.1	339.2	34.7	709.2
1000	3.4	48.5	0.177	48.1	297.4	294.8	37.1	722.7
1100	4.3	23.5	0.068	18.4	6.0	4.7	100.2	1208.6
1200	4.3	8.4	0.024	6.6	1.4	1.1	130.7	1431.3
1300	4.4	8.2	0.023	6.3	1.3	1.0	151.7	1599.5
1400	4.4	8.7	0.025	6.7	1.3	1.0	151.5	1596.3
1500	4.4	8.4	0.024	6.4	1.5	1.1	151.8	1598.2
1600	4.4	3.8	0.011	2.9	1.4	1.1	152.0	1596.6
1700	4.4	3.9	0.011	3.0	1.3	1.0	152.5	1600.0
1800	4.4	3.9	0.011	3.0	1.2	0.9	153.7	1607.3
1900	4.2	7.2	0.021	5.8	44.6	35.8	133.6	1432.1
2000	0.8	1.1	0.014	3.7	735.7	2479.8	0.0	0.0
2100	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
2200	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
2300	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
2400	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
AVG	2.0	7.6	0.028	7.5	69.4	152.9	56.3	639.5

Legend
 C - Out of Control
 D - Out of Service
 I - Insufficient Data
 M - Maintenance Fault
 A - Calibration Error
 X - Calibration Expired

Tampa Electric Company
 Bayside CT1A
 Hillsborough County, Florida

Today's Date: 03/18/2004
 Time: 12:54:42

Reporting Period
 Day: 10/31/2003

Time	Daily Emissions Log							
	CO2 %	NOx ppm	NOx lb/mmBtu	NOx @15% O2	CO ppm	CO @15% O2	Gen MW	HTIP lb/mmBtu
0100	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0200	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0300	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0400	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0500	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0600	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0700	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0800	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0900	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1000	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1100	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1200	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1300	2.5	33.2	0.165	44.8	234.5	316.2	20.4	557.6
1400	4.0	31.2	0.097	26.3	73.2	61.7	80.7	1097.7
1500	4.2	8.9	0.026	7.1	1.3	1.0	111.3	1313.7
1600	4.2	8.7	0.026	7.0	1.3	1.0	143.7	1568.8
1700	4.2	6.5	0.019	5.2	1.3	1.0	113.7	1339.4
1800	4.2	3.6	0.011	2.9	1.3	1.0	95.3	1204.9
1900	4.2	3.6	0.011	2.9	1.3	1.0	100.3	1239.3
2000	3.1	6.4	0.026	7.0	247.7	269.3	59.5	796.0
2100	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
2200	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
2300	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
2400	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
AVG	3.8	12.8	0.048	12.9	70.2	81.5	90.6	1139.7

Operating Hours: 8

Legend

- C - Out of Control
- D - Out of Service
- I - Insufficient Data
- M - Maintenance Fault
- A - Calibration Error
- X - Calibration Expired

Tampa Electric Company
 Bayside CT1A
 Hillsborough County, Florida

Today's Date: 03/18/2004
 Time: 12:54:58

Reporting Period
 Day: 11/05/2003

Time	Daily Emissions Log							
	CO2 %	NOx ppm	NOx lb/mmBtu	NOx @15% O2	CO ppm	CO @15% O2	Gen MW	HTIP lb/mmBtu
0100	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0200	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0300	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0400	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0500	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0600	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0700	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0800	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0900	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1000	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1100	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1200	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1300	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1400	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1500	2.0	24.7	0.153	41.6	154.5	260.4	7.4	424.4
1600	2.3	33.4	0.180	48.9	129.0	189.1	10.7	499.7
1700	2.3	34.3	0.185	50.3	126.4	185.2	11.1	502.2
1800	2.2	32.7	0.185	50.1	139.5	213.7	10.4	497.2
1900	2.2	32.6	0.184	49.9	140.7	215.6	10.3	495.5
2000	2.2	32.5	0.183	49.8	142.8	218.8	10.3	497.1
2100	2.2	32.2	0.182	49.3	143.2	219.4	9.9	492.5
2200	2.2	32.0	0.181	49.0	143.8	220.3	9.6	491.0
2300	2.2	32.4	0.183	49.6	142.4	218.2	9.7	493.2
2400	2.2	32.8	0.185	50.3	140.8	215.7	10.2	498.4
AVG	2.2	32.0	0.180	48.9	140.3	215.6	10.0	489.1

Operating Hours: 10

Legend

- C - Out of Control
- D - Out of Service
- I - Insufficient Data
- M - Maintenance Fault
- A - Calibration Error
- X - Calibration Expired

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Tampa Electric Company
 Bayside CT1A
 Hillsborough County, Florida

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Today's Date: 03/18/2004
 Time: 12:55:20

Reporting Period
 Day: 11/06/2003

Time	Daily Emissions Log							
	CO2 %	NOx ppm	NOx lb/mmBtu	NOx @15% O2	CO ppm	CO @15% O2	Gen MW	HTIP lb/mmBtu
0100	2.2	32.6	0.184	49.9	142.9	218.9	10.0	498.0
0200	2.2	33.6	0.190	51.5	138.8	212.7	10.8	504.9
0300	2.2	33.4	0.189	51.2	142.0	217.6	16.4	559.4
0400	2.3	32.9	0.178	48.2	191.3	280.4	12.0	519.0
0500	3.8	30.3	0.099	26.9	112.9	100.1	81.1	1080.6
0600	4.2	3.5	0.010	2.8	1.0	0.8	100.0	1219.5
0700	3.1	20.6	0.083	22.4	272.8	296.6	43.6	679.0
0800	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
0900	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1000	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1100	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1200	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
1300	0.0	0.0	0.000	0.0	0.8	2.7	0.0	46.2
1400	3.6	23.9	0.082	22.4	145.4	136.1	74.7	1008.7
1500	4.2	3.6	0.011	2.9	1.0	0.8	113.0	1309.9
1600	4.1	3.5	0.011	2.9	1.0	0.8	110.6	1292.7
1700	4.1	3.6	0.011	3.0	1.0	0.8	101.2	1227.7
1800	4.1	3.6	0.011	3.0	1.0	0.8	108.8	1281.7
1900	4.2	3.5	0.010	2.8	1.0	0.8	144.7	1550.4
2000	4.2	3.7	0.011	3.0	1.1	0.9	113.6	1311.6
2100	3.4	13.3	0.049	13.2	198.6	196.9	66.0	875.0
2200	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
2300	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
2400	0.0I	0.0I	0.000	0.0	0.0	0.0	0.0	0.0
AVG	3.2	15.4	0.071	19.1	84.5	104.2	69.2	935.3

Operating Hours: 16

Legend

- C - Out of Control
- D - Out of Service
- I - Insufficient Data
- M - Maintenance Fault
- A - Calibration Error
- X - Calibration Expired

ATTACHMENT J

**OVERSPEED TRIP TEST
GE TECHNICAL INFORMATION LETTER**



TIL 1345-2
GE ENERGY SERVICES
PRODUCT SERVICE
14 JUNE 2002

TECHNICAL INFORMATION LETTER

7FA+E ROTOR STARTUP/OVERSPEED REVISION

APPLICABLE TO

All 7241 and 7FB Gas Turbines not yet commissioned, and units that experience an overspeed test event annually.

PURPOSE

To inform users of the new Rotor Startup Procedure, Document 362A2445 Rev. B, "Rotor Start Up Procedures for 7FA+e and 7FB Designs".

BACKGROUND DISCUSSION

Some units in the field have experienced R1/R0 tip distress. The distress is largely due to degraded fatigue properties of the material at the tip of the blade due to tip rubs. Such distress may lead to tip loss. Research has identified the major operational characteristics that affect clearance at the front end of the compressor. As a result of this analysis, it was found that the 110% trip test had the largest clearance debit when compared to all of the other factors involved in front end clearance closure. The current procedure is as follows:

- The rotor stabilizes mechanically and thermally at 43.5 deg IGV setting for ~4 hours.
- After rotor stability, the unit is accelerated to 110% speed, and a trip is initiated.
- The unit then coasts down normally.

Currently all 7241 units run an overspeed test as part of the regular commissioning procedure. The rotor is run to 110%, thus initiating a turbine trip. Before overspeed, the rotor undergoes thermal and mechanical stabilization at FSNL for approximately 4 hours at a closed IGV setting (43.5 deg). It was demonstrated in recent testing that this condition can initiate rubs on the first two compressor stages, as a result of the casing cooling down and tightening the available clearance.

In order to avoid clearance closure leading to rubs this overspeed procedure has been revised. After the 4 hour run, IGVs are manually positioned to 88 degrees and the unit is run for 45 more minutes; the overspeed sequence can then be completed; the IGVs should resume normal schedule following trip (with IGV modulation tracking with speed during coast down).

This procedure would warm up the front end of the compressor before an overspeed/trip test. By warming up the front end, the casings will open enough to allow adequate blade clearance to avoid rubs.

RECOMMENDATIONS

GE recommends implementing the new Rotor Startup Procedure every time an overspeed test is required. This procedure has been revised to include the improved overspeed instruction. GE recommends that all units undergoing an overspeed test should follow this procedure to reduce potential rubs on the R0 and R1 blades. A qualified GE Controls TA can perform this test.

Contact your local GE Energy Services representative for assistance or for additional information.

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