January 31, 2014

Mr. David McNeal
USEPA, Region 4
Sam Nunn Federal Center
61 Forsyth Street, SW
Atlanta, Georgia USA 30303-3104

Subject: NOx Analyzer Re-certification – Putnam Plant Unit 1-1 (ORIS code 006246)

Dear Mr. McNeal:

In compliance with the Acid Rain Continuous Emission Monitoring Program (40 CFR Part 75.63), Florida Power & Light Company (FPL) is submitting the Continuous Emissions Monitoring System Re-certification Application for the NOx analyzer replacement on Putnam Unit 1-1. In order to continue to ensure CEMS data integrity and analyzer availability, FPL is currently replacing CEMS NOx and O2 analyzers on thirty-eight units throughout the State.

Putnam Unit 1-1 NOx analyzer, serial number 42C 77257-385 was removed from service on November 20, 2013 and replaced by serial number 1324258460. Re-certification test period requirements and data validation, which includes a probationary calibration error test, in accordance with 40 CFR Part 75.20(b)(3)(ii) were performed to initiate a conditional valid data period.

The re-certification of the NOx System was performed in accordance with 40 CFR Part 75, Appendix A during the period of November 20 – December 20, 2013. Enclosed are the quality assurance audits which include a RATA Report, 7 Day Calibration Error Test, Linearity, and updated Monitoring Plan.

If you have any questions with the attached, please feel free to contact me at (561) 691-2781 or Elisa Ostertag at (561) 691-2341.

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

Sincerely,

Christian Kiernan

Designated Representative

Attachment

cc: Jeff Koerner –Division of Air Resource Management, FDEP Tallahassee
Khalid AlNahdy – FDEP Northeast District
Jeff Smith - Plant General Manager
Tammy Pratt - Environmental Specialist

ECMPS Client Tool

Version 1.0 2013 Q3

Monitoring Plan Printout Report

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Facility Name: Putnam

Facility Details

Facility ID (ORISPL):	6246
Monitoring Plan Location IDs:	HRSG11
State:	FL
County:	Putnam
Latitude:	29.6283
Longitude:	-81.5856

Reporting Frequency

Monitoring Plan Location IDs	Reporting Frequency	Begin Quarter	End Quarter
HRSG11	Q - Quarterly	1995 QTR 1	

Monitoring Location Attributes

Unit/Stack/Pipe Identifier	Duct Indicator	Ground Elevation	Stack Height	Cross Area Exit	Cross Area Flow	Material Code	Shape Code	Begin Date	End Date
HRSG11		23	74	84				01/01/1995	

Unit Operation Information

Unit Identifier	Non-Load Based Ind	Commence Commercial Operation Date	Commence Operation Date	Boiler/Turbine Type			Max Heat Input		
				Code	Begin Date	End Date	Value (mmBtu)	Begin Date	End Date
HRSG11		04/24/1978	04/24/1978	CC	04/24/1978		968.3	01/01/1995	12/22/2009
		04/24/1978	04/24/1978	CC	04/24/1978		1232.0	12/22/2009	

Unit Type Codes: CC - Combined cycle

Unit Program Information

Unit Identifier	Program Code	Unit Class	Unit Monitor Certification Begin Date	Unit Monitor Certification Deadline
HRSG11	ARP	P2	01/01/1995	01/01/1995
	CAIRNOX	A	01/01/2008	01/01/2008
	CAIROS	A	05/01/2008	05/01/2008
	CAIRSO2	A	01/01/2009	01/01/2009
	TRNOXOS	A	05/01/2012	05/01/2012

Unit Fuel

Unit Identifier	Fuel Type	Fuel Indicator	Demonstration Method for GCV	Demonstration Method for Daily Sulfur	Ozone Season Indicator	Begin Date	End Date
HRSG11	DSL	S				01/01/1995	
	PNG	P				01/01/1995	

Fuel Type Codes:
PNG - Pipeline Natural Gas
DSL - Diesel Oil

Fuel Indicator Codes:
S - Secondary
P - Primary

Monitoring Method

Unit/Stack/Pipe Identifier	Parameter	Methodology	Substitute Data Approach	Bypass Approach Code	Begin Date/Hour	End Date/Hour
HRSG11	CO2	AD	SPTS		01/01/1995 00	
	HI	AD	SPTS		01/01/1995 00	
	NOX	NOXR			01/01/2008 00	
	NOXR	CEM	SPTS		01/01/1995 00	
	OP	EXP			01/01/1995 00	
	SO2	AD	SPTS		01/01/1995 00	

Parameter Codes:
SO2 - SO2 Hourly Mass Rate (lb/hr)
OP - Opacity
NOXR - NOx Emission Rate (lb/mmBtu)
NOX - NOx Hourly Mass Rate (lb/hr)
HI - Heat Input Rate (mmBtu/hr)
CO2 - CO2 Hourly Mass Rate (ton/hr)

Methodology Codes:
NOXR - NOx Mass Calculated from NOx Emission Rate
EXP - Exempt
CEM - Continuous Emission Monitor
AD - Appendix D

Substitute Data Codes:
SPTS - Standard Part 75 for Missing Data

Facility Name: **Putnam**

Facility ID (ORISPL): 6246

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Monitoring System / Analytical Components

Unit/Stack /Pipe Identifier	System					Component								
	ID	Type	Des	Begin Date/Hour	End Date/Hour	ID	Type	SAM	BAS	Manufacturer	Model or Version	Serial Number	Begin Date/Hour	End Date/Hour
HRSG11	102	NOX	P	01/01/1995 00		002	NOX	DIN	W	TECO	42	42D-49807-284	01/01/1995 00	09/30/2003 10
						003	CO2	DIN	W	CALIFORNIA ANALYTICAL	3300	N4C0319T	01/01/1995 00	11/19/2007 09
						007	NOX	DIN	W	TECO	42	42D-49807-284	01/01/1995 00	12/31/2003 23
						777	PRB	DIN		EPM	PPN11PRB01	PPN11PRB01	01/01/1995 00	
						998	DAHS			BABCOCK & WILCOX	8.3.001	NTDAHS-PPN1	01/01/1995 00	
						A02	NOX	DIN	W	TEI	42C	77257-385	09/30/2003 11	11/20/2013 12
						A03	CO2	DIN	W	CALIFORNIA ANALYTICAL	600D	U08067	11/19/2007 10	
						B02	NOX	DIN	W	THERMO	42I	1324258460	11/20/2013 13	
	108	GAS	P	01/01/1995 00		008	GFFM	ORF		WESTINGHOUSE	OVATION DCS	BILLFLOW	01/01/1995 00	
						998	DAHS			BABCOCK & WILCOX	8.3.001	NTDAHS-PPN1	01/01/1995 00	
	109	OILV	P	01/01/1995 00		009	OFFM	U		CONTROLOTRON	990	U-6394	01/01/1995 00	08/19/2010 08
						010	OFFM	U		CONTROLOTRON	990	U-5784	01/01/1995 00	01/01/1995 00
						011	OFFM	U		Seimens	1010	28838	08/19/2010 09	
						998	DAHS			BABCOCK & WILCOX	8.3.001	NTDAHS-PPN1	01/01/1995 00	

System Types Descriptions:
NOX - NOx Emission Rate
GAS - Gas Fuel Flow
OILV - Volumetric Oil Fuel Flow

System Designations Descriptions:
P - Primary

Sample Acquisition Method (SAM):
U - Ultrasonic
ORF - Orifice
DIN - Dilution In-Stack

Component Types Descriptions:
NOX - NOx Concentration
CO2 - CO2 Concentration
PRB - Probe
DAHS - Data Acquisition and Handling System
GFFM - Gas Fuel Flowmeter
OFFM - Oil Fuel Flowmeter

Monitoring System Fuel Flow

Unit/Stack/Pipe Identifier	System ID	Fuel Code	Max Fuel Flow Rate	Units of Measure	Source Code	Begin Date/Hour	End Date/Hour
HRSG11	108	PNG	12500.0	HSCF	URV	01/01/1995 00	
	109	DSL	7500.0	GALHR	URV	01/01/1995 00	

System Fuel Codes Descriptions: PNG - Pipeline Natural Gas
DSL - Diesel Oil

Units of Measure Descriptions: HSCF - Hundred Standard Cubic Feet / Hour
GALHR - Gallons / Hour

Source Codes Descriptions: URV - Upper Range Value

Analyzer Range Data

Unit/Stack/Pipe Identifier	Component Type	Component ID	Range Code	Dual Range Indicator	Begin Date/Hour	End Date/Hour
HRSG11	CO2	003	High Range		01/01/1995 00	12/31/2007 23
	CO2	A03	High Range		11/19/2007 10	
	NOX	002	Auto Ranging	Y	01/01/1995 00	12/31/2003 23
	NOX	007	Low Range		01/01/1995 00	12/31/2003 23
	NOX	A02	Auto Ranging	Y	09/30/2003 11	11/20/2013 12
	NOX	B02	Auto Ranging	Y	11/20/2013 13	

Component Types Descriptions: CO2 - CO2 Concentration
NOX - NOx Concentration

Emissions Formulas

Facility Name: **Putnam**

Facility ID (ORISPL): **6246**

Monitoring Plan Printout Report

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Unit/Stack/Pipe Identifier	Parameter	Formula ID	Formula Code	Formula	Begin Date/Hour	End Date/Hour
HRSG11	NOXR	002	19-7	1.194 * 10**-7 * S#(B02 - 102) * F#(008) * (100/S#(A03-102))	01/01/1995 00	
	CO2	004	G-4	(1040 * F#(006) * (1/385) X 44.0) / 2000	01/01/1995 00	
	HI	006	F-20	S#(008 - 108) * GCV_GAS / 10**+6	01/01/1995 00	
	HI	007	F-19	F#(011) * GCV_OIL / 10**+6	01/01/1995 00	
	FC	008	F-8	X_OIL * 1420 + X_GAS * 1040	01/01/1995 00	
	SO2	009	D-2	2.0 * F#(011) * % SULFUR_OIL / 100	01/01/1995 00	
	SO2	010	D-5	0.0006 * F#(006)	01/01/1995 00	
	OILM	011	D-3	S#(011 - 109) * DENSITY_OIL	01/01/1995 00	
	CO2	012	G-4	(1420 * F#(007) * (1/385) * 44.0) / 2000	01/01/1995 00	
	HI	013	D-15A	(F#(006) * COMBUSTION TIME_GAS + F#(007) * COMBUSTION TIME_OIL) / T_HRSG11	01/01/1995 00	
	NOX	014	F-24A	NOX_MASS = F#(002) * F#(013) * T_UNIT	01/01/2008 00	
	SO2	025	D-12	SO2_TOTAL = ((F#(009) * T_OIL) + (F#(010) * T_GAS))	01/01/1995 00	
	CO2	027	G-4A	CO2_TOTAL = ((F#(012) * T_OIL) + (F#(004) * T_GAS)) / T_UNIT	01/01/1995 00	

Parameter Codes Descriptions:

NOXR - NOx Emission Rate (lb/mmBtu)
CO2 - CO2 Hourly Mass Rate (ton/hr)
HI - Heat Input Rate (mmBtu/hr)
FC - F-Factor Carbon-based
SO2 - SO2 Hourly Mass Rate (lb/hr)
OILM - Oil Mass Flow Rate (lb/hr)
NOX - NOx Hourly Mass Rate (lb/hr)

Formula Codes Descriptions:

G-4A - CO2 (from CO2 rate for multiple fuels)
G-4 - CO2 (from HI, Fc)
F-8 - FD/FC/FW (from multiple fuels)
F-24A - NOX (from NOX rate, HI)
F-20 - HI (same as D-6)
F-19 - HI (same as D-8)
D-5 - SO2 (from gas SO2 emission rate, HI)
D-3 - OILM (from volumetric oil flow rate, density)
D-2 - SO2 (from OILM, oil sulfur content)
D-15A - HI (from HI rate for multiple fuels)
D-12 - SO2 (from SO2 rate for multiple fuels)
19-7 - NOXR/SO2R (same as F-6)

Span Values

Unit/Stack /Pipe Identifier	Comp Type	Scale	Method	MPC/ MPF	MEC	Span Value	Full-Scale Range	Units of Measure	Scale Transition Point	Def. High Range Value	Flow Full Range (SCFH)	Flow Span Value (SCFH)	Begin Date/Hour	End Date/Hour
HRSG11	CO2	H	HD	4.0		20.000	20.000	PCT					01/01/1995 00	11/19/2007 10
	CO2	H	HD	4.0		10.000	10.000	PCT					11/19/2007 10	
	NOX	H	TB	400.0	160.0	500.000	500.000	PPM	200.0				01/01/1995 00	
	NOX	L	TR		160.0	200.000	200.000	PPM	200.0				01/01/1995 00	

Component Types Descriptions: CO2 - CO2 Concentration
NOX - NOx Concentration

Span Method Codes Descriptions: TR - Test Results
TB - Table Defaults from Part 75
HD - Historical Data

Units of Measure Descriptions: PPM - Parts per Million
PCT - Percentage

Unit/Stack/Pipe Load or Operating Level Information

Unit/Stack/Pipe Identifier	Maximum Hourly Load	Units of Measure	Upper Bound of Range of Operation	Lower Bound of Range of Operation	Designated Normal Op. Level	Second Most Frequently Used Op. Level	Second Normal Indicator	Load Analysis Date	Begin Date/Hour	End Date/Hour
HRSG11	135	MW	125	13	High	Mid	No	03/31/2000	01/01/1995 00	04/15/2002 23
	135	MW	135	13	High	Mid	Yes	04/16/2002	04/16/2002 00	12/31/2010 23
	141	MW	141	13	High	Mid	Yes	01/01/2011	01/01/2011 00	

Units of Measure Descriptions: MW - Megawatt

Facility Name: **Putnam**

Facility ID (ORISPL): **6246**

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Monitoring Defaults

Unit/Stack/Pipe Identifier	Parameter	Value	Units of Measure	Purpose Code	Fuel Type	Operating Condition	Source of Value	Begin Date/Hour	End Date/Hour
HRSG11	CO2N	1.0000	PCT	DC	NFS	A	DEF	01/01/1995 00	
	NORX	1.6950	LBMMBTU	MD	NFS	A	DEF	01/01/1995 00	

Parameter Codes Descriptions: NORX - Maximum NOx Emission Rate (lb/mmBtu)
CO2N - CO2 Minimum Concentration (pct)

Units of Measure Descriptions: PCT - Percentage
LBMMBTU - Pounds / mmBtu

Purpose Codes Descriptions: MD - Missing Data (or Unmonitored Bypass Stack or Emergency Fuel) Default
DC - Diluent Cap

Fuel Type Codes Descriptions: NFS - Non-Fuel Specific

Operating Conditions Descriptions: A - Any Hour

Source Codes Descriptions: DEF - Default Value from Part 75

Qualifications

Unit/Stack/Pipe Identifier	Qualification Type	Begin Date	End Date
HRSG11	GF	01/01/2004	12/31/2004

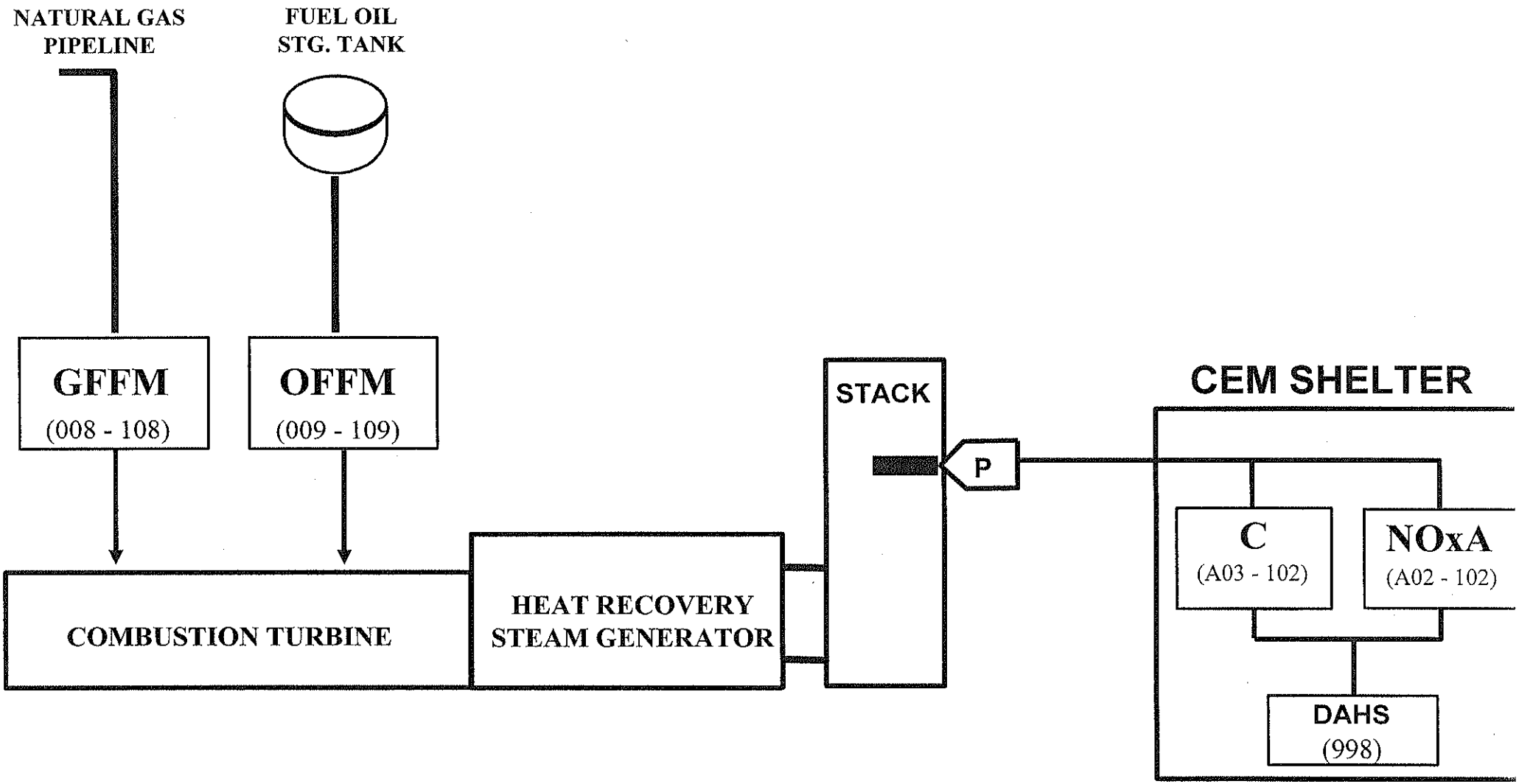
Qualification Percentages for Qualification Type Code GF Begin Date 01/01/2004

Qualification Year	Average Percent Value	Year 1			Year 2			Year 3		
		Data Year	Data Type Cd	Percent Value	Data Year	Data Type Cd	Percent Value	Data Year	Data Type Cd	Percent Value
2004	97.0	2002	A	97.0	2003	A	97.0	2004	P	97.0

Qualification Types Descriptions: GF - Gas-Fired Unit

Data Type Codes Descriptions: A - Actual
D - Demonstration
P - Projected

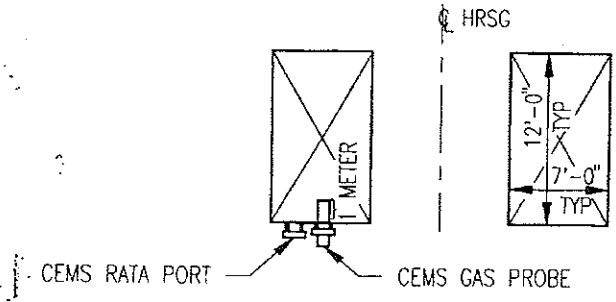
ATTACHMENT # _ SCHEMATIC DIAGRAM
PUTNAM PLANT - UNIT 1-1
ORIS CODE: 6246
NADB BOILER ID: HRSG11



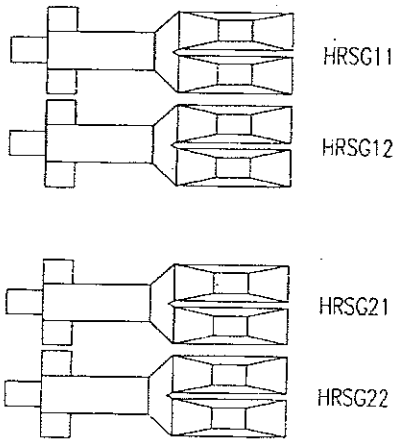
ATTACHMENT #2

ENGINEERING DRAWING FOR PUTNAM POWER PLANT
UNIT 1-1

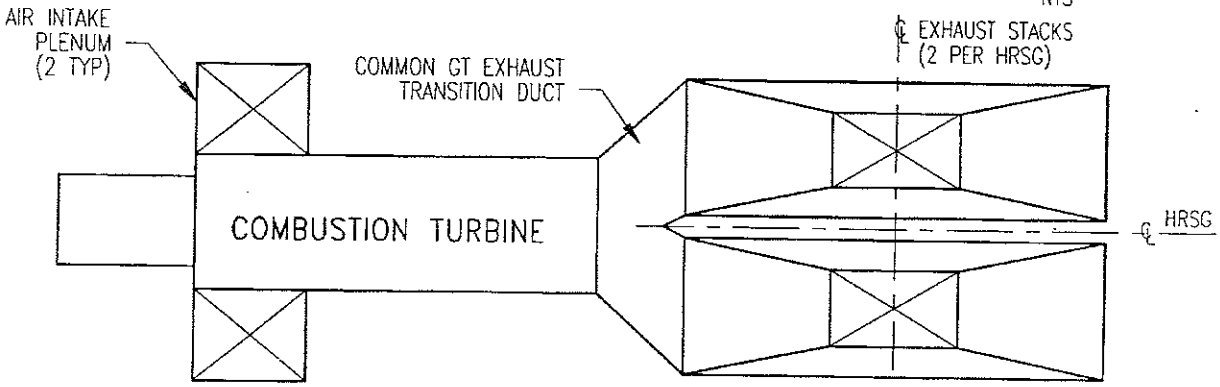
ORIS CODE: 6246
NADB BOILER ID: HRSG11



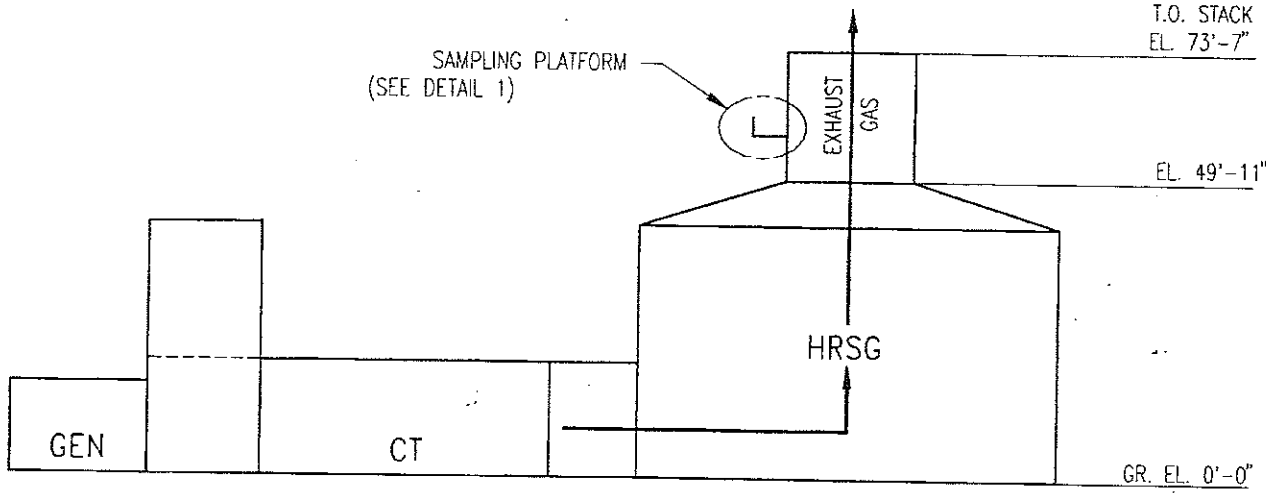
DETAIL 1
STACK CROSS SECTION
AT SAMPLING LEVEL
EL. 61'-6"



SITE PLAN
NTS

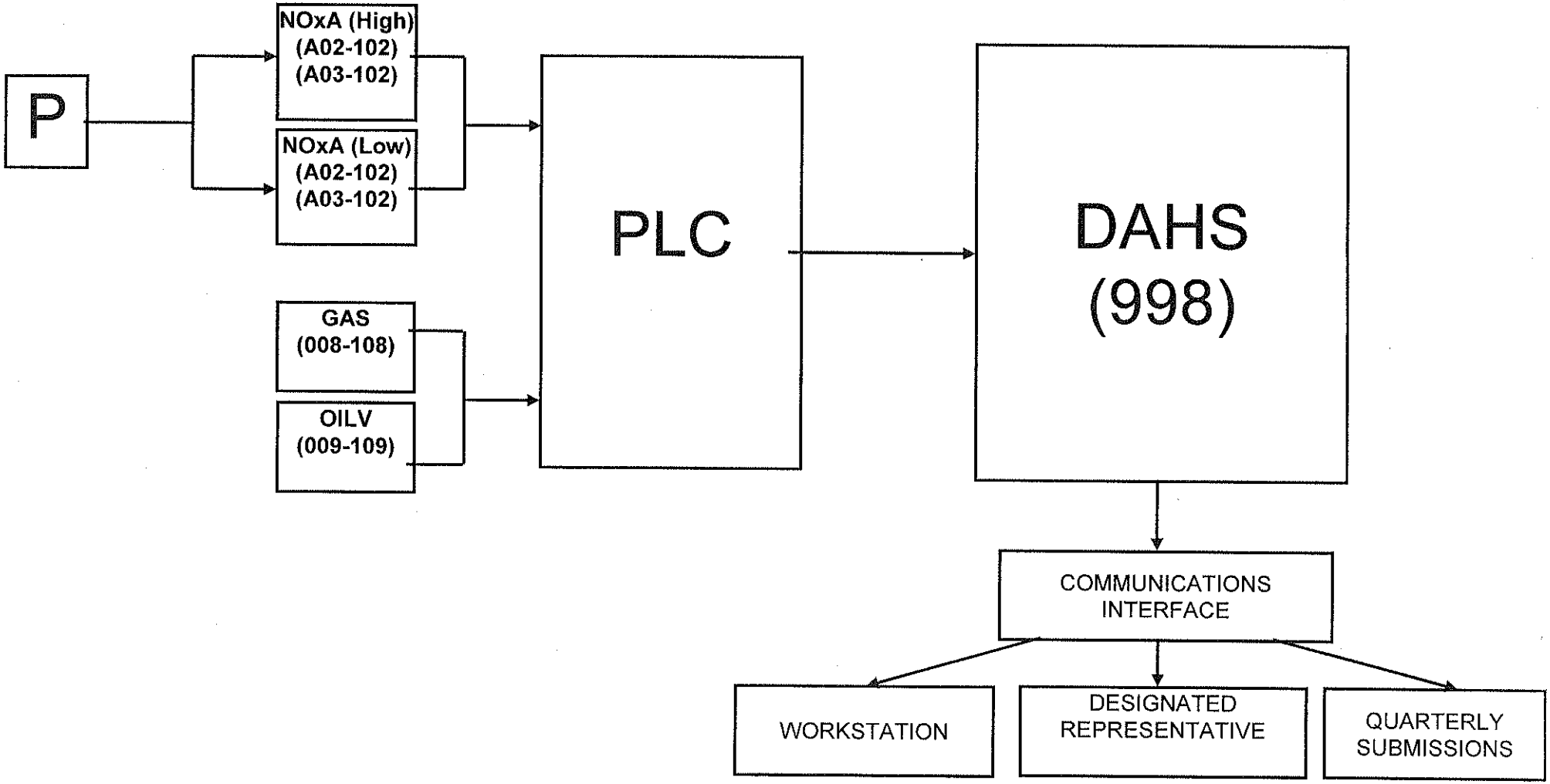


GENERAL ARRANGEMENT
OPERATING FLOOR PLAN
NTS



GENERAL ARRANGEMENT
POWER BLOCK SECTION
NTS

ATTACHMENT #3 - DATA INFORMATION FLOW DIAGRAM
PUTNAM PLANT - UNIT 1-1
ORIS CODE: 6246
NADB BOILER I.D. - HRSG11



COASTAL AIR CONSULTING INC.

245 West Ohio Ave. • Suite A • Lake Helen, FL 32744
Phone (386) 451-0169 • coastalair123@aol.com

COMPLETE EMISSIONS TESTING SERVICES • PERMITTING ASSISTANCE • CEMS CERTIFICATION • AMBIENT AIR MONITORING

Emissions Test Report

No. 145-015

FLORIDA POWER & LIGHT COMPANY
PUTNAM POWER PLANT

CT 1 - 1

RELATIVE ACCURACY TEST AUDIT

Prepared for:

Florida Power & Light
700 Universe Blvd.
Juno Beach, FL 33408

Prepared by:

Coastal Air Consulting, Inc.
245 West Ohio Ave. Suite A
Lake Helen, FL 32744
(386) 451-0169

Completed On:

December 20, 2013

STATEMENT OF VALIDITY

All testing activities and results represented herein were conducted and obtained in accordance with the approved EPA protocols listed in 40 CFR Parts 60 & 75. The contents have been reviewed and verified to be true and correct.

Stephen C. Webb

Stephen C. Webb

President
Coastal Air Consulting, Inc.
245 West Ohio Ave. Suite A
Lake Helen, FL 32744
(386) 451-0169

PROJECT STATISTICS

Client:	Florida Power & Light Company
Facility:	Putnam Power Plant CT 1 - 1
Location:	392 U S Highway 17 South East Palatka, FL 32131-0308
Type of Process Tested:	Combined Cycle Combustion Turbine
Test Protocols Performed:	Oxygen/Carbon Dioxide-EPA Method 3A Nitrogen Oxide-EPA Method 7E
Source Analyzers: CT 1 - 1	Thermo NOx – 42i-1324258460
Testing Firm:	Coastal Air Consulting, Inc. 245 West Ohio Ave. Suite A Lake Helen, FL 32744
Test Personnel:	Stephen Webb Site Supervisor
Test Date:	December 20, 2013
Client Representative:	Tammy Pratt
Observers:	None

TABLE OF CONTENTS

1.0 Introduction

Coastal Air Consulting, Inc. (Coastal) was contracted by Florida Power & Light Company (FPL) to determine the relative accuracy of the Continuous Emissions Monitoring System (CEMS) at the **Putnam** Power Plant CT 1 - 1 in Palatka, FL. The sampling program was conducted on December 20, 2013. The RATA was performed by Coastal personnel, with the assistance of personnel assigned by the Putnam Plant.

2.0 Test Program Summary

A summary of results developed by this testing program is presented in Table 1.

TABLE 1
Accuracy Summary CT 1 - 1

Parameters	Relative Accuracy	Allowable (Annual)	Bias
NOx (Ib/mmBtu)	**3.64 %**	**7.5%**	**NB**

* Low Emitter value = + or - 0.0Th 10/rn

30 Results of Testing

These results indicate that CT 1 - 1 passed the RATA at the time of testing under normal operating conditions.

4.0 Description of Source

FPL Putnam Plant consists of four combustion turbines, each with an associated inlet fogger and heat recovery steam generator equipped with duct burners, an auxiliary boiler and unregulated emissions units. Each combustion turbine is a Westinghouse unit rated at 70 MW generating capacity (at 85 degrees F ambient temperature), with a maximum heat input for natural gas and fuel oil of 968.3 MMBtu/ht and 910.6 MMBtu/hr, respectively. The duct burners for each FIRSG are rated at a maximum heat input of 250 MMBtu/hr, and are fired with natural gas and number 2 fuel oil. The auxiliary boiler is manufactured by VA-Power and has a maximum heat input for natural gas and number 2 fuel oil of 16.275 MMBtu/hr and 14.28 MMBtu/hr, respectively.

5.0 Sampling Procedures

EPA testing protocols utilized during this test program include the following;

EPA Method 3A Gas Analysis for 002, 02, Excess Air and Dry Molecular Weight (Instrumental Analyzer Method)
EPA Method 7E Determination of Nitrogen Oxides Emissions From Stationary Sources (Instrumental Analyzer Method)

6.0 Operating Conditions

Putnam Plant personnel monitored operating conditions throughout the duration of the sampling program. The combustion turbine CT 1 - 1 was operating at base load during the RATA test runs.

7.0 Quality Assurance Procedures

Quality assurance procedures followed during these testing activities were applied consistent with the requirements outlined by the EPA methods referenced in 40 CFR Parts 60 & 75. Analyzer calibrations, system bias and drift checks were completed before and after each sample run utilizing EPA Protocol 1 calibration

APPENDIX 1
Reference Data

NOx LB/MMBTU RELATIVE ACCURACY

PLANT: FPL-PPN
UNIT: 1 1
LOAD: 116.0
DATE: 12/20/2013

ANALYZER: Thermo
SERIAL # 42iLS-1324258460

RUN	TIME START	TIME END	REFERENCE METHOD (NOxlb/mmBTU)	CEM RESPONSE (NOxlb/mmBTU)	ARITHMATIC DIFFERENCE	DIFFERENCE SQUARED
1	8:30	08:50	0.422	0.420	0.002	0.00000
2	9:00	09:20	0.422	0.429	-0.007	0.00005
3	9:30	09:50	0.421	0.437	-0.016	0.00026
4	10:40	11:00	0.429	0.432	-0.003	0.00001
5	11:10	11:30	0.429	0.441	-0.012	0.00014
6	11:40	12:00	0.438	0.442	-0.004	0.00002
7	12:10	12:30	0.440	0.441	-0.001	0.00000
8	12:42	13:02	0.429	0.450	-0.021	0.00044
9	13:10	13:30	0.429	0.449	-0.02	0.00040
			AVERAGE	AVERAGE	SUM OF DIFF.	SUM OF THE SQUARES
			0.4288	0.4379	-0.082	0.001320

**MEAN DIFFERENCE, d (Eq. A-7)	-0.0091
**STANDARD DEVIATION, Sd (Eq. A-8)	0.0085
**CONFIDENCE COEFFICIENT, |CC| (Eq. A-9)	0.0065
**PERCENT (%) RELATIVE ACCURACY, RA (Eq. A-10)	3.642
**BIAS ADJUSTMENT FACTOR, BAF (Eq. A-12)	1.000

** 40 CFR 75, Appendix A

DATE TESTED: 12/20/2013
Run 1

FLORIDA POWER AND LIGHT CO.
PUTNAM 1GT1
ANALYZER CALIBRATION ERROR

RANGE SETTING	GAS UNITS	CERTIFIED GAS VALUE	ANALYZER VALUE	DIFF PPM	% SPAN	ANALYZER SERIAL #
	ppm NOx	0.00	0.20	0.2	0.1	
250	ppm NOx	95.90	96.00	0.1	0.0	42CHL 72772-372
	ppm NOx	213.00	212.80	-0.2	-0.1	
	% O2	0.00	0.00	0.0	0.0	
25	% O2	11.90	11.90	0.0	0.0	1422/B53
	% O2	22.70	22.50	-0.2	-0.9	
	% CO2	0.00	0.00	0.0	0.0	
20	% CO2	8.70	8.70	0.0	0.0	PO3048
	% CO2	17.10	17.20	0.1	0.6	

SYSTEM BIAS AND SYSTEM DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRETEST CHECK	% SPAN	POSTTEST CHECK	% SPAN	% DRIFT
ppm NOx	0.20	0.20	0.0	0.20	0.0	0.0
ppm NOx	96.00	95.80	-0.1	95.80	-0.1	0.0
% O2	0.00	0.00	0.0	0.00	0.0	0.0
% O2	11.90	11.90	0.0	11.90	0.0	0.0
% CO2	0.00	0.00	0.0	0.00	0.0	0.0
% CO2	8.70	8.70	0.0	8.70	0.0	0.0

UNCORRECTED REFERENCE DATA

Date & Time	NOx PPM	% O2	% CO2
12/20/2013 8:30	96.13	16.11	2.87
12/20/2013 8:31	96.25	16.13	2.93
12/20/2013 8:32	97.00	16.20	2.87
12/20/2013 8:33	96.75	16.18	2.73
12/20/2013 8:34	96.63	16.18	2.86
12/20/2013 8:35	97.50	16.16	2.85
12/20/2013 8:36	98.25	16.13	2.83
12/20/2013 8:37	98.18	16.14	2.82
12/20/2013 8:38	98.75	16.14	2.75
12/20/2013 8:39	97.13	16.21	2.88
12/20/2013 8:40	98.13	16.22	2.88
12/20/2013 8:41	97.25	16.19	2.88
12/20/2013 8:42	97.38	16.23	2.89
12/20/2013 8:43	97.88	16.21	2.89
12/20/2013 8:44	98.00	16.19	2.89
12/20/2013 8:45	98.50	16.19	2.87
12/20/2013 8:46	97.63	16.21	2.87
12/20/2013 8:47	97.25	16.21	2.89
12/20/2013 8:48	96.13	16.18	2.89
12/20/2013 8:49	96.13	16.13	2.91
12/20/2013 8:50	96.13	16.16	2.90
AVERAGE	97.28	16.18	2.86

Absolute Value
0.422

NOx PPM	97.39
% O2	16.18
% CO2	2.86
LB/MMBTU NOx	0.422

F Factor 1040

DATE TESTED: 12/20/2013
Run 2

FLORIDA POWER AND LIGHT CO.
PUTNAM 1GT1
ANALYZER CALIBRATION ERROR

RANGE SETTING	GAS UNITS	CERTIFIED GAS VALUE	ANALYZER VALUE	DIFF PPM	% SPAN	ANALYZER SERIAL #
	ppm NOx	0.00	0.20	0.2	0.1	
250	ppm NOx	95.90	96.00	0.1	0.0	42CHL 72772-372
	ppm NOx	213.00	212.80	-0.2	-0.1	
	% O2	0.00	0.00	0.0	0.0	
10	% O2	11.90	11.90	0.0	0.0	1422/B53
	% O2	22.70	22.50	-0.2	-0.9	
	% CO2	0.00	0.00	0.0	0.0	
20	% CO2	8.70	8.70	0.0	0.0	PO3048
	% CO2	17.10	17.20	0.1	0.6	

SYSTEM BIAS AND SYSTEM DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRETEST CHECK	% SPAN	POSTTEST CHECK	% SPAN	% DRIFT
ppm NOx	0.20	0.20	0.0	0.20	0.0	0.0
ppm NOx	96.00	95.80	-0.1	95.70	-0.1	0.0
% O2	0.00	0.00	0.0	0.00	0.0	0.0
% O2	11.90	11.90	0.0	11.90	0.0	0.0
% CO2	0.00	0.00	0.0	0.00	0.0	0.0
% CO2	8.70	8.70	0.0	8.72	0.1	0.1

UNCORRECTED REFERENCE DATA

Date & Time	NOx PPM	% O2	% CO2
12/20/2013 9:00	98.25	16.11	2.89
12/20/2013 9:01	98.25	16.22	2.94
12/20/2013 9:02	98.55	16.12	2.94
12/20/2013 9:03	98.75	16.25	2.91
12/20/2013 9:04	98.63	16.22	2.92
12/20/2013 9:05	98.50	16.18	2.90
12/20/2013 9:06	98.25	16.14	2.91
12/20/2013 9:07	99.18	16.14	2.92
12/20/2013 9:08	99.75	16.22	2.92
12/20/2013 9:09	99.53	16.22	2.93
12/20/2013 9:10	99.25	16.22	2.92
12/20/2013 9:11	99.53	16.24	2.93
12/20/2013 9:12	99.75	16.23	2.92
12/20/2013 9:13	99.75	16.21	2.94
12/20/2013 9:14	98.75	16.13	2.93
12/20/2013 9:15	98.50	16.12	2.92
12/20/2013 9:16	98.63	16.21	2.89
12/20/2013 9:17	98.25	16.21	2.90
12/20/2013 9:18	98.13	16.23	2.89
12/20/2013 9:19	98.25	16.24	2.91
12/20/2013 9:20	98.50	16.26	2.91
AVERAGE	98.80	16.20	2.92

Absolute Value
0.422

NOx PPM	98.97
% O2	16.20
% CO2	2.91
LB/MMBTU NOx	0.422

F Factor 1040

FLORIDA POWER AND LIGHT CO.
PUTNAM 1GT1
ANALYZER CALIBRATION ERROR

DATE TESTED: 12/20/2013
Run 3

RANGE SETTING	GAS UNITS	CERTIFIED GAS VALUE	ANALYZER VALUE	DIFF PPM	% SPAN	ANALYZER SERIAL #
	ppm NOx	0.00	0.20	0.2	0.1	
250	ppm NOx	95.90	96.00	0.1	0.0	42CHL 72772-372
	ppm NOx	213.00	212.80	-0.2	-0.1	
	% O2	0.00	0.00	0.0	0.0	
10	% O2	11.90	11.90	0.0	0.0	1422/B53
	% O2	22.70	22.50	-0.2	-0.9	
	% CO2	0.00	0.00	0.0	0.0	
20	% CO2	8.70	8.70	0.0	0.0	PO3048
	% CO2	17.10	17.20	0.1	0.6	

SYSTEM BIAS AND SYSTEM DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRETEST CHECK	% SPAN	POSTTEST CHECK	% SPAN	% DRIFT
ppm NOx	0.20	0.20	0.0	0.20	0.0	0.0
ppm NOx	96.00	95.70	-0.1	95.60	-0.2	0.0
% O2	0.00	0.00	0.0	0.00	0.0	0.0
% O2	11.90	11.90	0.0	11.90	0.0	0.0
% CO2	0.00	0.00	0.0	0.00	0.0	0.0
% CO2	8.70	8.72	0.1	8.71	0.1	-0.1

UNCORRECTED REFERENCE DATA

Date & Time	NOx PPM	% O2	% CO2
12/20/2013 9:30	97.13	16.42	2.98
12/20/2013 9:31	97.33	16.33	2.93
12/20/2013 9:32	97.54	16.32	2.87
12/20/2013 9:33	98.75	16.23	3.00
12/20/2013 9:34	98.25	16.13	2.98
12/20/2013 9:35	98.13	16.15	2.90
12/20/2013 9:36	98.25	16.14	2.88
12/20/2013 9:37	98.48	16.18	2.88
12/20/2013 9:38	98.28	16.34	2.87
12/20/2013 9:39	97.13	16.31	2.89
12/20/2013 9:40	97.25	16.23	2.87
12/20/2013 9:41	97.25	16.38	2.87
12/20/2013 9:42	97.38	16.33	2.87
12/20/2013 9:43	98.18	16.31	2.90
12/20/2013 9:44	98.56	16.14	2.88
12/20/2013 9:45	98.50	16.24	2.89
12/20/2013 9:46	98.13	16.23	2.86
12/20/2013 9:47	98.13	16.31	2.86
12/20/2013 9:48	98.25	16.28	2.91
12/20/2013 9:49	98.25	16.21	2.91
12/20/2013 9:50	98.53	16.16	2.91
AVERAGE	97.98	16.25	2.90

Absolute Value
0.421

NOx PPM	98.24
% O2	16.25
% CO2	2.90
LB/MMBTU NOx	0.421

F Factor 1040

FLORIDA POWER AND LIGHT CO.
PUTNAM 1GT1
ANALYZER CALIBRATION ERROR

DATE TESTED: 12/20/2013
Run 4

RANGE SETTING	GAS UNITS	CERTIFIED GAS VALUE	ANALYZER VALUE	DIFF PPM	% SPAN	ANALYZER SERIAL #
	ppm NOx	0.00	0.20	0.2	0.1	
250	ppm NOx	95.90	96.00	0.1	0.0	42CHL 72772-372
	ppm NOx	213.00	212.80	-0.2	-0.1	
	% O2	0.00	0.00	0.0	0.0	
10	% O2	11.90	11.90	0.0	0.0	1422/B53
	% O2	22.70	22.50	-0.2	-0.9	
	% CO2	0.00	0.00	0.0	0.0	
20	% CO2	8.70	8.70	0.0	0.0	PO3048
	% CO2	17.10	17.20	0.1	0.6	

SYSTEM BIAS AND SYSTEM DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRETEST CHECK	% SPAN	POSTTEST CHECK	% SPAN	% DRIFT
ppm NOx	0.20	0.20	0.0	0.20	0.0	0.0
ppm NOx	96.00	95.60	-0.2	95.80	-0.1	0.1
% O2	0.00	0.00	0.0	0.00	0.0	0.0
% O2	11.90	11.90	0.0	11.90	0.0	0.0
% CO2	0.00	0.00	0.0	0.00	0.0	0.0
% CO2	8.70	8.71	0.1	8.72	0.1	0.1

UNCORRECTED REFERENCE DATA

Date & Time	NOx PPM	% O2	% CO2
12/20/2013 10:40	98.13	16.21	2.88
12/20/2013 10:41	98.25	16.00	2.92
12/20/2013 10:42	99.00	16.17	2.84
12/20/2013 10:43	99.75	16.16	2.90
12/20/2013 10:44	99.63	16.21	2.88
12/20/2013 10:45	98.50	16.18	2.86
12/20/2013 10:46	99.25	16.14	2.85
12/20/2013 10:47	100.18	16.14	2.70
12/20/2013 10:48	100.75	16.14	2.97
12/20/2013 10:49	99.13	16.23	2.89
12/20/2013 10:50	99.13	16.25	2.87
12/20/2013 10:51	99.25	16.24	2.88
12/20/2013 10:52	99.38	16.23	2.89
12/20/2013 10:53	99.88	16.21	2.89
12/20/2013 10:54	99.00	16.19	2.89
12/20/2013 10:55	98.50	16.19	2.87
12/20/2013 10:56	98.63	16.21	2.86
12/20/2013 10:57	98.25	16.21	2.86
12/20/2013 10:58	99.13	16.18	2.89
12/20/2013 10:59	99.13	16.01	2.98
12/20/2013 11:00	99.13	15.96	2.99
AVERAGE	99.14	16.17	2.88

Absolute Value
0.429

NOx PPM	99.35
% O2	16.17
% CO2	2.88
LB/MMBTU NOx	0.429

F Factor 1040

FLORIDA POWER AND LIGHT CO.
PUTNAM 1GT1
ANALYZER CALIBRATION ERROR

DATE TESTED: 12/20/2013
Run 5

RANGE SETTING	GAS UNITS	CERTIFIED GAS VALUE	ANALYZER VALUE	DIFF PPM	% SPAN	ANALYZER SERIAL #
250	ppm NOx	0.00	0.20	0.2	0.1	42CHL 72772-372
	ppm NOx	95.90	96.00	0.1	0.0	
	ppm NOx	213.00	212.80	-0.2	-0.1	
10	% O2	0.00	0.00	0.0	0.0	1422/B53
	% O2	11.90	11.90	0.0	0.0	
	% O2	22.70	22.50	-0.2	-0.9	
20	% CO2	0.00	0.00	0.0	0.0	PO3048
	% CO2	8.70	8.70	0.0	0.0	
	% CO2	17.10	17.20	0.1	0.6	

SYSTEM BIAS AND SYSTEM DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRETEST CHECK	% SPAN	POSTTEST CHECK	% SPAN	% DRIFT
ppm NOx	0.20	0.20	0.0	0.30	0.0	0.0
ppm NOx	96.00	95.80	-0.1	96.00	0.0	0.1
% O2	0.00	0.00	0.0	0.00	0.0	0.0
% O2	11.90	11.90	0.0	11.90	0.0	0.0
% CO2	0.00	0.00	0.0	0.00	0.0	0.0
% CO2	8.70	8.72	0.1	8.70	0.0	-0.1

UNCORRECTED REFERENCE DATA

Date & Time	NOx PPM	% O2	% CO2
12/20/2013 11:10	99.38	15.95	2.96
12/20/2013 11:11	99.38	15.94	2.96
12/20/2013 11:12	99.38	15.95	2.96
12/20/2013 11:13	99.63	15.94	2.89
12/20/2013 11:14	100.13	15.94	2.89
12/20/2013 11:15	100.75	15.94	2.90
12/20/2013 11:16	100.63	15.94	2.90
12/20/2013 11:17	100.75	15.93	2.90
12/20/2013 11:18	100.50	15.95	2.89
12/20/2013 11:19	100.50	15.93	2.90
12/20/2013 11:20	100.25	15.94	2.89
12/20/2013 11:21	100.50	15.94	2.90
12/20/2013 11:22	100.88	15.94	2.89
12/20/2013 11:23	100.63	15.94	2.90
12/20/2013 11:24	100.38	15.94	2.89
12/20/2013 11:25	100.50	15.94	2.89
12/20/2013 11:26	100.63	15.94	2.89
12/20/2013 11:27	100.13	15.94	2.89
12/20/2013 11:28	100.13	15.93	2.89
12/20/2013 11:29	100.50	15.93	2.90
12/20/2013 11:30	100.00	15.93	2.90
AVERAGE	100.26	15.94	2.91

Absolute Value
0.429

NOx PPM	100.27
% O2	15.94
% CO2	2.90
LB/MMBTU NOx	0.429

F Factor 1040

DATE TESTED: 12/20/2013
Run 6

FLORIDA POWER AND LIGHT CO.
PUTNAM 1GT1
ANALYZER CALIBRATION ERROR

RANGE SETTING	GAS UNITS	CERTIFIED GAS VALUE	ANALYZER VALUE	DIFF PPM	% SPAN	ANALYZER SERIAL #
250	ppm NOx	0.00	0.20	0.2	0.1	42CHL 72772-372
	ppm NOx	95.90	96.00	0.1	0.0	
	ppm NOx	213.00	212.80	-0.2	-0.1	
10	% O2	0.00	0.00	0.0	0.0	1422/B53
	% O2	11.90	11.90	0.0	0.0	
	% O2	22.70	22.50	-0.2	-0.9	
20	% CO2	0.00	0.00	0.0	0.0	PO3048
	% CO2	8.70	8.70	0.0	0.0	
	% CO2	17.10	17.20	0.1	0.6	

SYSTEM BIAS AND SYSTEM DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRETEST CHECK	% SPAN	POSTTEST CHECK	% SPAN	% DRIFT
ppm NOx	0.20	0.30	0.0	0.30	0.0	0.0
ppm NOx	96.00	96.00	0.0	95.90	0.0	0.0
% O2	0.00	0.00	0.0	0.00	0.0	0.0
% O2	11.90	11.90	0.0	11.90	0.0	0.0
% CO2	0.00	0.00	0.0	0.00	0.0	0.0
% CO2	8.70	8.70	0.0	8.65	-0.3	-0.3

UNCORRECTED REFERENCE DATA

Date & Time	NOx PPM	% O2	% CO2
12/20/2013 11:40	100.75	15.93	2.89
12/20/2013 11:41	101.13	15.91	2.89
12/20/2013 11:42	100.88	15.93	2.88
12/20/2013 11:43	101.13	15.94	2.89
12/20/2013 11:44	100.75	15.91	2.89
12/20/2013 11:45	101.13	15.92	2.88
12/20/2013 11:46	101.63	15.92	2.89
12/20/2013 11:47	101.88	15.91	2.88
12/20/2013 11:48	102.00	15.92	2.88
12/20/2013 11:49	101.75	15.93	2.88
12/20/2013 11:50	101.38	15.94	2.88
12/20/2013 11:51	102.00	15.92	2.88
12/20/2013 11:52	102.50	15.93	2.88
12/20/2013 11:53	102.63	15.92	2.88
12/20/2013 11:54	102.63	15.93	2.88
12/20/2013 11:55	102.38	15.93	2.87
12/20/2013 11:56	102.38	15.93	2.88
12/20/2013 11:57	102.50	15.93	2.87
12/20/2013 11:58	102.63	15.93	2.88
12/20/2013 11:59	102.63	15.93	2.87
12/20/2013 12:00	102.75	15.94	2.87
AVERAGE	101.88	15.93	2.88

Absolute Value
0.438

NOx PPM	101.84
% O2	15.93
% CO2	2.89
LB/MMBTU NOx	0.438

F Factor 1040

DATE TESTED: 12/20/2013
Run 7

FLORIDA POWER AND LIGHT CO.
PUTNAM 1GT1
ANALYZER CALIBRATION ERROR

RANGE SETTING	GAS UNITS	CERTIFIED GAS VALUE	ANALYZER VALUE	DIFF PPM	% SPAN	ANALYZER SERIAL #
	ppm NOx	0.00	0.20	0.2	0.1	
250	ppm NOx	95.90	96.00	0.1	0.0	42CHL 72772-372
	ppm NOx	213.00	212.80	-0.2	-0.1	
	% O2	0.00	0.00	0.0	0.0	
10	% O2	11.90	11.90	0.0	0.0	1422/B53
	% O2	22.70	22.50	-0.2	-0.9	
	% CO2	0.00	0.00	0.0	0.0	
20	% CO2	8.70	8.70	0.0	0.0	PO3048
	% CO2	17.10	17.20	0.1	0.6	

SYSTEM BIAS AND SYSTEM DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRETEST CHECK	% SPAN	POSTTEST CHECK	% SPAN	% DRIFT
ppm NOx	0.20	0.30	0.0	0.30	0.0	0.0
ppm NOx	96.00	95.90	0.0	96.10	0.0	0.1
% O2	0.00	0.00	0.0	0.10	0.4	0.4
% O2	11.90	11.90	0.0	11.90	0.0	0.0
% CO2	0.00	0.00	0.0	0.00	0.0	0.0
% CO2	8.70	8.65	-0.3	8.63	-0.4	-0.1

UNCORRECTED REFERENCE DATA

Date & Time	NOx PPM	% O2	% CO2
12/20/2013 12:10	101.00	15.93	2.87
12/20/2013 12:11	101.63	15.91	2.87
12/20/2013 12:12	101.88	15.93	2.86
12/20/2013 12:13	102.50	15.93	2.87
12/20/2013 12:14	102.50	15.93	2.86
12/20/2013 12:15	102.38	15.93	2.87
12/20/2013 12:16	102.75	15.92	2.87
12/20/2013 12:17	102.88	15.93	2.86
12/20/2013 12:18	103.00	15.93	2.86
12/20/2013 12:19	102.88	15.93	2.86
12/20/2013 12:20	102.63	15.92	2.87
12/20/2013 12:21	103.00	15.92	2.86
12/20/2013 12:22	102.75	15.93	2.86
12/20/2013 12:23	102.38	15.93	2.86
12/20/2013 12:24	101.88	15.93	2.86
12/20/2013 12:25	101.50	15.93	2.86
12/20/2013 12:26	101.25	15.94	2.86
12/20/2013 12:27	101.88	15.93	2.86
12/20/2013 12:28	102.50	15.93	2.86
12/20/2013 12:29	101.75	15.92	2.86
12/20/2013 12:30	101.63	15.93	2.86
AVERAGE	102.21	15.93	2.86

Absolute Value
0.440

NOx PPM	102.13
% O2	15.94
% CO2	2.88
LB/MMBTU NOx	0.440

F Factor 1040

DATE TESTED: 12/20/2013
Run 8

FLORIDA POWER AND LIGHT CO.
PUTNAM 1GT1
ANALYZER CALIBRATION ERROR

RANGE SETTING	GAS UNITS	CERTIFIED GAS VALUE	ANALYZER VALUE	DIFF PPM	% SPAN	ANALYZER SERIAL #
250	ppm NOx	0.00	0.20	0.2	0.1	42CHL 72772-372
	ppm NOx	95.90	46.80	-49.1	-23.1	
	ppm NOx	213.00	212.80	-0.2	-0.1	
10	% O2	0.00	0.00	0.0	0.0	1422/B53
	% O2	11.90	11.90	0.0	0.0	
	% O2	22.70	22.50	-0.2	-0.9	
20	% CO2	0.00	0.00	0.0	0.0	PO3048
	% CO2	8.70	8.70	0.0	0.0	
	% CO2	17.10	17.20	0.1	0.6	

SYSTEM BIAS AND SYSTEM DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRETEST CHECK	% SPAN	POSTTEST CHECK	% SPAN	% DRIFT
ppm NOx	0.20	0.30	0.0	0.20	0.0	0.0
ppm NOx	96.00	96.10	0.0	95.60	-0.2	-0.2
% O2	0.00	0.10	0.4	0.10	0.4	0.0
% O2	11.90	11.90	0.0	11.90	0.0	0.0
% CO2	0.00	0.00	0.0	0.10	0.6	0.6
% CO2	8.70	8.63	-0.4	8.69	-0.1	0.3

UNCORRECTED REFERENCE DATA

Date & Time	NOx PPM	% O2	% CO2
12/20/2013 12:42	96.25	16.09	2.88
12/20/2013 12:43	96.25	16.12	2.84
12/20/2013 12:44	96.75	16.11	2.85
12/20/2013 12:45	97.13	16.12	2.84
12/20/2013 12:46	97.25	16.12	2.84
12/20/2013 12:47	97.88	16.11	2.85
12/20/2013 12:48	98.50	16.11	2.84
12/20/2013 12:49	98.75	16.12	2.84
12/20/2013 12:50	98.13	16.11	2.85
12/20/2013 12:51	98.13	16.12	2.84
12/20/2013 12:52	98.25	16.12	2.84
12/20/2013 12:53	97.63	16.12	2.84
12/20/2013 12:54	97.88	16.10	2.85
12/20/2013 12:55	97.38	16.11	2.84
12/20/2013 12:56	97.13	16.12	2.84
12/20/2013 12:57	97.00	16.12	2.84
12/20/2013 12:58	97.63	16.11	2.84
12/20/2013 12:59	98.13	16.12	2.84
12/20/2013 13:00	98.50	16.11	2.84
12/20/2013 13:01	99.00	16.06	2.88
12/20/2013 13:02	99.50	15.96	2.92
AVERAGE	97.76	16.10	2.85

Absolute Value
0.429

NOx PPM	97.82
% O2	16.14
% CO2	2.83
LB/MMBTU NOx	0.429

F Factor 1040

FLORIDA POWER AND LIGHT CO.
PUTNAM 1GT1
ANALYZER CALIBRATION ERROR

DATE TESTED: 12/20/2013
Run 9

RANGE SETTING	GAS UNITS	CERTIFIED GAS VALUE	ANALYZER VALUE	DIFF PPM	% SPAN	ANALYZER SERIAL #
250	ppm NOx	0.00	0.20	0.2	0.1	42CHL 72772-372
	ppm NOx	95.90	96.00	0.1	0.0	
	ppm NOx	213.00	212.80	-0.2	-0.1	
10	% O2	0.00	0.00	0.0	0.0	1422/B53
	% O2	11.90	11.90	0.0	0.0	
	% O2	22.70	22.50	-0.2	-0.9	
20	% CO2	0.00	0.00	0.0	0.0	PO3048
	% CO2	8.70	8.70	0.0	0.0	
	% CO2	17.10	17.20	0.1	0.6	

SYSTEM BIAS AND SYSTEM DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRETEST CHECK	% SPAN	POSTTEST CHECK	% SPAN	% DRIFT
ppm NOx	0.20	0.20	0.0	0.20	0.0	0.0
ppm NOx	96.00	95.60	-0.2	95.50	-0.2	0.0
% O2	0.00	0.10	0.4	0.10	0.4	0.0
% O2	11.90	11.90	0.0	11.90	0.0	0.0
% CO2	0.00	0.10	0.6	0.10	0.6	0.0
% CO2	8.70	8.69	-0.1	8.71	0.1	0.1

UNCORRECTED REFERENCE DATA

Date & Time	NOx PPM	% O2	% CO2
12/20/2013 13:10	97.75	16.09	2.84
12/20/2013 13:11	97.25	16.09	2.89
12/20/2013 13:12	97.50	16.08	2.89
12/20/2013 13:13	97.25	16.09	2.88
12/20/2013 13:14	97.00	16.09	2.89
12/20/2013 13:15	96.88	16.09	2.89
12/20/2013 13:16	96.50	16.08	2.89
12/20/2013 13:17	95.63	16.09	2.88
12/20/2013 13:18	96.75	16.08	2.89
12/20/2013 13:19	97.50	16.08	2.89
12/20/2013 13:20	97.50	16.09	2.88
12/20/2013 13:21	97.50	16.08	2.89
12/20/2013 13:22	96.63	16.07	2.89
12/20/2013 13:23	96.13	16.06	2.89
12/20/2013 13:24	96.50	16.06	2.89
12/20/2013 13:25	97.13	16.08	2.89
12/20/2013 13:26	97.38	16.08	2.89
12/20/2013 13:27	96.63	16.08	2.89
12/20/2013 13:28	96.63	16.08	2.89
12/20/2013 13:29	97.13	16.08	2.89
12/20/2013 13:30	97.88	16.08	2.88
AVERAGE	97.00	16.08	2.89

Absolute Value
0.429

NOx PPM	97.36
% O2	16.11
% CO2	2.82
LB/MMBTU NOx	0.429

F Factor 1040

PUTNAM 1GT1

3 Point Traverse Port	Point	Nox ppm Average	Nox ppm % difference	Date & Time	NOx PPM
	1	95.15	-1.0	12/20/2013 8:14	94.98
				12/20/2013 8:15	94.99
				12/20/2013 8:16	95.26
				12/20/2013 8:17	95.38
	2	96.44	0.3	12/20/2013 8:18	95.98
				12/20/2013 8:19	96.21
				12/20/2013 8:20	96.23
				12/20/2013 8:21	97.35
	3	96.84	0.7	12/20/2013 8:22	96.25
				12/20/2013 8:23	96.86
				12/20/2013 8:24	97.31
				12/20/2013 8:25	96.95
Mean Average		96.15			

Probe Markings: 40", 76" & 112"
Allowable: + or - 0.5 ppm or + or - 5.0%

APPENDIX 2
PLANT DATA

Babcock & Wilcox Power Generation Group NetDAHS© Version 46.0

Average Values Report
Generated: 12/20/2013 12:00

Company: Florida Power & Light
Plant:
City/St: , FL
Source: stack1

Period Start: 12/20/2013 08:30
Period End: 12/20/2013 08:50
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start:	Average 1CO2 %	Average 1NOx ppm	Average 1MW MW	Average 1NOx#M #/M
12/20/2013 08:30	2.82	94.0	116.8	0.414
12/20/2013 08:31	2.81	94.6	116.4	0.418
12/20/2013 08:32	2.81	94.6	116.7	0.418
12/20/2013 08:33	2.81	94.6	116.5	0.418
12/20/2013 08:34	2.81	94.2	116.4	0.416
12/20/2013 08:35	2.82	93.8	116.4	0.413
12/20/2013 08:36	2.81	94.0	117.0	0.415
12/20/2013 08:37	2.83	94.5	118.1	0.415
12/20/2013 08:38	2.83	96.1	118.2	0.422
12/20/2013 08:39	2.83	96.6	118.2	0.424
12/20/2013 08:40	2.83	96.3	117.8	0.423
12/20/2013 08:41	2.83	96.1	117.9	0.422
12/20/2013 08:42	2.82	96.0	117.7	0.423
12/20/2013 08:43	2.82	95.7	117.7	0.421
12/20/2013 08:44	2.82	95.6	117.6	0.421
12/20/2013 08:45	2.82	95.6	117.4	0.421
12/20/2013 08:46	2.81	95.4	117.4	0.422
12/20/2013 08:47	2.81	95.3	117.4	0.421
12/20/2013 08:48	2.82	95.5	117.4	0.421
12/20/2013 08:49	2.82	95.7	117.5	0.421
12/20/2013 08:50	2.82	95.6	117.4	0.421
Daily Average*	2.82	95.2	117.3	0.420
Maximum*	2.83	96.6	118.2	0.424
	12/20/2013 8:41	12/20/2013 8:39	12/20/2013 8:39	12/20/2013 8:39
Minimum*	2.81	93.8	116.4	0.413
	12/20/2013 8:47	12/20/2013 8:35	12/20/2013 8:35	12/20/2013 8:35

* Does not include Invalid Averaging Periods ("N/A")

Babcock & Wilcox Power Generation Group NetDAHS© Version 46.0

Average Values Report
Generated: 12/20/2013 12:02

Company: Florida Power & Light [illegible]
Plant:
City/St: , FL
Source: stack1

Period Start: 12/20/2013 09:00
Period End: 12/20/2013 09:20
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start:	Average 1CO2 %	Average 1NOx ppm	Average 1MW MW	Average 1NOx#M #/M
12/20/2013 09:00	2.86	98.5	119.3	0.428
12/20/2013 09:01	2.86	98.4	119.5	0.427
12/20/2013 09:02	2.86	98.3	119.8	0.427
12/20/2013 09:03	2.87	98.5	119.8	0.426
12/20/2013 09:04	2.89	99.7	119.3	0.428
12/20/2013 09:05	2.86	98.5	120.2	0.428
12/20/2013 09:06	2.88	98.2	120.3	0.423
12/20/2013 09:07	2.88	99.9	120.4	0.431
12/20/2013 09:08	2.89	100.1	120.4	0.430
12/20/2013 09:09	2.89	100.1	120.2	0.430
12/20/2013 09:10	2.89	100.1	120.3	0.430
12/20/2013 09:11	2.88	100.1	120.5	0.432
12/20/2013 09:12	2.90	100.4	120.3	0.430
12/20/2013 09:13	2.88	100.1	120.5	0.432
12/20/2013 09:14	2.89	100.0	120.2	0.430
12/20/2013 09:15	2.88	99.9	120.3	0.431
12/20/2013 09:16	2.88	99.5	120.3	0.429
12/20/2013 09:17	2.88	99.9	120.2	0.431
12/20/2013 09:18	2.88	100.0	120.3	0.431
12/20/2013 09:19	2.89	100.2	120.2	0.431
12/20/2013 09:20	2.89	100.5	119.7	0.432
Daily Average*	2.88	99.6	120.1	0.429
Maximum*	2.90	100.5	120.5	0.432
	12/20/2013 9:12	12/20/2013 9:20	12/20/2013 9:13	12/20/2013 9:20
Minimum*	2.86	98.2	119.3	0.423
	12/20/2013 9:05	12/20/2013 9:06	12/20/2013 9:04	12/20/2013 9:06

* Does not include Invalid Averaging Periods ("N/A")

Babcock & Wilcox Power Generation Group NetDAHS® Version 46.0

Average Values Report
Generated: 12/20/2013 12:05

Company: Florida Power & Light P...
Plant:
City/St: , FL
Source: stack1

Period Start: 12/20/2013 09:30
Period End: 12/20/2013 09:50
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start:	Average 1CO2 %	Average 1NOx ppm	Average 1MW MW	Average 1NOx#M #/M
12/20/2013 09:30	2.88	100.6	120.0	0.434
12/20/2013 09:31	2.89	100.7	120.0	0.433
12/20/2013 09:32	2.88	100.6	120.2	0.434
12/20/2013 09:33	2.89	100.7	120.1	0.433
12/20/2013 09:34	2.88	100.7	119.8	0.434
12/20/2013 09:35	2.88	100.4	119.8	0.433
12/20/2013 09:36	2.88	100.5	120.0	0.433
12/20/2013 09:37	2.88	101.1	120.1	0.436
12/20/2013 09:38	2.88	101.1	120.2	0.436
12/20/2013 09:39	2.89	101.2	120.1	0.435
12/20/2013 09:40	2.88	101.9	119.7	0.439
12/20/2013 09:41	2.88	101.8	119.9	0.439
12/20/2013 09:42	2.87	101.8	119.8	0.440
12/20/2013 09:43	2.88	101.8	120.0	0.439
12/20/2013 09:44	2.88	101.8	119.9	0.439
12/20/2013 09:45	2.88	102.3	119.4	0.441
12/20/2013 09:46	2.86	101.5	119.7	0.441
12/20/2013 09:47	2.87	101.5	119.8	0.439
12/20/2013 09:48	2.87	101.6	119.5	0.440
12/20/2013 09:49	2.88	101.0	120.1	0.435
12/20/2013 09:50	2.89	101.7	119.9	0.437
Daily Average*	**2.88**	**101.3**	**119.9**	**0.437**
Maximum*	**2.89**	**102.3**	**120.2**	**0.441**
	12/20/2013 9:50	12/20/2013 9:45	12/20/2013 9:38	12/20/2013 9:46
Minimum*	**2.86**	**100.4**	**119.4**	**0.433**
	12/20/2013 9:46	12/20/2013 9:35	12/20/2013 9:45	12/20/2013 9:36

* Does not include Invalid Averaging Periods ("N/A")

Babcock & Wilcox Power Generation Group NetDAHS© Version 46.0

Average Values Report
Generated: 12/20/2013 12:09

Company: Florida Power & Light [illegible] 4
Plant:
City/St: , FL
Source: stack1

Period Start: 12/20/2013 10:40
Period End: 12/20/2013 11:00
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start:	Average 1CO2 %	Average 1NOx ppm	Average 1MW MW	Average 1NOx#M #/M
12/20/2013 10:40	2.82	98.0	116.5	0.432
12/20/2013 10:41	2.83	98.5	116.0	0.432
12/20/2013 10:42	2.83	98.9	116.4	0.434
12/20/2013 10:43	2.83	98.4	116.3	0.432
12/20/2013 10:44	2.84	98.6	116.2	0.431
12/20/2013 10:45	2.84	98.8	116.1	0.432
12/20/2013 10:46	2.85	99.1	116.0	0.432
12/20/2013 10:47	2.85	98.2	116.2	0.428
12/20/2013 10:48	2.85	99.3	116.1	0.433
12/20/2013 10:49	2.85	99.6	116.2	0.434
12/20/2013 10:50	2.85	99.4	115.9	0.433
12/20/2013 10:51	2.85	99.3	116.1	0.433
12/20/2013 10:52	2.85	99.3	116.0	0.433
12/20/2013 10:53	2.85	99.0	115.8	0.431
12/20/2013 10:54	2.85	99.3	115.4	0.433
12/20/2013 10:55	2.85	98.1	115.4	0.427
12/20/2013 10:56	2.85	98.7	115.3	0.430
12/20/2013 10:57	2.85	99.7	115.5	0.434
12/20/2013 10:58	2.85	100.5	115.4	0.438
12/20/2013 10:59	2.85	99.9	115.1	0.435
12/20/2013 11:00	2.85	98.8	115.1	0.430
Daily Average*	2.84	99.0	115.9	0.432
Maximum*	2.85	100.5	116.5	0.438
	12/20/2013 11:00	12/20/2013 10:58	12/20/2013 10:40	12/20/2013 10:58
Minimum*	2.82	98.0	115.1	0.427
	12/20/2013 10:40	12/20/2013 10:40	12/20/2013 11:00	12/20/2013 10:55

* Does not include Invalid Averaging Periods ("N/A")

Babcock & Wilcox Power Generation Group NetDAHS©

Version 46.0

Average Values Report
Generated: 12/20/2013 12:13

Company: Florida Power & Light
Plant:
City/St: , FL
Source: stack1

Period Start: 12/20/2013 11:10
Period End: 12/20/2013 11:30
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start:	Average 1CO2 %	Average 1NOx ppm	Average 1MW MW	Average 1NOx#M #/M
12/20/2013 11:10	2.83	99.8	115.0	0.438
12/20/2013 11:11	2.84	100.1	115.2	0.438
12/20/2013 11:12	2.84	99.8	115.2	0.436
12/20/2013 11:13	2.84	100.5	115.1	0.439
12/20/2013 11:14	2.84	101.0	115.2	0.442
12/20/2013 11:15	2.84	101.3	115.0	0.443
12/20/2013 11:16	2.84	100.8	115.1	0.441
12/20/2013 11:17	2.84	101.1	115.0	0.442
12/20/2013 11:18	2.84	101.0	114.7	0.442
12/20/2013 11:19	2.83	100.7	114.9	0.442
12/20/2013 11:20	2.83	100.9	114.8	0.443
12/20/2013 11:21	2.83	101.0	114.6	0.443
12/20/2013 11:22	2.83	101.4	114.4	0.445
12/20/2013 11:23	2.82	100.7	114.4	0.443
12/20/2013 11:24	2.82	100.8	114.6	0.444
12/20/2013 11:25	2.82	100.9	114.7	0.444
12/20/2013 11:26	2.82	100.5	114.5	0.443
12/20/2013 11:27	2.82	100.1	114.4	0.441
12/20/2013 11:28	2.82	100.3	114.3	0.442
12/20/2013 11:29	2.82	100.4	114.4	0.442
12/20/2013 11:30	2.82	99.3	114.4	0.437
Daily Average*	2.83	100.6	114.8	0.441
Maximum*	2.84	101.4	115.2	0.445
	12/20/2013 11:18	12/20/2013 11:22	12/20/2013 11:14	12/20/2013 11:22
Minimum*	2.82	99.3	114.3	0.436
	12/20/2013 11:30	12/20/2013 11:30	12/20/2013 11:28	12/20/2013 11:12

* Does not include Invalid Averaging Periods ("N/A")

Babcock & Wilcox Power Generation Group NetDAHS© Version 46.0

Average Values Report
Generated: 12/20/2013 12:15

Company: Florida Power & Light
Plant:
City/St: , FL
Source: stack1

Period Start: 12/20/2013 11:40
Period End: 12/20/2013 12:00
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start:	Average 1CO2 %	Average 1NOx ppm	Average 1MW MW	Average 1NOx#M #/M
12/20/2013 11:40	2.84	100.7	114.6	0.440
12/20/2013 11:41	2.84	101.1	114.5	0.442
12/20/2013 11:42	2.84	100.7	114.6	0.440
12/20/2013 11:43	2.84	101.4	114.5	0.443
12/20/2013 11:44	2.84	100.1	114.7	0.438
12/20/2013 11:45	2.85	101.2	114.7	0.441
12/20/2013 11:46	2.85	101.3	114.8	0.441
12/20/2013 11:47	2.85	101.4	114.5	0.442
12/20/2013 11:48	2.85	101.7	114.4	0.443
12/20/2013 11:49	2.85	100.8	114.7	0.439
12/20/2013 11:50	2.85	101.1	114.7	0.440
12/20/2013 11:51	2.85	101.8	114.5	0.444
12/20/2013 11:52	2.86	102.1	114.5	0.443
12/20/2013 11:53	2.85	102.1	114.5	0.445
12/20/2013 11:54	2.85	101.7	114.7	0.443
12/20/2013 11:55	2.85	101.8	114.6	0.444
12/20/2013 11:56	2.85	101.8	114.6	0.444
12/20/2013 11:57	2.85	101.7	114.5	0.443
12/20/2013 11:58	2.85	101.8	114.4	0.444
12/20/2013 11:59	2.85	102.0	114.5	0.444
12/20/2013 12:00	2.85	102.0	114.4	0.444
Daily Average*	2.85	101.4	114.6	0.442
Maximum*	2.86	102.1	114.8	0.445
	12/20/2013 11:52	12/20/2013 11:53	12/20/2013 11:46	12/20/2013 11:53
Minimum*	2.84	100.1	114.4	0.438
	12/20/2013 11:44	12/20/2013 11:44	12/20/2013 12:00	12/20/2013 11:44

* Does not include Invalid Averaging Periods ("N/A")

Babcock & Wilcox Power Generation Group NetDAHS© Version 46.0

Average Values Report
Generated: 12/20/2013 12:58

Company: Florida Power & Light
Plant:
City/St: , FL
Source: stack1

Period Start: 12/20/2013 12:10
Period End: 12/20/2013 12:30
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start:	Average 1CO2 %	Average 1NOx ppm	Average 1MW MW	Average 1NOx#M #/M
12/20/2013 12:10	2.85	100.3	114.0	0.437
12/20/2013 12:11	2.85	100.6	114.1	0.438
12/20/2013 12:12	2.85	101.2	114.3	0.441
12/20/2013 12:13	2.85	101.2	114.4	0.441
12/20/2013 12:14	2.85	101.2	114.4	0.441
12/20/2013 12:15	2.85	101.2	114.2	0.441
12/20/2013 12:16	2.86	101.6	114.4	0.441
12/20/2013 12:17	2.85	101.7	114.5	0.443
12/20/2013 12:18	2.85	101.7	114.5	0.443
12/20/2013 12:19	2.85	101.7	114.5	0.443
12/20/2013 12:20	2.86	101.3	114.1	0.440
12/20/2013 12:21	2.86	101.7	114.1	0.442
12/20/2013 12:22	2.85	101.1	114.0	0.440
12/20/2013 12:23	2.85	101.0	113.9	0.440
12/20/2013 12:24	2.84	100.8	114.1	0.441
12/20/2013 12:25	2.84	99.9	114.1	0.437
12/20/2013 12:26	2.84	100.5	114.1	0.439
12/20/2013 12:27	2.84	100.9	114.1	0.441
12/20/2013 12:28	2.84	101.3	113.6	0.443
12/20/2013 12:29	2.84	100.1	113.8	0.438
12/20/2013 12:30	2.83	100.7	113.8	0.442
Daily Average*	2.85	101.0	114.1	0.441
Maximum*	2.86	101.7	114.5	0.443
	12/20/2013 12:21	12/20/2013 12:21	12/20/2013 12:19	12/20/2013 12:28
Minimum*	2.83	99.9	113.6	0.437
	12/20/2013 12:30	12/20/2013 12:25	12/20/2013 12:28	12/20/2013 12:25

* Does not include Invalid Averaging Periods ("N/A")

Babcock & Wilcox Power Generation Group NetDAHS© Version 46.0

Average Values Report

Generated: 12/20/2013 13:06

Company: Florida Power & Light
Plant:
City/St: , FL
Source: stack1

Period Start: 12/20/2013 12:42
Period End: 12/20/2013 13:02
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start:	Average 1CO2 %	Average 1NOx ppm	Average 1MW MW	Average 1NOx#M #/M
12/20/2013 12:42	2.82	101.7	114.0	0.448
12/20/2013 12:43	2.82	101.7	113.9	0.448
12/20/2013 12:44	2.83	102.1	114.1	0.448
12/20/2013 12:45	2.82	102.0	113.7	0.449
12/20/2013 12:46	2.82	101.8	113.9	0.448
12/20/2013 12:47	2.82	101.4	113.9	0.447
12/20/2013 12:48	2.82	102.1	113.8	0.450
12/20/2013 12:49	2.82	102.3	113.8	0.450
12/20/2013 12:50	2.82	102.5	113.8	0.451
12/20/2013 12:51	2.82	102.4	114.0	0.451
12/20/2013 12:52	2.82	102.8	113.8	0.453
12/20/2013 12:53	2.82	102.2	113.3	0.450
12/20/2013 12:54	2.82	101.4	113.6	0.447
12/20/2013 12:55	2.82	102.0	113.1	0.449
12/20/2013 12:56	2.82	102.3	113.2	0.450
12/20/2013 12:57	2.82	102.4	113.4	0.451
12/20/2013 12:58	2.82	102.5	113.3	0.451
12/20/2013 12:59	2.82	102.6	113.5	0.452
12/20/2013 13:00	2.82	103.1	113.8	0.454
12/20/2013 13:01	2.83	103.2	113.5	0.453
12/20/2013 13:02	2.83	103.0	113.7	0.452
Daily Average*	2.82	102.3	113.7	0.450
Maximum*	2.83	103.2	114.1	0.454
	12/20/2013 13:02	12/20/2013 13:01	12/20/2013 12:44	12/20/2013 13:00
Minimum*	2.82	101.4	113.1	0.447
	12/20/2013 13:00	12/20/2013 12:54	12/20/2013 12:55	12/20/2013 12:54

* Does not include Invalid Averaging Periods ("N/A")

Babcock & Wilcox Power Generation Group NetDAHS®

Version 46.0

Average Values Report
Generated: 12/20/2013 13:37

Company: Florida Power & Light
Plant:
City/St: , FL
Source: stack1

Period Start: 12/20/2013 13:10
Period End: 12/20/2013 13:30
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start:	Average 1CO2 %	Average 1NOx ppm	Average 1MW MW	Average 1NOx#M #/M
12/20/2013 13:10	2.82	102.7	113.4	0.452
12/20/2013 13:11	2.83	102.4	113.5	0.449
12/20/2013 13:12	2.82	102.6	113.4	0.452
12/20/2013 13:13	2.83	102.3	113.3	0.449
12/20/2013 13:14	2.83	102.2	113.6	0.448
12/20/2013 13:15	2.83	102.0	113.4	0.448
12/20/2013 13:16	2.83	101.1	113.2	0.444
12/20/2013 13:17	2.83	101.2	113.9	0.444
12/20/2013 13:18	2.83	102.7	113.1	0.451
12/20/2013 13:19	2.83	102.8	113.0	0.451
12/20/2013 13:20	2.83	102.6	113.2	0.450
12/20/2013 13:21	2.83	102.7	113.0	0.451
12/20/2013 13:22	2.84	100.9	112.7	0.441
12/20/2013 13:23	2.83	101.2	113.3	0.444
12/20/2013 13:24	2.83	102.0	113.3	0.448
12/20/2013 13:25	2.82	102.4	113.4	0.451
12/20/2013 13:26	2.83	102.5	113.1	0.450
12/20/2013 13:27	2.82	101.2	113.2	0.446
12/20/2013 13:28	2.82	101.7	113.2	0.448
12/20/2013 13:29	2.83	102.6	113.1	0.450
12/20/2013 13:30	2.82	102.8	113.5	0.453
Daily Average*	2.83	102.1	113.3	0.449
Maximum*	2.84	102.8	113.9	0.453
	12/20/2013 13:22	12/20/2013 13:30	12/20/2013 13:17	12/20/2013 13:30
Minimum*	2.82	100.9	112.7	0.441
	12/20/2013 13:30	12/20/2013 13:22	12/20/2013 13:22	12/20/2013 13:22

* Does not include Invalid Averaging Periods ("N/A")

APPENDIX 3
QUALITY ASSURANCE

LIQUID TECHNOLOGY CORPORATION

"INDUSTRY LEADER IN SPECIALTY GASES"

Certificate of Analysis

Customer	Coastal Air Consulting (Deland, FL)
Date	December 09, 2013
Delivery Receipt	DR-49522
Product:	Nitrogen, CEMS Grade
Lot Number:	LTM063-PG

Mixture Specifications

Cylinder Number		CC-165548
Components	Requested	Actual
Moisture	2.0 ppm	< 2.0 ppm
Hydrocarbons	0.1 ppm	< 0.1 ppm
Oxygen	1.0 ppm	< 1.0 ppm
Carbon Monoxide	1.0 ppm	< 1.0 ppm
Carbon Dioxide	1.0 ppm	< 1.0 ppm

Cylinder Data

Cylinder Valve:	CGA 580
Cylinder Volume:	140 Cubic Feet
Cylinder Pressure:	2000 psig, 70°F
Expiration Date:	December 09, 2016

Certified by: Cole Dylewski

Cole Dylewski

LIQUID TECHNOLOGY CORPORATION

"INDUSTRY LEADER IN SPECIALTY GASES"

Certificate of Analysis

- EPA PROTOCOL GAS -

Customer	Coastal Air Consulting (Deland, FL)
Date	June 06, 2013
Delivery Receipt	DR-47266
Gas Standard	90-99 ppm NO, 90-99 ppm SO2, 90-99 ppm CO/Nitrogen - EPA PROTOCOL
Final Analysis Date	June 05, 2013
Expiration Date	June 05, 2021
Components	Nitric Oxide, Sulfur Dioxide, Carbon Monoxide
Balance Gas	Nitrogen

Analytical Data:

DO NOT USE BELOW 100 psig

EPA Protocol, Section No. 2.2, Procedure G-1

Reported Concentrations

Nitric Oxide: 95.9 ppm +/- 0.22 ppm

Sulfur Dioxide: 95.9 ppm +/- 0.91 ppm

Carbon Monoxide: 96.4 ppm +/- 0.30 ppm

Nitrogen: Balance

Total Oxides of Nitrogen: 95.9 ppm

** Total NOX for Reference Use Only **

Reference Standards:

SRM/GMIS:	GMIS	GMIS	GMIS
Cylinder Number:	EB-0016743	EB-0014653	EB-0015851
Concentration:	96.72 ppm NO/Nitrogen	103.89 ppm SO2/N2	104.90 ppm CO/Nitrogen
Expiration Date:	01/12/14	12/01/14	10/21/14

Certification Instrumentation

Component:	Nitric Oxide	Sulfur Dioxide	Carbon Monoxide
Make/Model:	Nicolet 6700	Nicolet 6700	Nicolet 6700
Serial Number:	APW1100563	APW1100563	APW1100563
Principal of Measurement:	FTIR	FTIR	FTIR
Last Calibration:	May 28, 2013	May 28, 2013	May 28, 2013

Cylinder Data

Cylinder Serial Number:	CC-79645	Cylinder Outlet:	CGA 660
Cylinder Volume:	135 Cubic Feet	Cylinder Pressure:	1925 psig, 70°F

Analytical Uncertainty and NIST Traceability are in compliance with EPA-600/R-12/531.

Certified by: David Scott

PGVP Vendor ID: E12013

"UNMATCHED EXCELLENCE"
2048 APEX COURT APOPKA, FLORIDA 32703 ~ PHONE (407)-292-2990 FAX (407)-292-3313
WWW.LIQUIDTECHCORP.COM
APOPKA, FL • HOUSTON, TX

LIQUID TECHNOLOGY CORPORATION

"INDUSTRY LEADER IN SPECIALTY GASES"

Certificate of Analysis

- EPA PROTOCOL GAS -

Customer	Coastal Air Consulting (Deland, FL)
Date	November 07, 2013
Delivery Receipt	DR-49129
Gas Standard	185-225 ppm NO, 185-225 ppm SO2, 185-225 ppm CO/Nitrogen - EPA PROTOCOL
Final Analysis Date	November 07, 2013
Expiration Date	November 07, 2021
Components	Nitric Oxide, Sulfur Dioxide, Carbon Monoxide
Balance Gas	Nitrogen

Analytical Data:
EPA Protocol, Section No. 2.2, Procedure G-1

DO NOT USE BELOW 100 psig

Reported Concentrations

Nitric Oxide: 213 ppm +/- 1.0 ppm
Sulfur Dioxide: 212 ppm +/- 1.7 ppm
Carbon Monoxide: 213 ppm +/- 1.0 ppm
Nitrogen: Balance
Total Oxides of Nitrogen: 213 ppm

** Total NOX for Reference Use Only **

Reference Standards:

SRM/GMIS:	GMIS	GMIS/GMIS	GMIS
Cylinder Number:	ND-45515	CC-54548/CC-251490	CC-185111
Concentration:	245.26 ppm NO/Nitrogen	102.43 ppm SO2/507.88 ppm SO2	257.47 ppm CO/Nitrogen
Expiration Date:	08/23/20	04/12/14 - 04/12/14	10/22/14

Certification Instrumentation

Component:	Nitric Oxide	Sulfur Dioxide	Carbon Monoxide
Make/Model:	Nicolet 6700	Nicolet 6700	Nicolet 6700
Serial Number:	APW1100563	APW1100563	APW1100563
Principal of Measurement:	FTIR	FTIR	FTIR
Last Calibration:	October 23, 2013	October 23, 2013	October 16, 2013

Cylinder Data

Cylinder Serial Number:	EB-0051448	Cylinder Outlet:	CGA 660
Cylinder Volume:	136 Cubic Feet	Cylinder Pressure:	1950 psig, 70°F

Analytical Uncertainty and NIST Traceability are in compliance with EPA-600/R-12/531.

Certified by: Cole Dylewski

Cole Dylewski

PGVP Vendor ID: E12013

LIQUID TECHNOLOGY CORPORATION

"INDUSTRY LEADER IN SPECIALTY GASES"

Certificate of Analysis

- EPA PROTOCOL GAS -

Customer	Coastal Air Consulting (Deland, FL)
Date	September 27, 2013
Delivery Receipt	DR-48499
Gas Standard	8.00 - 10.0% CO2, 11.0 - 13.0% Oxygen/Nitrogen - EPA PROTOCOL
Final Analysis Date	September 23, 2013
Expiration Date	September 23, 2021 ✓
Component	Carbon Dioxide, Oxygen
Balance Gas	Nitrogen

Analytical Data:
EPA Protocol, Section No. 2.2, Procedure G-1

DO NOT USE BELOW 100 psig

Reported Concentrations

Carbon Dioxide: 8.70% +/- 0.08% ✓

Oxygen: 11.9% +/- 0.10% ✓

Nitrogen: Balance

Reference Standards:

SRM/GMIS:	GMIS/GMIS	GMIS
Cylinder Number:	EB-0026839/CC-185129	CC-231332
Concentration:	6.847% CO2/13.92% CO2	9.97% Oxygen/Nitrogen
Expiration Date:	10/03/20 - 06/24/14	04/06/14

Certification Instrumentation

Component:	Carbon Dioxide	Oxygen
Make/Model:	Nicolet 6700	Servomex 244a
Serial Number:	APW1200289	1847
Principal of Measurement:	FTIR	Paramagnetic
Last Calibration:	September 05, 2013	September 18, 2013

Cylinder Data

Cylinder Serial Number:	CC-233289 ✓	Cylinder Outlet:	CGA 590
Cylinder Volume:	136 Cubic Feet	Cylinder Pressure:	1925 psig, 70°F

Analytical Uncertainty and NIST Traceability are in compliance with EPA-600/R-12/531.

Certified by: David Scott

David Scott

PGVP Vendor ID: E12013 ✓

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LIQUID TECHNOLOGY CORPORATION

"INDUSTRY LEADER IN SPECIALTY GASES"

Certificate of Analysis

- EPA PROTOCOL GAS -

Customer	Coastal Air Consulting (Deland, FL)
Date	November 01, 2011
Delivery Receipt	DR-39306
Gas Standard	17.0-18.0% CO2, 22.0-23.0% Oxygen/Nitrogen - EPA PROTOCOL
Final Analysis Date	November 01, 2011
Expiration Date	November 01, 2014
Component	Carbon Dioxide, Oxygen
Balance Gas	Nitrogen

Analytical Data: **DO NOT USE BELOW 150 psig**

EPA Protocol, Section No. 2.2, Procedure G-1

Reported Concentrations

Carbon Dioxide: 17.1% +/- 0.17%

Oxygen: 22.7% +/- 0.22%

Nitrogen: Balance

Reference Standards:

SRM/GMIS:	GMIS/GMIS	GMIS
Cylinder Number:	CC-252091/CC-184404	CC-159090
Concentration:	15.816% CO2/19.87% CO2	20.72% Oxygen/Nitrogen
Expiration Date:	02/04/13 - 02/04/13	05/06/12

Certification Instrumentation

Component:	Carbon Dioxide	Oxygen
Make/Model:	Horiba - VIA 510	Servomex 244a
Serial Number:	SN075GSF	1847
Principal of Measurement:	NDIR	Paramagnetic
Last Calibration:	October 10, 2011	October 09, 2011

Cylinder Data

Cylinder Serial Number:	CC-159134	Cylinder Outlet:	CGA 590
Cylinder Volume:	140 Cubic Feet	Cylinder Pressure:	2000 psig, 70°F

Analytical Uncertainty and NIST Traceability are in compliance with EPA-600/R-97/121.

Certified by: *Adam Strickland*

PGVP Vendor ID: E12011

LIQUID TECHNOLOGY CORPORATION

"INDUSTRY LEADER IN SPECIALTY GASES"

Certificate of Analysis

- EPA PROTOCOL GAS -

** Recertification **

Customer	Coastal Air Consulting (Deland, FL)
Date	November 14, 2013
Delivery Receipt	DR-49187
Gas Standard	45.0 ppm Nitrogen Dioxide/Air - EPA PROTOCOL
Final Analysis Date	November 12, 2013
Expiration Date	November 12, 2016 ✓

DO NOT USE BELOW 150 psig

Cylinder Data

Cylinder Serial Number:	EB-0026837 ✓
Cylinder Volume:	70 Cubic Feet
Expiration Date:	November 12, 2016

Cylinder Outlet:	CGA 660
Cylinder Pressure:	1000 psig, 70°F

Analytical Data

EPA Protocol, Section No. 2.2, Procedure G-1

- Replicate Concentrations -

Nitrogen Dioxide: 45.2 ppm +/- 0.44 ppm Converter check

Air: Balance

Reference Standard(s):

SRM/GMIS:	GMIS
Cylinder Number:	CC-185381
Concentration:	50.584 ppm NO2/Nitrogen
Expiration Date:	04/21/15

Certification Instrumentation

Component:	Nitrogen Dioxide
Make/Model:	Horiba - CLA 510
Serial Number:	43331870031
Principal of Measurement:	Chemiluminescence
Last Calibration:	October 10, 2013

Analytical uncertainty and NIST Traceability are in compliance with EPA-600/R-12/531.

Certified by: Cole Dylewski

Cole Dylewski

PGVP Vendor ID: EI2013 ✓

Original Data: 44.3 ppm NO2/Air (November 01, 2011)

LIQUID TECHNOLOGY CORPORATION

"INDUSTRY LEADER IN SPECIALTY GASES"

Certificate of Analysis

- EPA PROTOCOL GAS -

Customer	Coastal Air Consulting (Deland, FL)
Date	September 27, 2013
Delivery Receipt	DR-48499
Gas Standard	47.0 ppm NO, 47.0 ppm SO2, 47.0 ppm CO/Nitrogen - EPA PROTOCOL
Final Analysis Date	September 27, 2013
Expiration Date	September 27, 2016
Components	Nitric Oxide, Sulfur Dioxide, Carbon Monoxide
Balance Gas	Nitrogen

Analytical Data:

DO NOT USE BELOW 100 psig

EPA Protocol, Section No. 2.2, Procedure G-1

Reported Concentrations

Nitric Oxide: 46.4 ppm +/- 0.46 ppm ✓ converter check

Sulfur Dioxide: 48.3 ppm +/- 0.48 ppm

Carbon Monoxide: 47.5 ppm +/- 0.40 ppm

Nitrogen: Balance

Total Oxides of Nitrogen: 46.5 ppm

** Total NOX for Reference Use Only **

Reference Standards:

SRM/GMIS:	GMIS	GMIS	GMIS
Cylinder Number:	EB-0016740	EB-0014698	EB-0017129
Concentration:	49.69 ppm NO/Nitrogen	50.67 ppm SO2	50.81 ppm CO/Nitrogen
Expiration Date:	07/08/14	11/01/16	10/20/14

Certification Instrumentation

Component:	Nitric Oxide	Sulfur Dioxide	Carbon Monoxide
Make/Model:	Nicolet 6700	Nicolet 6700	Nicolet 6700
Serial Number:	APW1100563	APW1100563	APW1100563
Principal of Measurement:	FTIR	FTIR	FTIR
Last Calibration:	September 26, 2013	September 26, 2013	September 19, 2013

Cylinder Data

Cylinder Serial Number:	CC-159097	Cylinder Outlet:	CGA 660
Cylinder Volume:	133 Cubic Feet	Cylinder Pressure:	1900 psig, 70°F

Analytical Uncertainty and NIST Traceability are in compliance with EPA-600/R-12/531.

Certified by:

David Scott

PGVP Vendor ID: E12013

COASTAL AIR CONSULTING, INC.

Unit: CT-1 Date: 12-20-13

SYSTEM RESPONSE TIME

CT-1

Train 1

Analyzer Type: Thermo
Serial Number: 42CHL-72772-372
Test Method: 7E

Gas Concentration.: ~95 PPM
Span Gas Range: 0-250
Train Length: ~100'

Upscale Response	Downscale Response
1. 86 seconds	1. 87 seconds
2. 84 seconds	2. 85 seconds
3. 85 seconds	3. 86 seconds
Avg. 85 seconds	Avg. 86 seconds

SYSTEM RESPONSE TIME: 86 SECONDS (slower average time)

CT-2

Train 2

Analyzer Type: Thermo
Serial Number: 42CHL-72772-372
Test Method: 7E

Gas Concentration.: ~95 PPM
Span Gas Range: 0-250
Train Length: ~100'

Upscale Response	Downscale Response
1. 86 seconds	1. 88 seconds
2. 87 seconds	2. 87 seconds
3. 87 seconds	3. 87 seconds
Avg. 87 seconds	Avg. 87 seconds

SYSTEM RESPONSE TIME: 87 SECONDS (slower average time)

Method 20 procedure:
With a stable zero reading on the analyzer, switch to stack and time until stable. Record this as the upscale response and repeat twice again. With a stable high cal gas reading, switch to stack and time until stable. Record this as the downscale response and repeat twice again.

Methods 6c and 7e procedure:
The response time is determined by switching between the zero and the upscale cal gas and noting the longer time it takes to achieve a stable reading.

Method 10 procedure:
The time to achieve 90% response after an increase (rise time) or decrease (fall time) in the inlet concentration.

Method 25a procedure:
The time from a step change in pollutant at the inlet to the measurement system until 95% of the final value is displayed on the recorder.

FILE:Jam's hard drive part. & gas stuff

COASTAL AIR CONSULTING, INC.

Plant: FPL / PPN
Unit: GT'S 1-1, 1-2 & 2-1

Test Date: 12/20 & 23/2013
Check Date: 12/19/2013

NO_2 to NO Converter Efficiency Check

Analyzer : Thermo 42C HL

Serial Number: 72772-372

Method: 7E

NO_2 Audit Gas Value (C_v): 45.2

NO Calibration Gas Value: 46.4

Date & Time	NOx ppm	
12/19/2013 10:33	0.00	zero gas
12/19/2013 10:38	46.10	span gas
12/19/2013 10:42	44.50	
12/19/2013 10:43	44.30	
AVERAGE	44.40	(C_{Dir})

NO_2 to NO Conversion Efficiency Test using Equation 7E-7

$$Eff_{NO_2} = \frac{C_{Dir}}{C_v} \times 100$$

Eff_{NO_2} = **98.2**

Method 7E NO_2 to NO Conversion Efficiency Test

8.2.4.1. Introduce NO_2 converter efficiency gas to the analyzer in direct calibration mode and record the NOX concentration displayed by the analyzer. Calculate the converter efficiency using Equation 7E–7 in Section 12.7. The specification for converter efficiency in Section 13.5 must be met. The NO2 to NO conversion efficiency, calculated according to Equation 7E-7, must be greater than or equal to 90 percent.

Eff_{NO_2} = NO_2 to NO converter efficiency, percent.
CDir = Measured concentration of a calibration gas when introduced in direct calibration mode, ppmv.
Cv = Manufacturer certified concentration of a calibration gas, ppmv.

APPENDIX 4
SAMPLE CALCULATIONS

SAMPLE EQUATIONS
FOR CEMS RELATIVE ACCURACY TEST AUDITS

CALCULATIONS FOR FLUE GAS VOLUME AND MOISTURE

Time	Dry Gas Meter Ft^3	Pitot ΔP In. H_2O	Orifice ΔH In. H_2O	Dry Gas Temp.°F In	Out	Flue Gas Static Pressure In. H_2O	Stack Temp.°F
T	V_m	Δp	ΔH	TMI	TMO	P_g	t_s

1. P_{bar} = Barometric Pressure (in. Hg)

2. TT = Net Sampling Time (minutes)

3. V_m = V_m Final - V_m Initial = Sample Gas Volume (Ft^3)

4. T_m = Average Dry Gas Temperature at Meter (°F)

$$T_m = \frac{Avg.TMI + Avg.TMO}{2}$$

5. Δp = Velocity head of stack gas (in. H_2O)

6. ΔH = Average Orifice Pressure Drop (in.H_2O)

7. Volume of dry gas sampled at standard conditions[a] (DSCF)

$$V_{m(std)} = \frac{(17.64)(V_m)(Y)\left(P_{bar} + \frac{\Delta H}{13.6}\right)}{(T_m + 460)}$$

8. V_{lc} = Total Water Collected = gm H_2O Silica gel + ml Imp. H_2O = ml

9. Volume of water vapor at standard conditions[b] (SCF)

$$V_{w(std)} = 0.0471(V_{lc}) = SCF$$

10. Percent moisture in flue gas

$$\%M = \frac{100(V_{w(std)})}{V_{m(std)} + V_{w(std)}}$$

11. Mole fraction of water vapor in flue gas

$$B_{ws} = \frac{\%M}{100}$$

12. Molecular Weight of dry flue gas

$$M_d = 0.44(\%CO_2) + 0.32(\%O_2) + 0.28(\%N_2 + \%CO)$$

13. Molecular weight of wet flue gas

$$M_s = M_d(1 - B_{ws}) + 18(B_{ws})$$

14. A = Cross-sectional area of stack (Ft^2)

$$\frac{\pi r^2}{144}$$

15. P_s = Flue gas pressure (in, Hg)

$$P_s = P_{bar} + P_g$$

NOTE: $$P_g(Hg) = \frac{P_g(in.H_2O)}{13.6}$$

16. T_s = Absolute stack temperature (°R)

$$T_s = 460 + t_s$$

17. Flue velocity at stack conditions (FT/SEC)

$$V_s = (K_p)(C_p)\left[\left(\sqrt{\Delta p}\right)avg\right]\sqrt{\frac{T_s(avg)}{P_s * M_s}}$$

C_p = pitot tube coefficient
K_p = pitot tube constant = 85.49ft/sec

18. Flue gas volumetric flow rate at standard conditions[b] (SCFM)

$$Q_s = (V_s)(A)\left(\frac{528}{T_s(avg.)}\right)\left(\frac{P_s}{29.92}\right)(60)$$

19. Flue gas volumetric flow rate at standard conditions[c] (DSCFM)

$$Q_{sd} = (1 - B_{ws})(V_s)(A)\left(\frac{528}{T_s(avg.)}\right)\left(\frac{P_s}{29.92}\right)(60)$$

20. Flue gas volumetric flow rate at stack conditions (ACFM)

$$Q_a = (V_s)(A)(60)$$

NOTES:
[a]Dry standard cubic feet at 68°F, 29.92 in. Hg
[b]Standard conditions at 68°F, 29.92 in. Hg
[c]Dry standard cubic feet per minute at 68°F, 29.92 in. Hg

F-FACTOR DETERMINATION

THE WET F-FACTOR (F_w):

Includes all components of combustion

$$F_w = \frac{10^6\ Btu/mmBtu\left[5.57(\%H) + 1.53(\%C) + 0.57(\%S) + 0.14(\%N) - 0.46(\%O_2) + 0.21(\%H_2O)\right]}{GCV_{wet}}$$

THE DRY F-FACTOR (F_d):

Includes all components of combustion less water

$$F_d = \frac{10^6\ Btu/mmBtu\left[3.64(\%H) + 1.53(\%C) + 0.57(\%S) + 0.14(\%N) - 0.46(\%O_2)\right]}{GCV_{dry}}$$

THE CARBON F-FACTOR (F_c):

Includes only Carbon Dioxide

$$F_c = \frac{10^6\ Btu/mmBtu\left[0.321(\%C)\right]}{GCV_{dry}}$$

References for the above equations (i.e. %H, %C, %N, %S, $\%O_2$) can be found in 40 CFR Part 60, Appendix A, Method 19.

LBS/MMBTU CALCULATIONS USING THE F-FACTOR

1. **EMISSION RATE *E(lb/mmbtu)*, O_2 based**

$$E(lb/mmbtu) = C \times F_d \left(\frac{20.9}{20.9 - \%O_2} \right)$$

Where:

C(lb/dscf) = Pollutant concentration (ppm) x conversion factor.

Conversion Factors:

NOx = 1.194×10^{-7}

SO_2 = 1.660×10^{-7}

CO = 7.274×10^{-8}

C_3H_8 = 1.145×10^{-7}

F_d*(dscf/mmbtu)* = "F" Factor for fuel type, (Ref. EPA Method 19)

F_d (Coal) = 9780

F_d (Gas) = 8710

F_d (Oil) = 9190

2. **EMISSION RATE *E(lb/mmbtu)*, CO_2 based**

$$E(lb/mmbtu) = C \times F_c \left(\frac{100}{\%CO_2} \right)$$

Where:

C(lb/dscf) = Pollutant concentration (ppm) x conversion factor.

Conversion Factors:

NOx = 1.194×10^{-7}

SO2 = 1.660×10^{-7}

CO = 7.274×10^{-8}

C_3H_8 = 1.145×10^{-7}

F_c*(dscf/mmbtu)* = "F" Factor for fuel type, (Ref. EPA Method 19)

F_c (Coal) = 1800

F_c (Gas) = 1040

F_c (Oil) = 1420

CALCULATION FOR GAS CONCENTRATION

GAS CONCENTRATION (C_{gas})

$$C_{gas} = \left(\overline{C} - C_0\right)\left(\frac{C_{ma}}{C_m - C_a}\right)$$

C_{gas}	=	Effluent gas concentration, ppm
$\overline{C}$	=	Average gas concentration indicated by gas analyzer, dry basis, ppm
C_0	=	Average of initial and final system calibration bias check responses for the zero gas, ppm
C_m	=	Average of initial and final system calibration bias check responses for the upscale calibration gas, ppm
C_{ma}	=	Actual concentration of the upscale calibration gas, ppm

GAS CONCENTRATION @ 15% O_2 (C_{gas} @ 15% O_2)

$$C_{gas} @ 15\% O_2 = C_{gas} * ((20.9-15)/(20.9-\%O_2))$$

GAS CONCENTRATION @ 7% O_2 (C_{gas} @ 7% O_2)

$$C_{gas} @ 7\% O_2 = C_{gas} * ((20.9-7)/(20.9-\%O_2))$$

CALCULATION OF RELATIVE ACCURACY

ARITHMETIC MEAN (OF THE DIFFERENCE , {d}, OF A DATA SET)

$$\bar{d} = \frac{1}{n}\sum_{i=1}^{n} d_i$$

Where n = Number of data points.

ALGEBRAIC SUM (OF THE INDIVIDUAL DIFFERENCES, $\{d_i\}$)

$$\sum_{i=1}^{n} d_i$$

STANDARD DEVIATION, S_d

$$S_d = \sqrt{\frac{\sum_{i=1}^{n} d_i^2 - \left(\frac{\left(\sum_{i=1}^{n} d_i\right)^2}{n}\right)}{n-1}}$$

CONFIDENCE COEFFICIENT, CC

$$CC = t_{0.975}\frac{S_d}{\sqrt{n}}$$

For 9 tests $t_{0.975} = 2.306$

For 10 tests $t_{0.975} = 2.262$

For 11 tests $t_{0.975} = 2.228$

For 12 tests $t_{0.975} = 2.201$

RELATIVE ACCURACY, RA

$$RA = \frac{|\bar{d}| + |CC|}{\overline{RM}} x100$$

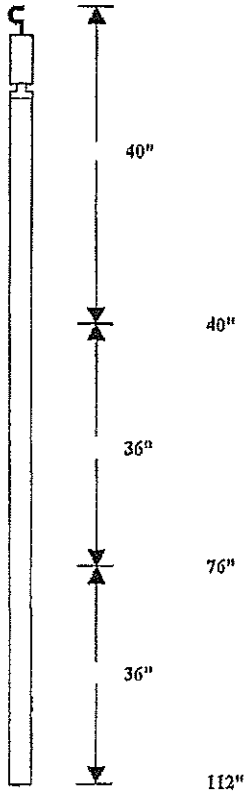
APPENDIX 5
FIGURES

FLORIDA POWER & LIGHT CO.
PUTNAM PLANT

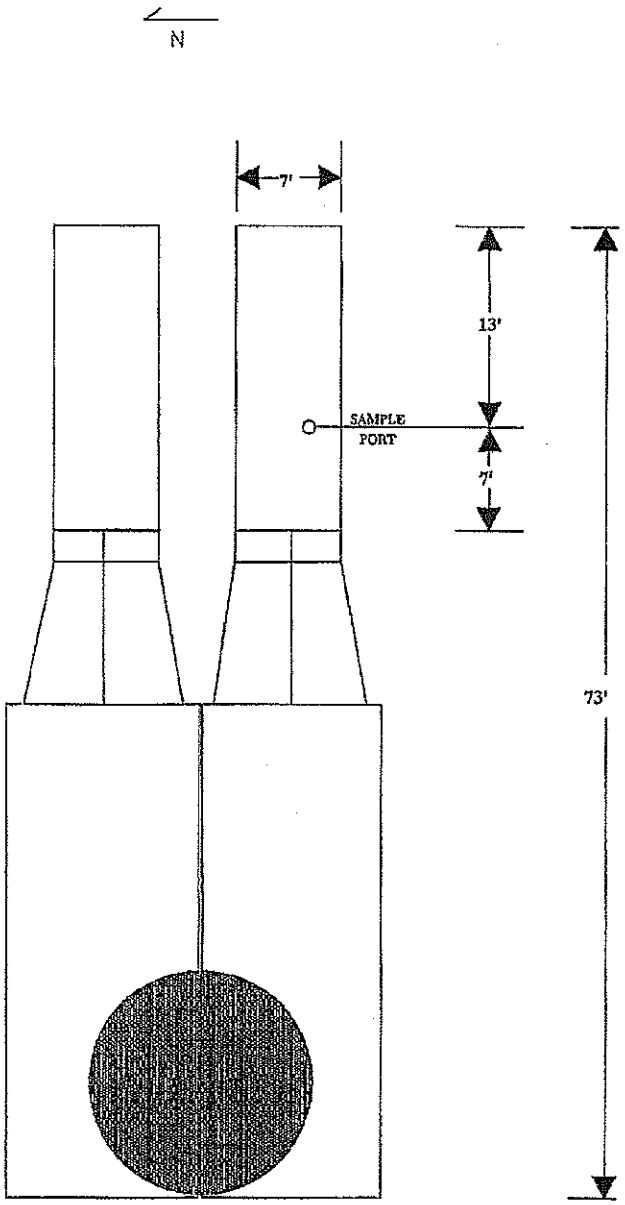
STACK SPECIFICATIONS

STACK DEPTH: 12 ft.
SAMPLING PORT DEPTH: 4 in.
No. OF PORTS: 1
No. OF POINTS PER TRAVERSE: 3
TOTAL No. OF POINTS : 3
SAMPLING TIME PER POINT: 7 min.
TOTAL SAMPLING TIME: 21 min.
NOTE: DRAWING IS NOT TO SCALE

PROBE DIAGRAM



TYPICAL STACK DIAGRAM



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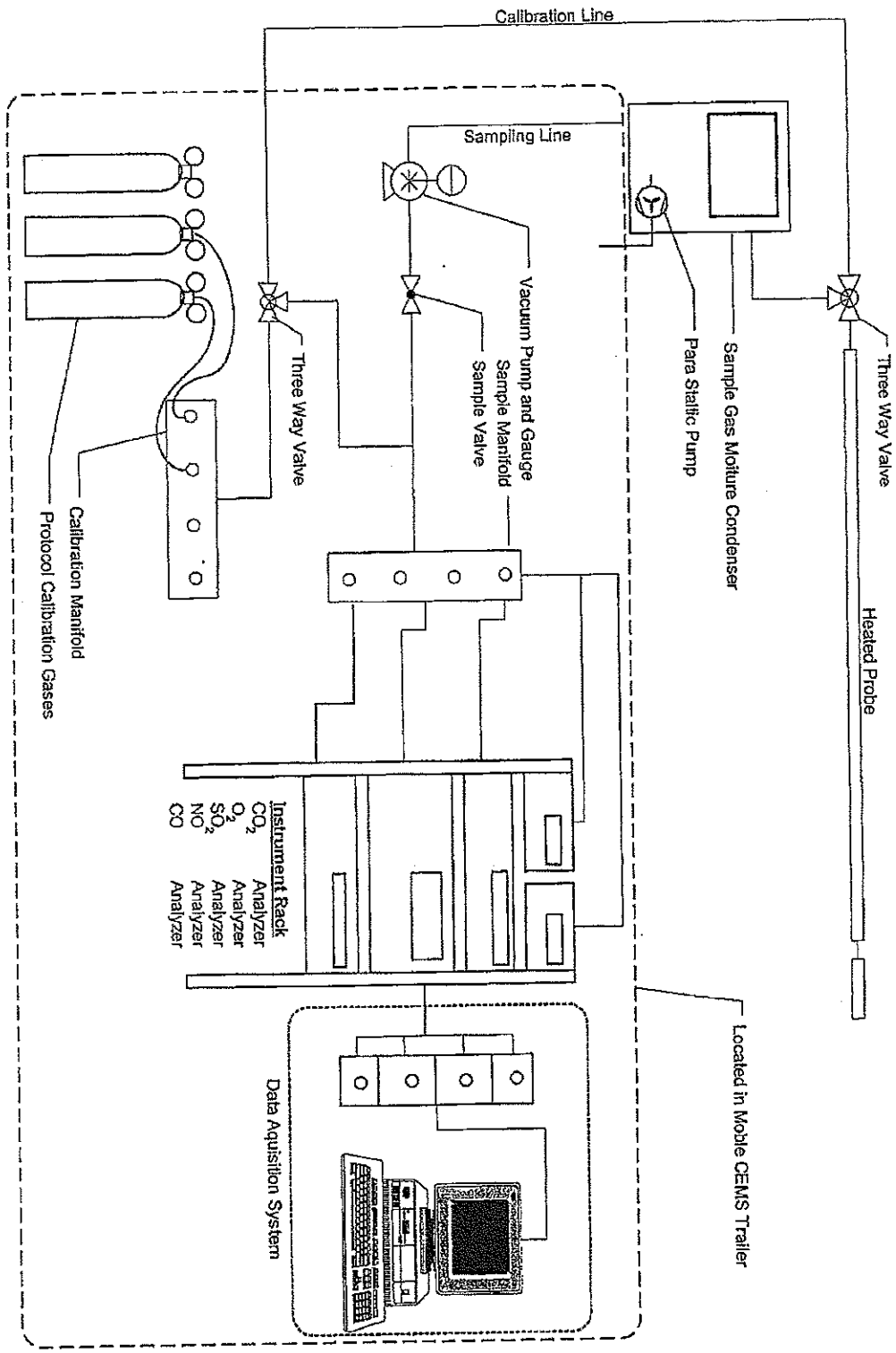


DRAWN BY R F Cobb		TITLE EPA Instrumental Sample Train	**Coastal Air Consulting, Inc** 1531 Wyngate Drive, Deland FL (386) 943-9241 Fax (386) 943 9212
DATE 4/15/02	SCALE NONE	DESCRIPTION Sample Train Schematic	

APPENDIX 6
QSTI

Source Evaluation Society

P. O. Box 12124
Research Triangle Park
North Carolina 27709

May 1, 2012

Stephen C. Webb
Coastal Air Consulting
1531 Wyngate Dr.
DeLand, FL 32724

Subject: Qualified Source Tester Application No. 2012-670
Qualification Notice - Manual Gas Volume Measurements and Isokinetic Particulate Sampling Methods
- Manual Gaseous Pollutants Source Sampling Methods
- Gaseous Pollutants Instrumental Sampling Methods
- Hazardous Metals Measurement Sampling Methods

Dear Mr. Webb:

It is my pleasure to inform you that you have satisfied the requirements of the Source Evaluation Society Qualified Source Test Individual program for group exam(s) listed above. As a member of the successful candidates in this SES program, you should be proud of this distinction within the source emissions testing community. I am confident that you will continue to uphold the standards of technical excellence and ethical conduct embodied in the SES mission statement.

The enclosed Qualification Notice(s) and SES identification card are your permanent record of this achievement. This status is valid for the period shown on the Qualification Notices.

Congratulations on your achievement and I wish you continued success in your future endeavors. Please see attached a permission letter if you wish to have your information posted on the SES web site.

Sincerely yours,

Peter R. Westlin
SES QSTI/QSTO Review Committee Chairman

cc: Roy Owens, SES QSTI/QSTO Review Board Member
Glenn England, SES QSTI/QSTO Review Board Member
C. David Bagwell, SES QSTI/QSTO Review Board Member
Karen D. Kajiya-Mills, SES QSTI/QSTO Review Board Member
Peter S. Pakalnis, SES QSTI/QSTO Review Board Member
Gail Westlin, SES QSTI/QSTO Review Committee Administrator

Source Evaluation Society

P. O. Box 12124
Research Triangle Park
North Carolina 27709

An idea was introduced at the 2006 SSSAAP conference to list those individuals who have received their QSTI qualification approvals on the SES web site. The SES Board of Directors determined that individuals would have to approve in writing before making public such information. The QSTI Committee would like your permission to post the information shown below on the SES web site for public view. This information will be provided on the website as a link to an Excel spreadsheet. Your information will be listed as below or with any changes you indicate:

Name Company City/State/Zip:	Stephen C. Webb Coastal Air Consulting DeLand, FL 32724		
Contact Info.:	Coastalair123@aol.com		
Any Addit. Info:	qstiprogram@gmail.com.		
Passed:	Group 1	Exam Date: 5/5/11	Valid From - To: 2012/05/01 to 2017/04/30
	Group 2	Exam Date: 5/5/11	Valid From - To: 2012/05/01 to 2017/04/30
	Group 3	Exam Date: 5/6/11	Valid From - To: 2012/05/01 to 2017/04/30
	Group 4	Exam Date: 5/6/11	Valid From - To: 2012/05/01 to 2017/04/30
QSTI Certificate #:	2012-670		

You may view the current spreadsheet format at the SES website at www.sesnews.org. If you agree to your name and information being posted, please sign below and fax this page to Gail Westlin at 919-572-2203 or email to gail_westlin@yahoo.com. Also, if you wish to have your contact information listed other than your email address, please note any changes above (*e.g.*, an address, telephone or a cell phone number, etc.). Any further changes or additions will need to be made in writing and emailed to Gail Westlin at gail_westlin@yahoo.com. If you have any questions concerning this matter, please contact the SES QSTI/QSTO Review Committee Chairman, Peter Westlin, at westlin.peter@epa.gov or myself.

Thank you,

Gail Westlin
SES QSTI/QSTO Review Committee Administrator

I give the SES QSTI/QSTO Review Committee approval to have my name and information as outlined above to be posted on the SES web site. Any changes have been noted above. This approval extends to any future exams for which I receive a QSTI or QSTO Qualification Approval(s).

Signature: _____ Date: _____

NEW. DO YOU APPROVE SES RELEASING INFORMATION, UPON REQUEST, ABOUT WHETHER YOU HAVE PASSED A METHOD GROUP EXAM? (The information released will be if you passed an exam and the date of the exam. This information is in support of ASTM D-7036-D.) YES ☐ NO ☐ IF YOU AGREE, PLEASE SIGN BELOW.

Signature: _____ Date: _____

SOURCE EVALUATION SOCIETY

Qualified Source Testing Individual

LET IT BE KNOWN THAT

STEPHEN C. WEBB

HAS SUCCESSFULLY PASSED A COMPREHENSIVE EXAMINATION AND SATISFIED EXPERIENCE REQUIREMENTS IN ACCORDANCE WITH THE GUIDELINES ISSUED BY THE SES QUALIFIED SOURCE TEST INDIVIDUAL REVIEW BOARD FOR

MANUAL GAS VOLUME MEASUREMENTS AND ISOKINETIC PARTICULATE SAMPLING METHODS

ISSUED THIS 1st DAY OF MAY 2012 AND EFFECTIVE UNTIL APRIL 30TH , 2017

Peter R. Westlin, QSTI/QSTO Review Board

C. David Bagwell QSTI/QSTO Review Board

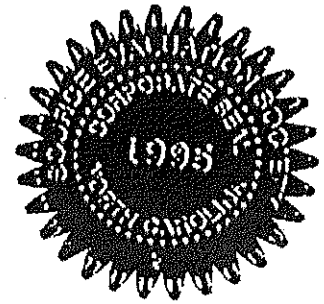
Peter S. Pakalnis, QSTI/QSTO Review Board

Karen D. Kajiya-Mills , QSTI/QSTO Review Board

LeRoy Owens, QSTI/QSTO Review Board

Glenn C. England, QSTI/QSTO Review Board

APPLICATION NO. 2012-670



SOURCE EVALUATION SOCIETY

Qualified Source Testing Individual

LET IT BE KNOWN THAT

STEPHEN C. WEBB

HAS SUCCESSFULLY PASSED A COMPREHENSIVE EXAMINATION AND SATISFIED EXPERIENCE REQUIREMENTS IN ACCORDANCE WITH THE GUIDELINES ISSUED BY THE SES QUALIFIED SOURCE TEST INDIVIDUAL REVIEW BOARD FOR

MANUAL GASEOUS POLLUTANTS SOURCE SAMPLING METHODS

ISSUED THIS 1st DAY OF MAY 2012 AND EFFECTIVE UNTIL APRIL 30TH , 2017

Peter R. Westlin, QSTI/QSTO Review Board

Peter S. Pakalnis, QSTI/QSTO Review Board

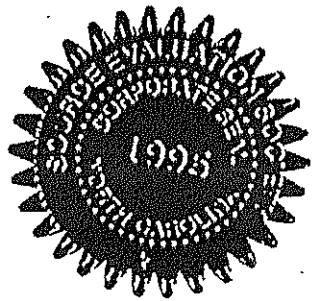
LeRoy Owens, QSTI/QSTO Review Board

C. David Bagwell, QSTI/QSTO Review Board

Karen D. Kajiya-Mills , QSTI/QSTO Review Board

Glenn C. England, QSTI/QSTO Review Board

APPLICATION NO. 2012-670



SOURCE EVALUATION SOCIETY

Qualified Source Testing Individual

LET IT BE KNOWN THAT

STEPHEN C. WEBB

HAS SUCCESSFULLY PASSED A COMPREHENSIVE EXAMINATION AND SATISFIED EXPERIENCE REQUIREMENTS IN ACCORDANCE WITH THE GUIDELINES ISSUED BY THE SES QUALIFIED SOURCE TEST INDIVIDUAL REVIEW BOARD FOR

GASEOUS POLLUTANTS INSTRUMENTAL SAMPLING METHODS

ISSUED THIS 1st DAY OF MAY 2012 AND EFFECTIVE UNTIL APRIL 30TH , 2017

Peter R. Westlin, QSTI/QSTO Review Board

Peter S. Pakalnis, QSTI/QSTO Review Board

LeRoy Owens, QSTI/QSTO Review Board

C. David Bagwell, QSTI/QSTO Review Board

Karen D. Kajiya-Mills , QSTI/QSTO Review Board

Glenn C. England, QSTI/QSTO Review Board

APPLICATION NO. 2012-670

1996

SOURCE EVALUATION SOCIETY

Qualified Source Testing Individual

LET IT BE KNOWN THAT

STEPHEN C. WEBB

HAS SUCCESSFULLY PASSED A COMPREHENSIVE EXAMINATION AND SATISFIED EXPERIENCE REQUIREMENTS IN ACCORDANCE WITH THE GUIDELINES ISSUED BY THE SES QUALIFIED SOURCE TEST INDIVIDUAL REVIEW BOARD FOR

HAZARDOUS METALS MEASUREMENT SAMPLING METHODS

ISSUED THIS 1st DAY OF MAY 2012 AND EFFECTIVE UNTIL APRIL 30TH , 2017

Peter R. Westlin, QSTI/QSTO Review Board

C. David Bagwell, QSTI/QSTO Review Board

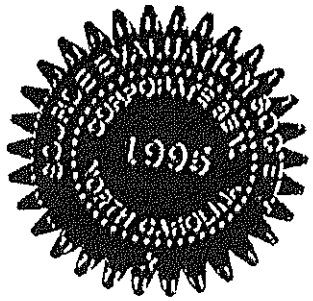
Peter S. Pakalnis, QSTI/QSTO Review Board

Karen D. Kajiya-Mills , QSTI/QSTO Review Board

LeRoy Owens, QSTI/QSTO Review Board

Glenn C. England, QSTI/QSTO Review Board

APPLICATION NO. 2012-670



FPL

Inter-Office Correspondence

To: ***Tammy Pratt*** Date: **1/13/14**

From: ***John Schwartz*** Department: ***GPA - JB***

Subject: ***N0x / C02 Linearity Check***
3rd Quarter 2013
Putnam Power Plant

The Production Assurance Emission Test Group conducted the NOx & CO2 Linearity check at Putnam Power Plant unit1-1/2-2 on November 21st , 2013. EPA Methods according to 40 CFR 75 Appendix A were used for accuracy determination.

A summary of the pertinent data and condition assessment of the CEM shelter is attached. Please file this report with your required CEMS documents. This report has a five-year retention requirement.

If you need any additional information please contact me at 579-7177.

John Schwartz
Florida Power & Light
Emission Technician

Plant PPW Unit 1-1/2-2 Date 11/21/13

CT CEMS Condition Assessment Worksheet

	YES	NO
1. Was the control room notified prior to performing audit?	☑	☐
Comments		
2. Sample probe filter vacuum < - 7 in. HG?	☑	☐
Comments		
3. NOx and O2 analyzer sample pressure set at 3 psi?	☑	☐
Comments		
4. O2 analyzer calibration pressure at 15 psi?	☑	☐
Comments		
5. NOx sample flow rate at 1.8 LPM?	☑	☐
Comments		
6. O2 sample flow rate at 1.0 LPM?	☑	☐
Comments		
7. Calibration flow at 6 LPM?	☑	☐
Comments		
8. Are Span gas cylinders data entered correctly into the Netdahs?	☑	☐
Comments		
9. Are Span gas cylinders properly secured and pressures > 250 psi?	☑	☐
Comments		
10. Is plant calibration Zero/Span gas expired?	☐	☑
Comments		
11. Calibration span gas values (O2 & NOx) within analyzer range (85 to 90%)?	☑	☐
Comments		
12. Is the Zero/Span gas certification of analysis available?	☑	☐
Comments		
13. Does the Zero calibration gas meet Part 72 requirements? (CO<0.5ppm, CO2<1ppm, NOx<0.1ppm, SO2<0.1ppm, THC<0.1ppm)	☑	☐
Comments		

14. Are any alarm or out-of-control conditions shown on the DAHS summary screen? ☐ ☑

Comments_____

15. Overall, is the outside of shed in good condition, inside free of dirt, debris and trash? ☑ ☐

Comments_____

16. Is shed free of ozone odor? ☑ ☐

Comments_____

17. On completion of LA, is regulator set between 18-20 psi (PFM) or 20-30 psi (PSN)? ☑ ☐

Comments_____

FLORIDA POWER & LIGHT
CONTINIOUS EMISSION MONITORS
LINEARITY CHECK WORKSHEET

Plant PPN 1-1 Date 11/21/2013 Quarter 4th 2013
Unit 1-1 (Low Range) Technician M. Crosby

NOx ANALYZER
Manufacturer TECO
Serial # 42C-77257-385
Span Setting 0 - 100 ppm
Component ID A02
Monitoring Sys. ID 102
Unit/Stack ID PPN 1-1

	Time (EST)	Reference Value	Monitor Value	PPM Difference	Linearity Error	PROTOCOL 1 TANK SERIAL #	Pass/ Fail
Low	1545	50.00	51.90	1.90	5%		
	1615	50.00	50.60	0.60		ALM009787	
	1641	50.00	50.90	0.90	2.3		PASS
Mid	1555	111.00	109.70	-1.30			
	1625	111.00	110.20	-0.80		ALM055501	
	1651	111.00	109.00	-2.00	1.2		PASS
High	1605	165.90	161.20	-4.70			
	1633	165.90	162.20	-3.70		CC162690	
	1701	165.90	162.10	-3.80	2.5		PASS

CO2 ANALYZER
Manufacturer Cal Inst.
Serial # U08067
Span Setting 0 - 10 %
Component ID A03
Monitoring Sys. ID 102
Unit/Stack ID PPN 1-1

	Time (EST)	Reference Value	Monitor Value	PPM Difference	Linearity Error	PROTOCOL 1 TANK SERIAL #	Pass/ Fail
Low	1545	2.52	2.63	0.11	5%		ALT
	1615	2.52	2.65	0.13		ALM009787	
	1641	2.52	2.67	0.15	5.2		0.13
Mid	1555	5.44	5.58	0.14			
	1625	5.44	5.61	0.17		ALM055501	
	1651	5.44	5.60	0.16	2.9		PASS
High	1605	8.51	8.66	0.15			
	1633	8.51	8.68	0.17		CC162690	
	1701	8.51	8.65	0.14	1.8		PASS

FLORIDA POWER & LIGHT
CONTINIOUS EMISSION MONITORS
LINEARITY CHECK WORKSHEET

Plant PPN
Unit 1-1 (High Range)

Date 11/21/2013 Quarter 4th 2013
Technician M. Crosby

NOx ANALYZER
Manufacturer TECO
Serial # 42C-77262-385
Span Setting 0 - 500 ppm
Component ID A02
Monitoring Sys. ID 102
Unit/Stack ID PFL4-1

	Time (EST)	Reference Value	Monitor Value	PPM Difference	Linearity Error	PROTOCOL 1 TANK SERIAL #	Pass/ Fail
Low	1716	125.90	126.90	1.00	5%		
	1744	125.90	128.80	2.90		ALM047577	
	1810	125.90	128.70	2.80	1.8		PASS
Mid	1724	277.00	278.40	1.40			
	1752	277.00	279.10	2.10		CC217297	
	1818	277.00	279.00	2.00	0.7		PASS
High	1734	427.00	428.10	1.10			
	1800	427.00	428.00	1.00		ALM021880	
	1826	427.00	428.20	1.20	0.3		PASS

FLORIDA POWER & LIGHT
CONTINIOUS EMISSION MONITORS
LINEARITY CHECK WORKSHEET

Plant PPN
Unit 1-2 (Low Range)

Date 11/21/2013 Quarter 4th 2013
Technician M. Crosby

NOx ANALYZER
Manufacturer TECO
Serial # 42C-77260-385
Span Setting 0 - 100 ppm
Component ID A12
Monitoring Sys. ID 112
Unit/Stack ID PPN 1-2

	Time (EST)	Reference Value	Monitor Value	PPM Difference	Linearity Error	PROTOCOL 1 TANK SERIAL #	Pass/ Fail
Low	1545	50.00	51.80	1.80	5%		
	1615	50.00	50.90	0.90		ALM009787	
	1641	50.00	51.10	1.10	2.5		PASS
Mid	1555	111.00	109.00	-2.00			
	1625	111.00	109.40	-1.60		ALM055501	
	1651	111.00	108.70	-2.30	1.8		PASS
High	1605	165.90	160.80	-5.10			
	1633	165.90	162.10	-3.80		CC162690	
	1701	165.90	162.10	-3.80	2.6		PASS

CO2 ANALYZER
Manufacturer Cal Inst.
Serial # U08066
Span Setting 0 - 10 %
Component ID A13
Monitoring Sys. ID 112
Unit/Stack ID PPN 1-2

	Time (EST)	Reference Value	Monitor Value	PPM Difference	Linearity Error	PROTOCOL 1 TANK SERIAL #	Pass/ Fail
Low	1545	2.52	2.60	0.08	5%		
	1615	2.52	2.63	0.11		ALM009787	
	1641	2.52	2.66	0.14	4.4		PASS
Mid	1555	5.44	5.51	0.07			
	1625	5.44	5.56	0.12		ALM055501	
	1651	5.44	5.55	0.11	1.8		PASS
High	1605	8.51	8.59	0.08			
	1633	8.51	8.58	0.07		CC162690	
	1701	8.51	8.56	0.05	0.8		PASS

FLORIDA POWER & LIGHT
CONTINIOUS EMISSION MONITORS
LINEARITY CHECK WORKSHEET

Plant PPN
Unit 1-2 (High Range)

Date 11/21/2013 Quarter 4th 2013
Technician M. Crosby

NOx ANALYZER
Manufacturer TECO
Serial # 42C-77263-385
Span Setting 0 - 500 ppm
Component ID A12
Monitoring Sys. ID 112
Unit/Stack ID PFL4-2

	Time (EST)	Reference Value	Monitor Value	PPM Difference	Linearity Error	PROTOCOL 1 TANK SERIAL #	Pass/ Fail
	1716	125.90	127.00	1.10	5%		
Low	1744	125.90	129.20	3.30		ALM047577	
	1155	125.90	129.10	3.20	2.0		PASS
	1724	277.00	278.00	1.00			
Mid	1752	277.00	278.30	1.30		CC217297	
	1818	277.00	278.90	1.90	0.5		PASS
	1734	427.00	427.70	0.70			
High	1800	427.00	427.70	0.70		ALM021680	
	1826	427.00	428.30	1.30	0.2		PASS

FLORIDA POWER & LIGHT
CONTINIOUS EMISSION MONITORS
LINEARITY CHECK WORKSHEET

Plant PPN
Unit 2-1 (High Range)

Date 11/21/2013 Quarter 4th 2013
Technician M. Crosby

NOx ANALYZER
Manufacturer TECO
Serial # 42C-77264-385
Span Setting 0 - 500 ppm
Component ID A02
Monitoring Sys. ID 102
Unit/Stack ID PFL5-1

	Time (EST)	Reference Value	Monitor Value	PPM Difference	Linearity Error	PROTOCOL 1 TANK SERIAL #	Pass/ Fail
Low	1716	125.90	128.80	2.90	5%		
	1744	125.90	130.80	4.90		ALM047577	
	1810	125.90	131.00	5.10	3.4		PASS
Mid	1724	277.00	280.90	3.90			
	1752	277.00	281.90	4.90		CC217297	
	1818	277.00	282.50	5.50	1.7		PASS
High	1734	427.00	430.60	3.60			
	1800	427.00	431.60	4.60		ALM021880	
	1826	427.00	433.00	6.00	1.1		PASS

FLORIDA POWER & LIGHT
CONTINIOUS EMISSION MONITORS
LINEARITY CHECK WORKSHEET

Plant PPN
Unit 2-1(Low Range)

Date 11/21/2013 Quarter 4th 2013
Technician M. Crosby

NOx ANALYZER
Manufacturer TECO
Serial # 42C-77257-385
Span Setting 0 - 100 ppm
Component ID A02
Monitoring Sys. ID 102
Unit/Stack ID PPN 2-1

	Time (EST)	Reference Value	Monitor Value	PPM Difference	Linearity Error	PROTOCOL 1 TANK SERIAL #	Pass/ Fail
Low	1545	50.00	51.80	1.80	5%		
	1615	50.00	51.30	1.30		ALM009787	
	1641	50.00	51.60	1.60	3.1		PASS
Mid	1555	111.00	108.50	-2.50			
	1625	111.00	110.00	-1.00		ALM055501	
	1651	111.00	109.40	-1.60	1.5		PASS
High	1605	165.90	159.20	-6.70			
	1633	165.90	162.10	-3.80		CC162690	
	1701	165.90	162.10	-3.80	2.9		PASS

CO2 ANALYZER
Manufacturer Cal Inst.
Serial # U08067
Span Setting 0 - 10 %
Component ID A03
Monitoring Sys. ID 102
Unit/Stack ID PPN 2-1

	Time (EST)	Reference Value	Monitor Value	PPM Difference	Linearity Error	PROTOCOL 1 TANK SERIAL #	Pass/ Fail
Low	1545	2.52	2.60	0.08	5%		
	1615	2.52	2.62	0.10		ALM009787	
	1641	2.52	2.65	0.13	4.1		PASS
Mid	1555	5.44	5.46	0.02			
	1625	5.44	5.49	0.05		ALM055501	
	1651	5.44	5.49	0.05	0.7		PASS
High	1605	8.51	8.45	-0.06			
	1633	8.51	8.45	-0.06		CC162690	
	1701	8.51	8.43	-0.08	0.8		PASS

FLORIDA POWER & LIGHT
CONTINIOUS EMISSION MONITORS
LINEARITY CHECK WORKSHEET

Plant PPN Date 11/21/2013 Quarter 4th 2013
Unit 2-2 (Low Range) Technician M. Crosby

NOx ANALYZER
Manufacturer TECO
Serial # 42C-77257-385
Span Setting 0 - 100 ppm
Component ID A12
Monitoring Sys. ID 112
Unit/Stack ID PPN 2-2

	Time (EST)	Reference Value	Monitor Value	PPM Difference	Linearity Error	PROTOCOL 1 TANK SERIAL #	Pass/ Fail
Low	1545	50.00	51.80	1.80	5%		
	1615	50.00	50.90	0.90		ALM009787	
	1641	50.00	51.00	1.00	2.5		PASS
Mid	1555	111.00	109.20	-1.80			
	1625	111.00	109.70	-1.30		ALM055501	
	1651	111.00	109.00	-2.00	1.5		PASS
High	1605	165.90	161.40	-4.50			
	1633	165.90	162.80	-3.10		CC162690	
	1701	165.90	162.70	-3.20	2.2		PASS

CO2 ANALYZER
Manufacturer Cal Inst.
Serial # U08067
Span Setting 0 - 10 %
Component ID A13
Monitoring Sys. ID 112
Unit/Stack ID PPN 2-2

	Time (EST)	Reference Value	Monitor Value	PPM Difference	Linearity Error	PROTOCOL 1 TANK SERIAL #	Pass/ Fail
Low	1545	2.52	2.64	0.12	5%		ALT
	1615	2.52	2.68	0.16		ALM009787	
	1641	2.52	2.69	0.17	6.0		0.15
Mid	1555	5.44	5.55	0.11			
	1625	5.44	5.58	0.14		ALM055501	
	1651	5.44	5.57	0.13	2.3		PASS
High	1605	8.51	8.60	0.09			
	1633	8.51	8.59	0.08		CC162690	
	1701	8.51	8.59	0.08	1.0		PASS

FLORIDA POWER & LIGHT
CONTINIOUS EMISSION MONITORS
LINEARITY CHECK WORKSHEET

Plant PPN
Unit 2-2 (High Range)

Date 11/21/2013 Quarter 4th 2013
Technician M. Crosby

NOx ANALYZER
Manufacturer TECO
Serial # 42C-77261-385
Span Setting 0 - 500 ppm
Component ID A12
Monitoring Sys. ID 112
Unit/Stack ID PFL5-2

	Time (EST)	Reference Value	Monitor Value	PPM Difference	Linearity Error	PROTOCOL 1 TANK SERIAL #	Pass/ Fail
Low	1716	125.90	129.30	3.40	5%		
	1744	125.90	131.40	5.50		ALM047577	
	1810	125.90	131.40	5.50	3.8		PASS
Mid	1724	277.00	283.30	6.30			
	1752	277.00	283.60	6.60		CC217297	
	1818	277.00	284.00	7.00	2.4		PASS
High	1734	427.00	435.10	8.10			
	1800	427.00	435.60	8.60		ALM021880	
	1826	427.00	436.40	9.40	2.0		PASS

AIR LIQUIDE Air Liquide America Specialty Gases LLC | Scott

RATA CLASS

Dual-Analyzed Calibration Standard

6141 EASTON ROAD, BLDG 1, PLUMSTEADVILLE, PA 18949-0310 Phone: 800-331-4953 Fax: 215-766-7226

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A12013

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
6141 EASTON ROAD, BLDG 1
PLUMSTEADVILLE, PA 18949-0310

P.O. No.: CEM-6035
Document # : 50359355-001

Customer
FLORIDA P&L-MARTIN PLT-PO#-CEM ONLY

21900 SW WARFIELD BLVD
INDIANTOWN FL 34956
US

ANALYTICAL INFORMATION Gas Type : CO2,NO,BALN

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: ALM009787 **Certification Date:** 23Apr2013 **Exp. Date:** 24Apr2021
Cylinder Pressure*:** 1909 PSIG **Batch No:** PLU0183415

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ACCURACY**	TRACEABILITY
NITRIC OXIDE	50.0	PPM	+/- 1%	Direct NIST and VSL
CARBON DIOXIDE	2.52	%	+/- 1%	Direct NIST and VSL
NITROGEN - OXYGEN FREE		BALANCE		
TOTAL OXIDES OF NITROGEN	50.2	PPM		Reference Value Only

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1683	24Jan2016	KAL004281	51.08 PPM	NITRIC OXIDE
NTRM 2622	01Jun2013	K021249	1.981 %	CARBON DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000928781	12Apr2013	FTIR
FTIR//000928781	05Apr2013	FTIR

ANALYZER READINGS

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

First Triad Analysis | **Second Triad Analysis** | **Calibration Curve**

NITRIC OXIDE

Date: 16Apr2013 Response Unit:PPM
Z1 = -0.04598 R1 = 50.93932 T1 = 49.72871
R2 = 50.94629 Z2 = 0.00508 T2 = 49.97945
Z3 = 0.05727 T3 = 49.98433 R3 = 51.15660
Avg. Concentration: 49.96 PPM

Date: 23Apr2013 Response Unit: PPM
Z1 = -0.02228 R1 = 50.81367 T1 = 49.94285
R2 = 51.11142 Z2 = 0.04669 T2 = 50.00216
Z3 = 0.10309 T3 = 50.17814 R3 = 51.34905
Avg. Concentration: 50.03 PPM

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 9.99995E-1
Constants: A = 0.00000E+0
B = 9.94179E-1 C = 1.04000E-4
D = 0.00000E+0 E = 0.00000E+0

CARBON DIOXIDE

Date: 16Apr2013
Z1 = 0.00000 R1 = 0.00000 T1 = 0.00000
R2 = 0.00000 Z2 = 0.00000 T2 = 0.00000
Z3 = 0.00000 T3 = 0.00000 R3 = 0.00000
Avg. Concentration: 0.000

Date: 23Apr2013 Response Unit: %
Z1 = 0.00005 R1 = 1.98007 T1 = 2.51544
R2 = 1.98273 Z2 = 0.00139 T2 = 2.51756
Z3 = 0.00271 T3 = 2.52085 R3 = 1.98297
Avg. Concentration: 2.517 %

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 9.99996E-1
Constants: A = 0.00000E+0
B = 9.14718E-1 C = 1.18560E-2
D = 1.00000E-6 E = 0.00000E+0

APPROVED BY: Michael A. Kuhns
Michael A. Kuhns

AIR LIQUIDE Air Liquide America Specialty Gases LLC | Scott

RATA CLASS

Dual-Analyzed Calibration Standard

6141 EASTON ROAD, BLDG 1, PLUMSTEADVILLE, PA 18949-0310 Phone: 800-331-4953 Fax: 215-766-7226

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A12013

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
6141 EASTON ROAD, BLDG 1
PLUMSTEADVILLE, PA 18949-0310

P.O. No.: CEM-6035
Document # : 50359355-002

Customer
FLORIDA P&L-MARTIN PLT-PO#-CEM ONLY

21900 SW WARFIELD BLVD
INDIANTOWN FL 34956
US

ANALYTICAL INFORMATION Gas Type : CO2,NO,BALN

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: ALM055501 Certification Date: 23Apr2013 Exp. Date: 24Apr2021
Cylinder Pressure***: 1936 PSIG Batch No: PLU0183538

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ACCURACY**	TRACEABILITY
NITRIC OXIDE	111.0	PPM	+/- 1%	Direct NIST and VSL
CARBON DIOXIDE	5.44	%	+/- 1%	Direct NIST and VSL
NITROGEN - OXYGEN FREE		BALANCE		
TOTAL OXIDES OF NITROGEN	111.3	PPM		Reference Value Only

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1684	22Jul2017	KAL003769	97.60 PPM	NITRIC OXIDE
NTRM 2000	01Jun2013	K026613	5.006 %	CARBON DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000928781	12Apr2013	FTIR
FTIR//000928781	05Apr2013	FTIR

ANALYZER READINGS

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

First Triad Analysis

NITRIC OXIDE
Date: 16Apr2013 Response Unit:PPM
Z1 = -0.19394 R1 = 96.78066 T1 = 110.0391
R2 = 96.99540 Z2 = -0.04826 T2 = 110.5641
Z3 = 0.15300 T3 = 110.5722 R3 = 97.01015
Avg. Concentration: 111.1 PPM

CARBON DIOXIDE
Date: 16Apr2013 Response Unit:%
Z1 = -0.00102 R1 = 5.00111 T1 = 5.43543
R2 = 5.01094 Z2 = -0.00055 T2 = 5.43978
Z3 = 0.00012 T3 = 5.44217 R3 = 5.01384
Avg. Concentration: 5.436 %

Second Triad Analysis

Date: 23Apr2013 Response Unit: PPM
Z1 = -0.06013 R1 = 97.08241 T1 = 110.3603
R2 = 97.22222 Z2 = 0.29407 T2 = 110.3625
Z3 = 0.36922 T3 = 110.5288 R3 = 97.25808
Avg. Concentration: 110.9 PPM

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 9.99999E-1
Constants: A = 0.00000E+0
B = 9.88844E-1 C = 4.60000E-5
D = 0.00000E+0 E = 0.00000E+0

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 9.99996E-1
Constants: A = 0.00000E+0
B = 9.14718E-1 C = 1.18560E-2
D = 1.00000E-6 E = 0.00000E+0

APPROVED BY: Michael A. Kuhns
Michael A. Kuhns

Air Liquide America Specialty Gases LLC

Scott™

RATA CLASS

Dual-Analyzed Calibration Standard

6141 EASTON ROAD, BLDG 1, PLUMSTEADVILLE, PA 18949-0310 Phone: 800-331-4953 Fax: 215-766-7226

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A12013

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
6141 EASTON ROAD, BLDG 1
PLUMSTEADVILLE, PA 18949-0310

P.O. No.: REPLENISHMENT
Document # : 50179756-002

Customer
FLORIDA POWER & LIGHT - PUTNAM PLA

MIKE MITCHELL
392 US HIGHWAY 17 SOUTH
EAST PALATKA FL 32131
US

ANALYTICAL INFORMATION Gas Type : CO2,NO,BALN

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: CC162690 **Certification Date:** 17Apr2013 **Exp. Date:** 18Apr2021
Cylinder Pressure*:** 2015 PSIG **Batch No:** PLU0181940

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ACCURACY**	TRACEABILITY
CARBON DIOXIDE	8.51	%	+/- 1%	Direct NIST and VSL
NITRIC OXIDE	165.9	PPM	+/- 1%	Direct NIST and VSL
NITROGEN - OXYGEN FREE		BALANCE		
TOTAL OXIDES OF NITROGEN	167.2	PPM		Reference Value Only

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1675 B	05Jan2018	K001453	13.94 %	CARBON DIOXIDE
NTRM 1685	04Jan2018	KAL004405	242.0 PPM	NITRIC OXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000928781	05Apr2013	FTIR
FTIR//000928781	12Apr2013	FTIR

ANALYZER READINGS

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

First Triad Analysis

CARBON DIOXIDE
Date: 10Apr2013 Response Unit:%
Z1=-0.00227 R1=13.82690 T1=8.44995
R2=13.84768 Z2=0.00097 T2=8.45249
Z3=0.00629 T3=8.45263 R3=13.86228
Avg. Concentration: 8.508 %

NITRIC OXIDE
Date: 10Apr2013 Response Unit:PPM
Z1=-0.35384 R1=240.4669 T1=164.6101
R2=240.5530 Z2=0.02351 T2=165.1154
Z3=0.42148 T3=165.1685 R3=240.7913
Avg. Concentration: 165.9 PPM

Second Triad Analysis

Date: 17Apr2013 Response Unit: PPM
Z1=-0.14362 R1=241.0129 T1=165.2264
R2=241.1529 Z2=-0.06252 T2=165.3676
Z3=0.00413 T3=165.5182 R3=241.1743
Avg. Concentration: 166.0 PPM

Calibration Curve

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99996E-1
Constants: A=0.00000E+0
B=9.14718E-1 C=1.18560E-2
D=1.00000E-6 E=0.00000E+0

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99999E-1
Constants: A=0.00000E+0
B=9.88844E-1 C=4.60000E-5
D=0.00000E+0 E=0.00000E+0

APPROVED BY: _____
Michael A. Kuhns

AIR LIQUIDE Air Liquide America Specialty Gases LLC

Scott

RATA CLASS

Dual-Analyzed Calibration Standard

6141 EASTON ROAD, BLDG 1, PLUMSTEADVILLE, PA 18949-0310 Phone: 800-331-4953 Fax: 215-766-7226

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A12013

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
6141 EASTON ROAD, BLDG 1
PLUMSTEADVILLE, PA 18949-0310

P.O. No.: CEM-6035
Document # : 50359355-003

Customer
FLORIDA P&L-MARTIN PLT-PO#-CEM ONLY

21900 SW WARFIELD BLVD
INDIANTOWN FL 34956
US

ANALYTICAL INFORMATION Gas Type : NO,BALN

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: ALM047577 **Certification Date:** 22Apr2013 **Exp. Date:** 23Apr2021
Cylinder Pressure*:** 1919 PSIG **Batch No:** PLU0183401

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ACCURACY**	TRACEABILITY
NITRIC OXIDE	125.9	PPM	+/- 1%	Direct NIST and VSL
NITROGEN - OXYGEN FREE		BALANCE		
TOTAL OXIDES OF NITROGEN	126.1	PPM		Reference Value Only

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1684	22Jul2017	KAL003769	97.60 PPM	NITRIC OXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000928781	12Apr2013	FTIR

ANALYZER READINGS

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

First Triad Analysis

NITRIC OXIDE
Date: 15Apr2013 Response Unit:PPM
Z1 = 0.00031 R1 = 97.25758 T1 = 125.2984
R2 = 97.33088 Z2 = 0.03016 T2 = 125.3101
Z3 = 0.14409 T3 = 125.4641 R3 = 97.36953
Avg. Concentration: 125.7 PPM

Second Triad Analysis

Date: 22Apr2013 Response Unit: PPM
Z1 = -0.16088 R1 = 96.95466 T1 = 125.0259
R2 = 97.01153 Z2 = -0.08310 T2 = 125.4024
Z3 = -0.06259 T3 = 125.5067 R3 = 97.03058
Avg. Concentration: 126.0 PPM

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 9.99998E-1
Constants: A = 0.00000E+0
B = 9.53354E-1 C = 1.76000E-4
D = 0.00000E+0 E = 0.00000E+0

APPROVED BY: Michael A. Kuhns

AIR LIQUIDE Air Liquide America Specialty Gases LLC | Scott

RATA CLASS

Dual-Analyzed Calibration Standard

6141 EASTON ROAD, BLDG 1, PLUMSTEADVILLE, PA 18949-0310 Phone: 800-331-4953 Fax: 215-766-7226

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A12013

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
6141 EASTON ROAD, BLDG 1
PLUMSTEADVILLE, PA 18949-0310

P.O. No.: CEM-6035
Document # : 50359355-004

Customer
FLORIDA P&L-MARTIN PLT-PO#-CEM ONLY

21900 SW WARFIELD BLVD
INDIANTOWN FL 34956
US

ANALYTICAL INFORMATION Gas Type : NO,BALN

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: CC217297 Certification Date: 23Apr2013 Exp. Date: 24Apr2021
Cylinder Pressure***: 1936 PSIG Batch No: PLU0183414

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ACCURACY**	TRACEABILITY
NITRIC OXIDE	277	PPM	+/- 1%	Direct NIST and VSL
NITROGEN - OXYGEN FREE		BALANCE		
TOTAL OXIDES OF NITROGEN	278.	PPM		Reference Value Only

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1685	04Jan2018	KAL004405	242.0 PPM	NITRIC OXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000928781	12Apr2013	FTIR

ANALYZER READINGS

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

First Triad Analysis

NITRIC OXIDE
Date: 16Apr2013 Response Unit:PPM
Z1=0.10680 R1=241.5445 T1=276.9644
R2=241.7840 Z2=0.47486 T2=277.0008
Z3=0.56745 T3=277.2036 R3=241.9612
Avg. Concentration: 277.3 PPM

Second Triad Analysis

Date: 23Apr2013 Response Unit: PPM
Z1=0.02557 R1=241.0485 T1=276.4724
R2=241.4547 Z2=0.10969 T2=277.0924
Z3=0.19606 T3=277.1010 R3=241.8460
Avg. Concentration: 277.5 PPM

Calibration Curve

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99999E-1
Constants: A=0.00000E+0
B=9.88844E-1 C=4.60000E-5
D=0.00000E+0 E=0.00000E+0

APPROVED BY: Michael A. Kuhns
Michael A. Kuhns

AIR LIQUIDE | Air Liquide America Specialty Gases LLC | Scott™

RATA CLASS

Dual-Analyzed Calibration Standard

6141 EASTON ROAD, BLDG 1, PLUMSTEADVILLE, PA 18949-0310 Phone: 800-331-4953 Fax: 215-766-7226

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A12013

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
6141 EASTON ROAD, BLDG 1
PLUMSTEADVILLE, PA 18949-0310

P.O. No.: 06-05-2013
Document # : 50954839-002
Folio #:425PPM NO/BAL N2

Customer
FLORIDA POWER & LIGHT - PUTNAM PLAN

MIKE MITCHELL
392 US HIGHWAY 17 SOUTH
EAST PALATKA FL 32131
US

ANALYTICAL INFORMATION Gas Type : NO,BALN

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: ALM021880 **Certification Date:** 19Jun2013 **Exp. Date:** 20Jun2021
Cylinder Pressure*:** 1958 PSIG **Batch No:** PLU0198747

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ACCURACY**	TRACEABILITY
NITRIC OXIDE	427	PPM	+/- 1%	Direct NIST and VSL
NITROGEN - OXYGEN FREE		BALANCE		
TOTAL OXIDES OF NITROGEN	428.	PPM		Reference Value Only

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1686	26Mar2016	KAL003523	490.0 PPM	NITRIC OXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000928781	17Jun2013	FTIR

ANALYZER READINGS

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

First Triad Analysis

NITRIC OXIDE
Date: 11Jun2013 Response Unit:PPM
Z1=-0.22368 R1=491.0015 T1=427.8518
R2=491.4463 Z2=-0.06546 T2=427.9924
Z3=0.03121 T3=428.9663 R3=491.6648
Avg. Concentration: 427.0 PPM

Second Triad Analysis

Date: 19Jun2013 Response Unit: PPM
Z1=0.05542 R1=491.9407 T1=428.1238
R2=491.9870 Z2=0.06296 T2=428.7148
Z3=0.65726 T3=429.2492 R3=492.1278
Avg. Concentration: 426.9 PPM

Calibration Curve

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99998E-1
Constants: A=0.00000E+0
B=9.85798E-1 C=4.20000E-5
D=0.00000E+0 E=0.00000E+0

APPROVED BY: Michael A. Kuhns

Putnam Plant

Seven Day Calibration Error Test

Plant: Putnam
Unit: 1GT1
Oris Code: _____

Parameter: NOx
Instrument Span: 0-200 PPM
Serial #: 132425960 42i-LS

	Level	Date	Calibration Time	Reference/Cylinder value	Monitor value	Calibration Error	Adjustment made ? up/down/none	New monitor value
	zero				Calibrate monitors, begin test, collect and calculate drift in 24 hours. (see 40 CFR 75, App. A, sec. 6.3)			
	span							
	zero	12/5/13	09:55	ALM 043164 0 PPM	-0.7	-0.4%	—	—
	span	12/5/13	09:55	CC-162,690 165.9 PPM	162	-2.0%	ADJ ↑	165.9
	zero	12/6/13	09:55		-0.7	-0.4%	—	—
	span	12/6/13	09:55		165.2	-0.4%	—	—
	zero	12/7/13	11:22		-0.8	-0.4%	—	—
	span	12/7/13	11:22		163.8	-1.1%	—	—
	zero	12/8/13	10:17		-0.7	-0.4%	—	—
	span	12/8/13	10:17		164.8	-0.6%	—	—
	zero	12/9/13	09:55		-0.6	-0.3%	—	—
	span	12/9/13	09:55		165.1	-0.4%	—	—
	zero	12/10/13	09:55		-0.7	-0.4%	—	—
	span	12/10/13	09:55		164.4	-0.8%	—	—
	zero	12/11/13	09:55		-0.6	-0.3%	—	—
	span	12/11/13	09:55	✓	165.9	0.0%	—	—

Calibration Error = [Reference value - monitor value]

For NOx, the calibration error is acceptable if < 2.5%. (25.0 ppm)

Shipped From: 6141 EASTON ROAD, BLDG 1 PO BOX 310
PLUMSTEADVILLE PA 18949-0310
Phone: 800-331-4953 Fax: 215-766-7226

CERTIFICATE OF ANALYSIS

FLORIDA POWER & LIGHT - PUTNAM PLAN
MIKE MITCHELL
392 US HIGHWAY 17 SOUTH
EAST PALATKA FL 32131
US

DOCUMENT#:50954839 -001
PO#: 06-05-2013
ITEM #: P841-30AL
DATE: 17Jun2013

CYLINDER #: ALM043164
FILL PRESSURE: 2000 PSIG

PRODUCT EXPIRATION: 21Jun2018

PURE MATERIAL: NITROGEN

CAS# 7727-37-9

GRADE: ACID RAIN CEM 0

PURITY: 99.9995%

IMPURITY	MAXIMUM CONCENTRATIONS	ACTUAL CONCENTRATIONS
SOX	0.1 PPM	< 0.1 PPM
NOX	0.1 PPM	< 0.1 PPM
CO	0.5 PPM	< 0.5 PPM
CO2	1 PPM	< 1 PPM
THC	0.1 PPM	< 0.1 PPM
H2O	2 PPM	< 2 PPM
O2	0.5 PPM	< 0.5 PPM

Received 8-14-13 CARC III

In Service 11/12/13 CARC III

Removed from Service 1-21-14

62749

LOT # : PLU0202868

ANALYST: STEVEN A JANKOWSKI

6141 EASTON ROAD, BLDG 1, PLUMSTEADVILLE, PA 18949-0310 Phone: 800-331-4953 Fax: 215-766-7226

CERTIFICATE OF ACCURACY: Interference Free™ Multi-Component EPA Protocol Gas

Assay Laboratory - PGVP Vendor ID: A12013

AIR LIQUIDE AMERICA SPECIALTY GASES LLC
6141 EASTON ROAD, BLDG 1
PLUMSTEADVILLE, PA 18949-0310

P.O. No.: REPLENISHMENT
Document # : 50179756-002

Customer
FLORIDA POWER & LIGHT - PUTNAM PLA

MIKE MITCHELL
392 US HIGHWAY 17 SOUTH
EAST PALATKA FL 32131
US

ANALYTICAL INFORMATION Gas Type : CO2,NO,BALN

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: CC162690
Cylinder Pressure*:** 2015 PSIG
Certification Date: 17Apr2013
Exp. Date: 18Apr2021
Batch No: PLU0181940

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ACCURACY**	TRACEABILITY
CARBON DIOXIDE	8.51	%	+/- 1%	Direct NIST and VSL
NITRIC OXIDE	165.9	PPM	+/- 1%	Direct NIST and VSL
NITROGEN - OXYGEN FREE		BALANCE		
TOTAL OXIDES OF NITROGEN	167.2	PPM		Reference Value Only

*** Do not use when cylinder pressure is below 150 psig.
** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1675 B	05Jan2018	K001453	13.94 %	CARBON DIOXIDE
NTRM 1685	04Jan2018	KAL004405	242.0 PPM	NITRIC OXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//000928781	05Apr2013	FTIR
FTIR//000928781	12Apr2013	FTIR

ANALYZER READINGS

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

First Triad Analysis

CARBON DIOXIDE
Date: 10Apr2013 Response Unit:%
Z1=-0.00227 R1=13.82690 T1=8.44995
R2=13.84768 Z2=0.00097 T2=8.45249
Z3=0.00629 T3=8.45263 R3=13.86228
Avg. Concentration: 8.508 %

NITRIC OXIDE
Date: 10Apr2013 Response Unit:PPM
Z1=-0.35384 R1=240.4669 T1=164.6101
R2=240.5530 Z2=0.02351 T2=165.1154
Z3=0.42148 T3=165.1685 R3=240.7913
Avg. Concentration: 165.9 PPM

Second Triad Analysis

Date: 17Apr2013 Response Unit: PPM
Z1=-0.14362 R1=241.0129 T1=165.2264
R2=241.1529 Z2=-0.06252 T2=165.3676
Z3=0.00413 T3=165.5182 R3=241.1743
Avg. Concentration: 166.0 PPM

Calibration Curve

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99996E-1
Constants: A=0.00000E+0
B=9.14718E-1 C=1.18560E-2
D=1.00000E-6 E=0.00000E+0

Concentration=A+Bx+Cx2+Dx3+Ex4
r=9.99999E-1
Constants: A=0.00000E+0
B=9.88844E-1 C=4.60000E-5
D=0.00000E+0 E=0.00000E+0

Received
6-5-13
ARC

In Service
10/16/13
ARC

Removed From Service
12/11/13
> 200#
ARC

APPROVED BY: Michael A. Kuhns
Michael A. Kuhns

ECMPS Client Tool

Version 1.0 2013 Q3

QA/Cert Test Detail Report

January 31, 2014 12:41 PM

Facility Name: Putnam

Facility Details

Facility ID (ORISPL): 6246
State: FL
County: Putnam

Unit/Stack/Pipe ID: HRSG11

7-Day Calibration

Component ID: B02 **Component Type:** NOX **Test Completion:** 12/11/2013 10:14
Test Number: 7DAY-Q42013-B02-55 **Reason for Test:** RECERT **Reported Test Results:** PASSED
Span Scale Level: High **Span Value:** 500.000 **EPA Calculated Result:** PASSED

Evaluation Status: No Errors **Submission Status:** Data loaded on EPA Host System
Submission Date/Time: 01/31/2014 11:49:00 AM

Injection Date/Hour	Gas Level	Reference Value	Reference Value % of Span	Measured Value	Reported		Recalculated	
					Results	APS	Results	APS
12/05/2013 09	ZERO	0.000	0	-0.500	0.10		0.10	
12/05/2013 10	HIGH	427.000	85.4	421.200	1.20		1.20	
12/06/2013 09	ZERO	0.000	0	-0.500	0.10		0.10	
12/06/2013 10	HIGH	427.000	85.4	420.100	1.40		1.40	
12/07/2013 11	ZERO	0.000	0	-0.600	0.10		0.10	
12/07/2013 11	HIGH	427.000	85.4	418.500	1.70		1.70	
12/08/2013 10	ZERO	0.000	0	-0.500	0.10		0.10	
12/08/2013 10	HIGH	427.000	85.4	419.700	1.50		1.50	
12/09/2013 09	ZERO	0.000	0	-0.400	0.10		0.10	
12/09/2013 10	HIGH	427.000	85.4	418.100	1.80		1.80	
12/10/2013 09	ZERO	0.000	0	-0.400	0.10		0.10	
12/10/2013 10	HIGH	427.000	85.4	418.400	1.70		1.70	
12/11/2013 09	ZERO	0.000	0	-0.400	0.10		0.10	
12/11/2013 10	HIGH	427.000	85.4	426.300	0.10		0.10	

Additional Information:
No comment.

*Performance Spec: CE <= 2.5% of Span Alternate Performance Spec: |R-A| <= 5 ppm (Appendix A &3.1)

Unit/Stack/Pipe ID: HRSG11
Linearity Check

Component ID:	A03	**Component Type:**	CO2	**Test Completion:**	11/01/2013 17:01
Test Number:	LINE-Q42013-A03-3	**Reason for Test:**	RECERT	**Reported Test Results:**	PASSAPS
Span Scale Level:	High	**Span Value:**	10.000	**EPA Calculated Result:**	PASSAPS
Evaluation Status:	No Errors			**Submission Status:**	Data loaded on EPA Host System
Grace period Tested?				**Submission Date/Time:**	01/31/2014 11:49:00 AM

Protocol Gas Data:

Gas Level Code	Gas Type Code	Vendor Identifier	Cylinder Identifier	Expiration Date
High	CO2,NO,BALN	A12013	CC162690	04/18/2021
Mid	CO2,NO,BALN	A12013	ALM055501	04/24/2021
Low	CO2,NO,BALN	A12013	ALMOO9787	04/24/2021

Summary Statistics:

	High		Mid		Low	
	Reported	Recalculated	Reported	Recalculated	Reported	Recalculated
Reference Value	8.510	8.510	5.440	5.440	2.520	2.520
Mass CEM Value	8.663	8.663	5.597	5.597	2.650	2.650
Alt. Perf. Indicator					Y	Y
Results	1.8	1.8	2.9	2.9	0.1	0.1

Injection Statistics:

Facility Name: **Putnam**

Facility ID (ORISPL): **6246**

QA/Cert Test Detail Report

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Date	Gas Level	Measured Value	Reference Value	Reference Value as % of Span
11/01/2013 15:55	MID	5.580	5.440	54.4%
11/01/2013 16:51	MID	5.600	5.440	54.4%
11/01/2013 16:25	MID	5.610	5.440	54.4%
11/01/2013 16:05	HIGH	8.660	8.510	85.1%
11/01/2013 17:01	HIGH	8.650	8.510	85.1%
11/01/2013 16:33	HIGH	8.680	8.510	85.1%
11/01/2013 16:41	LOW	2.670	2.520	25.2%
11/01/2013 16:15	LOW	2.650	2.520	25.2%
11/01/2013 15:45	LOW	2.630	2.520	25.2%

Additional Information:

No comment.

*Performance Spec: LE <= 5.0% of Reference Value; Alternate Performance Spec: |R-A| <= 5ppm (Appendix A &3.2)

Unit/Stack/Pipe ID: **HRSG11**

Linearity Check

Component ID:	B02	**Component Type:**	NOX	**Test Completion:**	11/21/2013 17:01
Test Number:	LINE-Q42013-B02-2	**Reason for Test:**	RECERT	**Reported Test Results:**	PASSED
Span Scale Level:	Low	**Span Value:**	200.000	**EPA Calculated Result:**	PASSED
Evaluation Status:	No Errors			**Submission Status:**	Data loaded on EPA Host System
Grace period Tested?				**Submission Date/Time:**	01/31/2014 11:49:00 AM

Protocol Gas Data:

Gas Level Code	Gas Type Code	Vendor Identifier	Cylinder Identifier	Expiration Date
High	CO2,NO,BALN	A12013	CC162690	04/18/2021
Mid	CO2,NO,BALN	A12013	ALM055501	04/24/2021
Low	CO2,NO,BALN	A12013	ALMOO9787	04/24/2021

Summary Statistics:

Facility Name: **Putnam**

Facility ID (ORISPL): 6246

QA/Cert Test Detail Report

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	High		Mid		Low	
	Reported	Recalculated	Reported	Recalculated	Reported	Recalculated
Reference Value	165.900	165.900	111.000	111.000	50.000	50.000
Mass CEM Value	161.833	161.833	109.800	109.800	51.133	51.133
Alt. Perf. Indicator						
Results	2.5	2.5	1.1	1.1	2.3	2.3

Injection Statistics:

Date	Gas Level	Measured Value	Reference Value	Reference Value as % of Span
11/21/2013 15:45	LOW	51.900	50.000	25.0%
11/21/2013 16:41	LOW	50.900	50.000	25.0%
11/21/2013 16:15	LOW	50.600	50.000	25.0%
11/21/2013 17:01	HIGH	162.100	165.900	83.0%
11/21/2013 16:33	HIGH	162.200	165.900	83.0%
11/21/2013 16:05	HIGH	161.200	165.900	83.0%
11/21/2013 15:55	MID	109.700	111.000	55.5%
11/21/2013 16:25	MID	110.700	111.000	55.5%
11/21/2013 16:51	MID	109.000	111.000	55.5%

Additional Information:

No comment.

*Performance Spec: LE <= 5.0% of Reference Value; Alternate Performance Spec: |R-A| <= 5ppm (Appendix A &3.2)

Unit/Stack/Pipe ID: HRSG11

Linearity Check

Component ID:	B02	**Component Type:**	NOX	**Test Completion:**	11/21/2013 18:26
Test Number:	LINE-Q42013-B02-1	**Reason for Test:**	RECERT	**Reported Test Results:**	PASSED
Span Scale Level:	High	**Span Value:**	500.000	**EPA Calculated Result:**	PASSED
Evaluation Status:	No Errors			**Submission Status:**	Data loaded on EPA Host System
Grace period Tested?				**Submission Date/Time:**	01/31/2014 11:49:00 AM

Protocol Gas Data:

Gas Level Code	Gas Type Code	Vendor Identifier	Cylinder Identifier	Expiration Date
Low	CO2,NO,BALN	A12013	ALM047577	04/24/2021

High	NO,BALN	A12013	ALM021880	06/20/2021
Mid	NO,BALN	A12013	CC217297	04/24/2021

Summary Statistics:

	High		Mid		Low	
	Reported	Recalculated	Reported	Recalculated	Reported	Recalculated
Reference Value	427.000	427.000	277.000	277.000	125.900	125.900
Mass CEM Value	428.100	428.100	278.833	278.833	128.133	128.133
Alt. Perf. Indicator						
Results	0.3	0.3	0.7	0.7	1.8	1.8

Injection Statistics:

Date	Gas Level	Measured Value	Reference Value	Reference Value as % of Span
11/21/2013 18:18	MID	279.000	277.000	55.4%
11/21/2013 17:24	MID	278.400	277.000	55.4%
11/21/2013 17:52	MID	279.100	277.000	55.4%
11/21/2013 17:44	LOW	128.800	125.900	25.2%
11/21/2013 17:16	LOW	126.900	125.900	25.2%
11/21/2013 18:10	LOW	128.700	125.900	25.2%
11/21/2013 18:26	HIGH	428.200	427.000	85.4%
11/21/2013 18:02	HIGH	428.000	427.000	85.4%
11/21/2013 17:34	HIGH	428.100	427.000	85.4%

Additional Information:

No comment.

*Performance Spec: LE <= 5.0% of Reference Value; Alternate Performance Spec: |R-A| <= 5ppm (Appendix A &3.2)

Unit/Stack/Pipe ID: **HRSG11**

Relative Accuracy Test

System ID:	102	**System Parameter:**	NOX	**Test Completion:**	12/20/2013 13:30
Test Number:	RATA-Q42013-102-1	**Reason for Test:**	QA	**Reported Test Results:**	PASSED
# of Op. Levels:	1	**Grace Period Test?**		**EPA Calculated Result:**	PASSED
Evaluation Status:	No Errors			**Reported BAF:**	1.000
Submission Status:	Data loaded on EPA Host System			**EPA Calculated BAF:**	1.000
Submission Date:	01/31/2014 11:49:00 AM			**RATA Frequency:**	4QTRS

Facility Name: Putnam

Facility ID (ORISPL): 6246

Air Emissions Testing Data

QI Name:	Steve, Webb C	**AETB Name:**	Coastal Air Consulting Inc.
Exam Date:	05/01/2012	**AETB Phone Number:**	386-451-0169
Provider Name:	Eastern Technical Associates (ETA)	**AETB Email:**	Coastalair123@aol.com
Provider Email:	Sherri@smokeschool.com		

Protocol Gas Data:

Gas Level Code	Gas Type Code	Vendor Identifier	Cylinder Identifier	Expiration Date
High	CO,NO,SO2,BALN	E12013	CC-165576	04/02/2021
Mid	CO,NO,SO2,BALN	E12013	CC-79645	06/05/2021
High	CO2,O2,BALN	E12011	CC-159134	11/01/2014
Mid	CO2,O2,BALN	E12013	CC-233289	09/23/2021
Low	ZERO			

Operating Level: High
Reference Method Used: 7E,3A: NOX RM 7E and CO2/O2 RM 3A

Summary Statistics:

	Reported	Recalculated		Reported	Recalculated
Mean of Monitoring System	0.438	0.438	**Relative Accuracy**	3.64	3.64
Mean of Reference Method Values	0.429	0.429	**Bias Adjustment Factor**	1.000	1.000
Mean of Difference	-0.009	-0.009	**APS Indicator**		
Standard Deviation of Difference	0.008	0.008	**T-Value**	2.306	2.306
Confidence Coefficient	0.007	0.007	**Gross Unit Load or Velocity**	116	116

Facility Name: Putnam

Facility ID (ORISPL): 6246

QA/Cert Test Detail Report

January 31, 2014 12:41 PM

Run Data:

Run	Start Date	End Date	Run Status	Monitoring System Value	Reference Method Value	Gross Load or Velocity
1	12/20/2013 08:30	12/20/2013 08:50	RUNUSED	0.420	0.422	117
2	12/20/2013 09:00	12/20/2013 09:20	RUNUSED	0.429	0.422	120
3	12/20/2013 09:30	12/20/2013 09:50	RUNUSED	0.437	0.421	120
4	12/20/2013 10:40	12/20/2013 11:00	RUNUSED	0.432	0.429	116
5	12/20/2013 11:10	12/20/2013 11:30	RUNUSED	0.441	0.429	115
6	12/20/2013 11:40	12/20/2013 12:00	RUNUSED	0.442	0.438	115
7	12/20/2013 12:10	12/20/2013 12:30	RUNUSED	0.441	0.440	114
8	12/20/2013 12:42	12/20/2013 13:02	RUNUSED	0.450	0.429	114
9	12/20/2013 13:10	12/20/2013 13:30	RUNUSED	0.449	0.429	113

Additional Information:

No comment.

*Performance Spec: RA <= 10% or Mean Difference <= +/- 2.0fps:
Reduced Frequency Spec: RA <= 7.5% or Mean Difference +/- 1.5 fps (Appendix A &3.3.4)

Unit/Stack/Pipe ID: HRSG11

Transmitter Transducer Test

Component ID: 008
Component Type: GFFM
Test Number: FFAT-Q42013-008-10
Reason for Test: QA
Test Completion: 11/27/2013 12:00
Reported Test Results: PASSED
EPA Calculated Result: PASSED
Evaluation Status: No Errors
Submission Status: Data loaded on EPA Host System
Submission Date/Time: 01/31/2014 11:49:00 AM

High Level Accuracy	High Level Accuracy Specification	Mid Level Accuracy	Mid Level Accuracy Specification	Low Level Accuracy	Low Level Accuracy Specification
0.1	ACT	0.1	ACT	0.1	ACT

Additional Information:

No comment.

ECMPS Client Tool

Version 1.0 2013 Q3

QA/Cert Events Printout Report

January 31, 2014 12:43 PM

Facility Name: Putnam

Facility Details

Facility ID (ORISPL):	6246
State:	FL
County:	Putnam

QA Certification Events Details

Unit/Stack Identifier	Event Code	Event Date/Hour	System ID / Type	Component ID / Type	Required Tests	Conditional Data Begin Date/Hour	Last Test Completed Date/Hour	Submitted?
HRSG11	100	11/20/2013 12	102/NOX	A03/CO2	11	11/20/2013 14	12/20/2013 12	Already Submitted
				B02/NOX	11	11/20/2013 14	12/20/2013 12	Already Submitted

Event Codes: 100 - Permanent Gas Analyzer Replacement (Like-kind Analyzer)

Required Test Codes: 11 - Normal Load RATA, 7-day Calibration Error Test, Linearity Check