



TAMPA ELECTRIC

May 8, 2009

Ms. Gracy Danois
Region IV
U.S. Environmental Protection Agency
Atlanta Federal Center
61 Forsyth Street
Atlanta, Georgia 30303-3104

Via FedEx
Airbill No. 7965 9014 1445

RECEIVED

MAY 14 2009

BUREAU OF AIR REGULATION

Re: Tampa Electric Company
H.L. Culbreath Bayside Power Station Unit 3 & 4
Part 75 - Acid Rain Program- Monitoring Plan
Project No. 0570040-026-AC

Dear Ms. Danois:

Tampa Electric Company (TEC) is completing construction of eight Pratt & Whitney FT8-3 SwiftPac aeroderivative simple cycle natural gas turbines with a nominal output of 62 megawatt (MW) and eight 60 foot stacks at the Bayside Power Station (BPS) facility. A Continuous Emission Monitoring (CEM) system was constructed by Spectrum Systems, Inc. This is a complete CEM system monitoring Nitrogen Oxides (NO_x) and Carbon Dioxide (CO₂). The gas flow meter signal is integrated in the system for accurate Sulfur Dioxide (SO₂) and Heat Input calculations.

Enclosed are the BPS Units 3 & 4 Monitoring Plans as required by 40 CFR 75.72, which states the electronic and hardcopy Monitoring Plans must be submitted no later than 45 days prior to initial certification tests. Included in the plan are the Monitoring Plan checklist and certification statements, introduction, test strategies, monitoring plan forms, general configuration diagram, data flow diagram, stack layout, and MPC explanations for NO_x and CO₂.

TEC appreciates your cooperation in this matter should you have any questions, please call me or Laurie Pence at (813) 228-4457.

Sincerely,

Paul L. Carpinone
Designated Representative
Acid Rain Program

EHS/rjk/LAP442/BPS 3 & 4 MPs

Enclosures

c/enc: **Bruce Mitchell - FDEP**
Mara G. Nasca - FDEP SW District
Matthew Boze - CAMD
mp-cair@epa.gov

TAMPA ELECTRIC COMPANY
P. O. BOX 111 TAMPA, FL 33601-0111

(813) 228-4111

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TAMPAELECTRIC.COM

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POLK COUNTY (863) 299-0800
ALL OTHER COUNTIES 1 (888) 223-0800

**TAMPA ELECTRIC COMPANY
ACID RAIN PROGRAM**

**CONTINUOUS EMISSION
MONITORING SYSTEM (CEMS)**

MONITORING PLAN

BAYSIDE POWER STATION

ORIS # 7873

CT4A & CT4B

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MAY 2009

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APPENDIX D – NOX HIGH AND CO2 MPC EXPLANATIONS



Monitoring Plan Checklist and Certification Statements

This submission is: New Revised

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

Plant Name	Bayside	State	FL	ORIS Code	7873
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STEP 2
List the units to which
this submission applies
by NADB Boiler ID and
Unit Short Name

NADB Boiler ID	Unit Short Name
CT4A	Bayside CT4A
CT4B	Bayside CT4B

STEP 3
Check the appropriate
box(es) to indicate the
contents of this
submission

Part 1: Source and Unit Information			
<input type="checkbox"/> Part 1 Form <input type="checkbox"/> Table A <input type="checkbox"/> Additional Information for "Other" <input type="checkbox"/> Fuel Usage Information <input type="checkbox"/> Information to support use of NADB emission rate	<input type="checkbox"/> Appendix E: Capacity Information <input type="checkbox"/> Other Information to support opacity exemption <input type="checkbox"/> Part 1A (if common stack or common pipe) <input type="checkbox"/> Part 1B (if multiple ducts or stacks)		
Part 2: Monitor Location Information			
<input type="checkbox"/> Part 2 Form <input checked="" type="checkbox"/> Schematics <input type="checkbox"/> Engineering Drawings	<input checked="" type="checkbox"/> Data Flow Diagram <input type="checkbox"/> Flow Monitor Interference Check Description <input type="checkbox"/> Supplementary Information		
Part 3: Systems Information			
<input type="checkbox"/> Part 3 Form <input type="checkbox"/> Table B <input type="checkbox"/> Table C <input type="checkbox"/> Table D-1 <input type="checkbox"/> Table D-2	<input checked="" type="checkbox"/> Explanation of method and basis for MPC/MEC/MPF determinations <input type="checkbox"/> Table D-3 <input type="checkbox"/> Fuel Flowmeter Calibration Method Information <input type="checkbox"/> Appendix E: Parameter Information		
Electronic Submission			
<input type="checkbox"/> 3 1/2 inch Diskette	<table border="1"> <tr> <td>File Name</td> </tr> <tr> <td>File Date</td> </tr> </table>	File Name	File Date
File Name			
File Date			
Test Notice			
<input type="checkbox"/> Test Notice	<input checked="" type="checkbox"/> Test Protocol		

Plant Name	Bayside
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STEP 4
Read the certification,
enter the name of the
designated representative,
and sign and date

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

I understand that EPA may reject any electronic data submission (including Certification Applications and Quarterly Reports) if it does not conform to the formatting requirements of EPA's Electronic Data Reporting, Version 1.1 as required by 40 CFR § 75.63(c).

To the extent that information has been submitted in electronic format, I acknowledge that EPA will rely solely on electronic information as accurate and complete information. I certify that the data provided in electronic format with this submission contains correct and current data and is consistent with all current hardcopy information.

Name	Paul L. Carpinone	
Signature	<i>Paul L. Carpinone</i>	Date 5-8-09

Date	May 2009
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1.0 Introduction

H.L. Culbreath Bayside Power Station is located in Hillsborough County, Florida. The power plant has a total of seven natural gas-fired (CT)/HRSG combined-cycle (CC) units that operate in conjunction with the existing steam turbines of Gannon's Units 5 and 6. Eight simple cycle combustion turbines (SCCT), four common electrical generators and one emergency diesel generator have been added to this facility. Two SCCT are coupled to one common generator (a Pratt & Whitney FT8-3 SwiftPac aeroderivative combustion turbine/generator peaking unit). This monitoring plan is for Unit 4 which has a nominal gross generation capacity of 62 megawatts (MW).

A water injection system to reduce NO_x emissions from each SCCT peaking unit is installed. Prior to the initial emissions performance tests, the water injection system will be tuned to achieve the permitted NO_x emissions standard. Thereafter, the system will be maintained and tuned in accordance with the manufacturer's recommendations or determined best practices.

The fuel sulfur specification effectively limits the potential emissions of SO₂ and sulfuric acid mist (SAM) from each SCCT peaking unit. Compliance with the fuel sulfur specifications shall be the use of pipeline-quality natural gas. The mass emission rate standards are based on a turbine inlet temperature condition of 59 °F, evaporative cooling on, and using the higher heating values (HHV) of the fuel. Mass emission rate may be adjusted to actual test conditions in accordance with the performance curves and/or equations on file with the Department.

In the remainder of this report, a complete monitoring plan is included. Explanations of maximum potential concentration (MPC) for NO_x and CO₂ are provided along with a data flow diagram, a general configuration diagram, and stack configuration layouts.

The electronic version of the Monitoring Plans will be submitted to the appropriate agencies via e-mail.

**TEST STRATEGIES AND PROTOCOLS FOR CERTIFICATION
TESTING AT TAMPA ELECTRIC COMPANY
PLANT BAYSIDE POWER STATION, UNIT 4
ORIS CODE 7873**

Certification testing for Tampa Electric Company Continuous Emission Monitoring Systems will be performed by Tampa Electric Company. The testing for the NO_x gas analyzer will be performed by using a Transportable Reference Method Laboratory. All Reference Method data is collected into an automated Data Acquisition system and results calculated as the test progresses. All testing will be in accordance with 40 CFR 75 Appendix A. Relative Accuracy testing will be performed as delineated in 40 CFR 60, Appendix A, Reference Methods 1, 2, 3, 3a, 4, 7E, 18, 20, 25A.



ECMPS Client Tool

Version 1.0 2009 Q1 SP1

Monitoring Plan Printout Report

May 7, 2009 03:35 PM

Facility Name: Bayside Power Station

Facility Details

Facility ID (ORISPL): 7873
 Monitoring Plan Location IDs: CT4A
 State: FL
 County: Hillsborough
 Latitude: 27.9083
 Longitude: -82.4194

Reporting Frequency

Monitoring Plan Location IDs	Reporting Frequency	Begin Quarter	End Quarter
CT4A	Q - Quarterly	2009 QTR 2	

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
CT4A		12	60	71				06/11/2009	

Unit Operation Information

Unit Identifier	Commence Commercial Operation Date	Commence Operation Date	Boiler/Turbine Type			Max Heat Input		
			Code	Begin Date	End Date	Value (mmBtu)	Begin Date	End Date
CT4A	06/11/2009	05/27/2009	CT	05/27/2009		572.0	05/27/2009	

Unit Type Codes: CT - Combustion turbine

Unit Program Information

Unit Identifier	Program Code	Unit Class	Unit Monitor Certification Begin Date	Unit Monitor Certification Deadline
CT4A	ARP	P2	06/11/2009	
	CAIRNOX	A	06/11/2009	
	CAIROS	A	06/11/2009	
	CAIRSO2	A	06/11/2009	

Facility Name: Bayside Power Station
 Facility ID (ORISPL): 7873

Monitoring Plan Printout Report
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Unit Fuel

Unit Identifier	Fuel Type	Fuel Indicator	Demonstration Method for GCV	Demonstration Method for Daily Sulfur	Ozone Season Indicator	Begin Date	End Date
CT4A	PNG	P				05/27/2009	

Fuel Type Codes: PNG - Pipeline Natural Gas
 Fuel Indicator Codes: P - Primary

Unit Controls

Unit Identifier	Parameter	Control Equipment	Original Ind	Seasonal Ind	Installation Date	Optimization Date	Retirement Date
CT4A	NOX	H2O	Y				

Control Equipment Descriptions: H2O - Water Injection

Monitoring Method

Unit/Stack/Pipe Identifier	Parameter	Methodology	Substitute Data Approach	Bypass Approach Code	Begin Date/Hour	End Date/Hour
CT4A	CO2	AD	SPTS		05/27/2009 00	
	HI	AD	SPTS		05/27/2009 00	
	NOX	NOXR			05/27/2009 00	
	NOXR	CEM	SPTS		05/27/2009 00	
	OP	EXP			05/27/2009 00	
	SO2	AD	SPTS		05/27/2009 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: Bayside Power Station
 Facility ID (ORISPL): 7873

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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
CT4A	4A3	NOX	P	05/27/2009 00		4A0	DAHS			SPECTRUM SYSTEMS INC.	SOLARIS 10	0828FMD025	05/27/2009 00	
						4A1	PRB	EXT		M&C	EXT	15686	05/27/2009 00	
						4A3	NOX	EXT	D	THERMOFISHER SCIENTIFIC	42I-HL	0835832642	05/27/2009 00	
						4A5	CO2	EXT	D	SIEMENS	ULTRAMAT 6	N1-W7-218	05/27/2009 00	
	4A7	GAS	P	05/27/2009 00		4A0	DAHS			SPECTRUM SYSTEMS INC.	SOLARIS 10	0828FMD025	05/27/2009 00	
						4A7	GFFM	ORF		MICROMOTION CORIOLIS	F200S420CCAZEZZ	14108053	05/27/2009 00	

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

System Designations Descriptions: P - Primary

Sample Acquisition Method (SAM): ORF - Orifice
 EXT - Dry Extractive

Component Types Descriptions: DAHS - Data Acquisition and Handling System
 PRB - Probe
 NOX - NOx Concentration
 CO2 - CO2 Concentration
 GFFM - Gas 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
CT4A	4A7	PNG	1800000.0	HSCF	URV	05/27/2009 00	

System Fuel Codes Descriptions: PNG - Pipeline Natural Gas

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

Source Codes Descriptions: URV - Upper Range Value

Facility Name: Bayside Power Station
 Facility ID (ORISPL): 7873

Monitoring Plan Printout Report
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Analyzer Range Data

Unit/Stack/Pipe Identifier	Component Type	Component ID	Range Code	Dual Range Indicator	Begin Date/Hour	End Date/Hour
CT4A	CO2	4A5	High Range		05/27/2009 00	
	NOX	4A3	Auto Ranging	Y	05/27/2009 00	

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

Gas Calibration Standard Data

Unit/Stack/Pipe Identifier	Component Type	Component ID	Calibration Standard Code	Calibration Source Code	Begin Date/Hour	End Date/Hour
CT4A	CO2	4A5	MBP	CYL	05/27/2009 00	
	NOX	4A3	MBP	CYL	05/27/2009 00	

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

Calibration Standard Codes Descriptions: MBP - Multi-Blend Protocol Gas

Calibration Source Codes Descriptions: CYL - Certified Cylinder Gas Standard

Facility Name: Bayside Power Station
 Facility ID (ORISPL): 7873

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Emissions Formulas

Unit/Stack/Pipe Identifier	Parameter	Formula ID	Formula Code	Formula	Begin Date/Hour	End Date/Hour
CT4A	NOX	001	F-24A		05/27/2009 00	
	NOXR	002	19-6		05/27/2009 00	
	CO2	003	G-4		05/27/2009 00	
	HI	006	F-20		05/27/2009 00	
	SO2	009	D-5		05/27/2009 00	

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

Formula Codes Descriptions:
 G-4 - CO2 (from HI, Fc)
 F-24A - NOX (from NOX rate, HI)
 F-20 - HI (same as D-6)
 D-5 - SO2 (from gas SO2 emission rate, HI)
 19-6 - NOXR/SO2R (from dry NOX or SO2, dry CO2, Fc)

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
CT4A	CO2	H	TB	6.0		10.000	10.000	PCT					05/27/2009 00	
	NOX	H	OL	480.0	75.0	600.000	600.000	PPM	95.0				05/27/2009 00	
	NOX	L	OL		75.0	100.000	100.000	PPM	95.0				05/27/2009 00	

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

Span Method Codes Descriptions:
 TB - Table Defaults from Part 75
 OL - Other Limit

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

Facility Name: Bayside Power Station
 Facility ID (ORISPL): 7873

Monitoring Plan Printout Report
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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
CT4A	32	MW	32	5	High	Mid	Yes	05/27/2009	05/27/2009 00	

Units of Measure Descriptions: MW - Megawatt

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
CT4A	CO2N	1.0000	PCT	DC	NFS	A	DEF	05/27/2009 00	
	NORX	0.7120	LBMMBTU	MD	NFS	A	DEF	05/27/2009 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
CT4A	GF	5/27/2009	

Qualification Percentages for Qualification Type Code GF Begin Date 5/27/2009

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
2009	100.0	2009	P	100.0	2010	P	100.0	2011	P	100.0

Qualification Types Descriptions: GF - Gas-Fired Unit

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



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Monitoring Plan Printout Report

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Facility Name: Bayside Power Station

Facility Details

Facility ID (ORISPL): 7873
 Monitoring Plan Location IDs: CT4B
 State: FL
 County: Hillsborough
 Latitude: 27.9083
 Longitude: -82.4194

Reporting Frequency

Monitoring Plan Location IDs	Reporting Frequency	Begin Quarter	End Quarter
CT4B	Q - Quarterly	2009 QTR 2	

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
CT4B		12	60	71				06/11/2009	

Unit Operation Information

Unit Identifier	Commence Commercial Operation Date	Commence Operation Date	Boiler/Turbine Type			Max Heat Input		
			Code	Begin Date	End Date	Value (mmBtu)	Begin Date	End Date
CT4B	06/11/2009	05/27/2009	CT	05/27/2009		572.0	05/27/2009	

Unit Type Codes: CT - Combustion turbine

Unit Program Information

Unit Identifier	Program Code	Unit Class	Unit Monitor Certification Begin Date	Unit Monitor Certification Deadline
CT4B	ARP	P2	06/11/2009	
	CAIRNOX	A	06/11/2009	
	CAIROS	A	06/11/2009	
	CAIRSO2	A	06/11/2009	

Facility Name: Bayside Power Station
 Facility ID (ORISPL): 7873

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Unit Fuel

Unit Identifier	Fuel Type	Fuel Indicator	Demonstration Method for GCV	Demonstration Method for Daily Sulfur	Ozone Season Indicator	Begin Date	End Date
CT4B	PNG	P				05/27/2009	

Fuel Type Codes: PNG - Pipeline Natural Gas
 Fuel Indicator Codes: P - Primary

Unit Controls

Unit Identifier	Parameter	Control Equipment	Original Ind	Seasonal Ind	Installation Date	Optimization Date	Retirement Date
CT4B	NOX	H2O	Y				

Control Equipment Descriptions: H2O - Water Injection

Monitoring Method

Unit/Stack/Pipe Identifier	Parameter	Methodology	Substitute Data Approach	Bypass Approach Code	Begin Date/Hour	End Date/Hour
CT4B	CO2	AD	SPTS		05/27/2009 00	
	HI	AD	SPTS		05/27/2009 00	
	NOX	NOXR			05/27/2009 00	
	NOXR	CEM	SPTS		05/27/2009 00	
	OP	EXP			05/27/2009 00	
	SO2	AD	SPTS		05/27/2009 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: Bayside Power Station
 Facility ID (ORISPL): 7873

Monitoring Plan Printout Report
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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
CT4B	4B3	NOX	P	05/27/2009 00		4B0	DAHS			SPECTRUM SYSTEMS INC.	SOLARIS 10	0828FMD025	05/27/2009 00	
						4B1	PRB	EXT		M&C	EXT	15686	05/27/2009 00	
						4B3	NOX	EXT	D	THERMOFISHER SCIENTIFIC	42I-HL	0835832642	05/27/2009 00	
						4B5	CO2	EXT	D	SIEMENS	ULTRAMAT 6	N1-W7-218	05/27/2009 00	
	4B7	GAS	P	05/27/2009 00		4B0	DAHS			SPECTRUM SYSTEMS INC.	SOLARIS 10	0828FMD025	05/27/2009 00	
						4B7	GFFM	ORF		MICROMOTION CORIOLIS	F200S420CCAZEZZ	14108053	05/27/2009 00	

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

System Designations Descriptions: P - Primary

Sample Acquisition Method (SAM): ORF - Orifice
 EXT - Dry Extractive

Component Types Descriptions: DAHS - Data Acquisition and Handling System
 PRB - Probe
 NOX - NOx Concentration
 CO2 - CO2 Concentration
 GFFM - Gas 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
CT4B	4B7	PNG	1800000.0	HSCF	URV	05/27/2009 00	

System Fuel Codes Descriptions: PNG - Pipeline Natural Gas

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

Source Codes Descriptions: URV - Upper Range Value

Facility Name: Bayside Power Station
 Facility ID (ORISPL): 7873

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Analyzer Range Data

Unit/Stack/Pipe Identifier	Component Type	Component ID	Range Code	Dual Range Indicator	Begin Date/Hour	End Date/Hour
CT4B	CO2	4B5	High Range		05/27/2009 00	
	NOX	4B3	Auto Ranging	Y	05/27/2009 00	

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

Gas Calibration Standard Data

Unit/Stack/Pipe Identifier	Component Type	Component ID	Calibration Standard Code	Calibration Source Code	Begin Date/Hour	End Date/Hour
CT4B	CO2	4B5	MBP	CYL	05/27/2009 00	
	NOX	4B3	MBP	CYL	05/27/2009 00	

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

Calibration Standard Codes Descriptions: MBP - Multi-Blend Protocol Gas

Calibration Source Codes Descriptions: CYL - Certified Cylinder Gas Standard

Facility Name: Bayside Power Station
 Facility ID (ORISPL): 7873

Monitoring Plan Printout Report
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Emissions Formulas

Unit/Stack/Pipe Identifier	Parameter	Formula ID	Formula Code	Formula	Begin Date/Hour	End Date/Hour
CT4B	NOX	001	F-24A		05/27/2009 00	
	NOXR	002	19-6		05/27/2009 00	
	CO2	003	G-4		05/27/2009 00	
	HI	006	F-20		05/27/2009 00	
	SO2	009	D-5		05/27/2009 00	

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

Formula Codes Descriptions:
 G-4 - CO2 (from HI, Fc)
 F-24A - NOX (from NOX rate, HI)
 F-20 - HI (same as D-6)
 D-5 - SO2 (from gas SO2 emission rate, HI)
 19-6 - NOXR/SO2R (from dry NOX or SO2, dry CO2, Fc)

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
CT4B	CO2	H	TB	6.0		10.000	10.000	PCT					05/27/2009 00	
	NOX	H	OL	480.0	75.0	600.000	600.000	PPM	95.0				05/27/2009 00	
	NOX	L	OL		75.0	100.000	100.000	PPM	95.0				05/27/2009 00	

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

Span Method Codes Descriptions:
 TB - Table Defaults from Part 75
 OL - Other Limit

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

Facility Name: Bayside Power Station
 Facility ID (ORISPL): 7873

Monitoring Plan Printout Report
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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
CT4B	32	MW	32	5	High	Mid	Yes	05/27/2009	05/27/2009 00	

Units of Measure Descriptions: MW - Megawatt

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
CT4B	CO2N	1.0000	PCT	DC	NFS	A	DEF	05/27/2009 00	
	NORX	0.7120	LBMMBTU	MD	NFS	A	DEF	05/27/2009 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

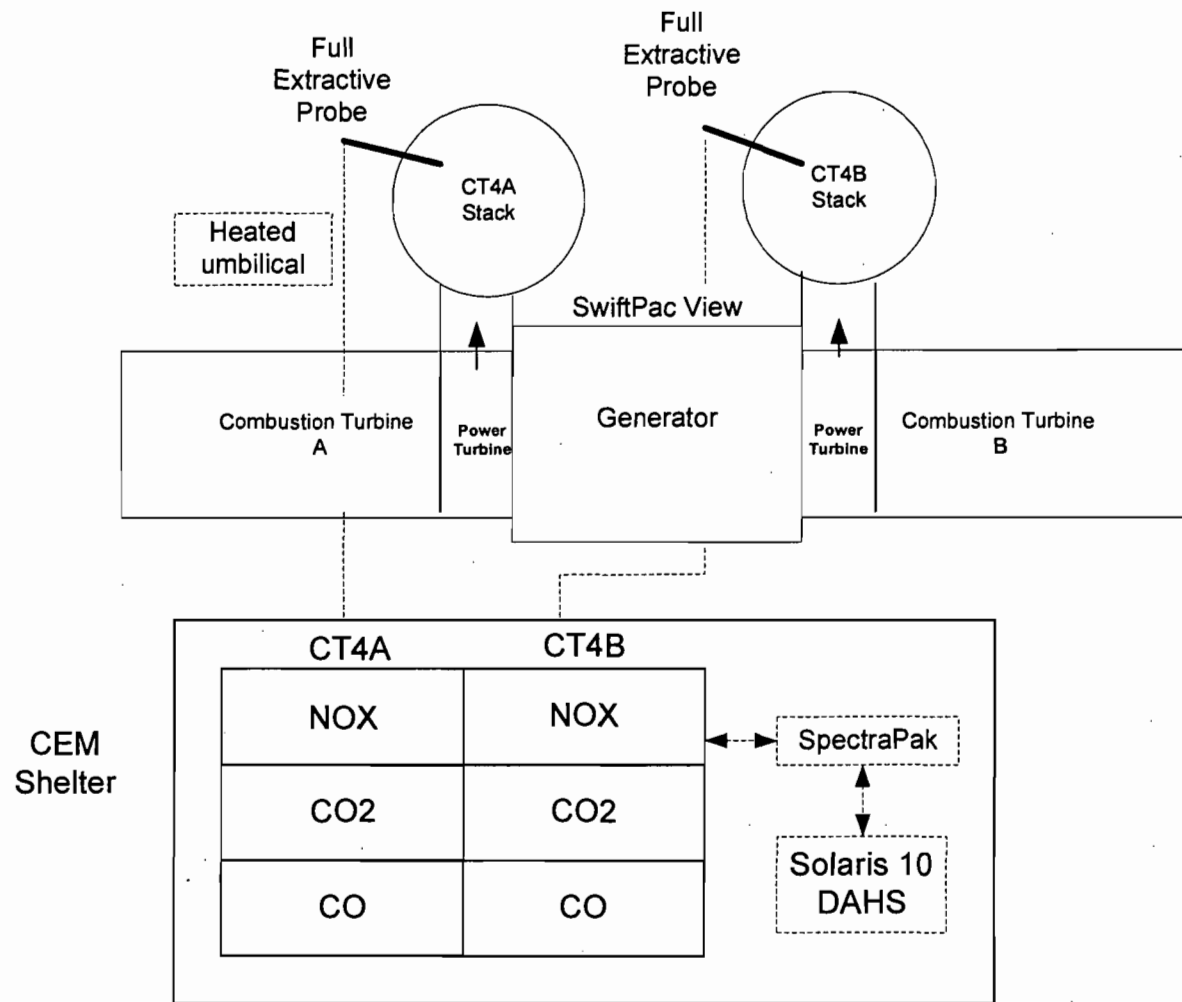
Unit/Stack/Pipe Identifier	Qualification Type	Begin Date	End Date
CT4B	GF	5/27/2009	

Qualification Percentages for Qualification Type Code GF Begin Date 5/27/2009

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
2009	100.0	2009	P	100.0	2010	P	100.0	2011	P	100.0

Qualification Types Descriptions: GF - Gas-Fired Unit

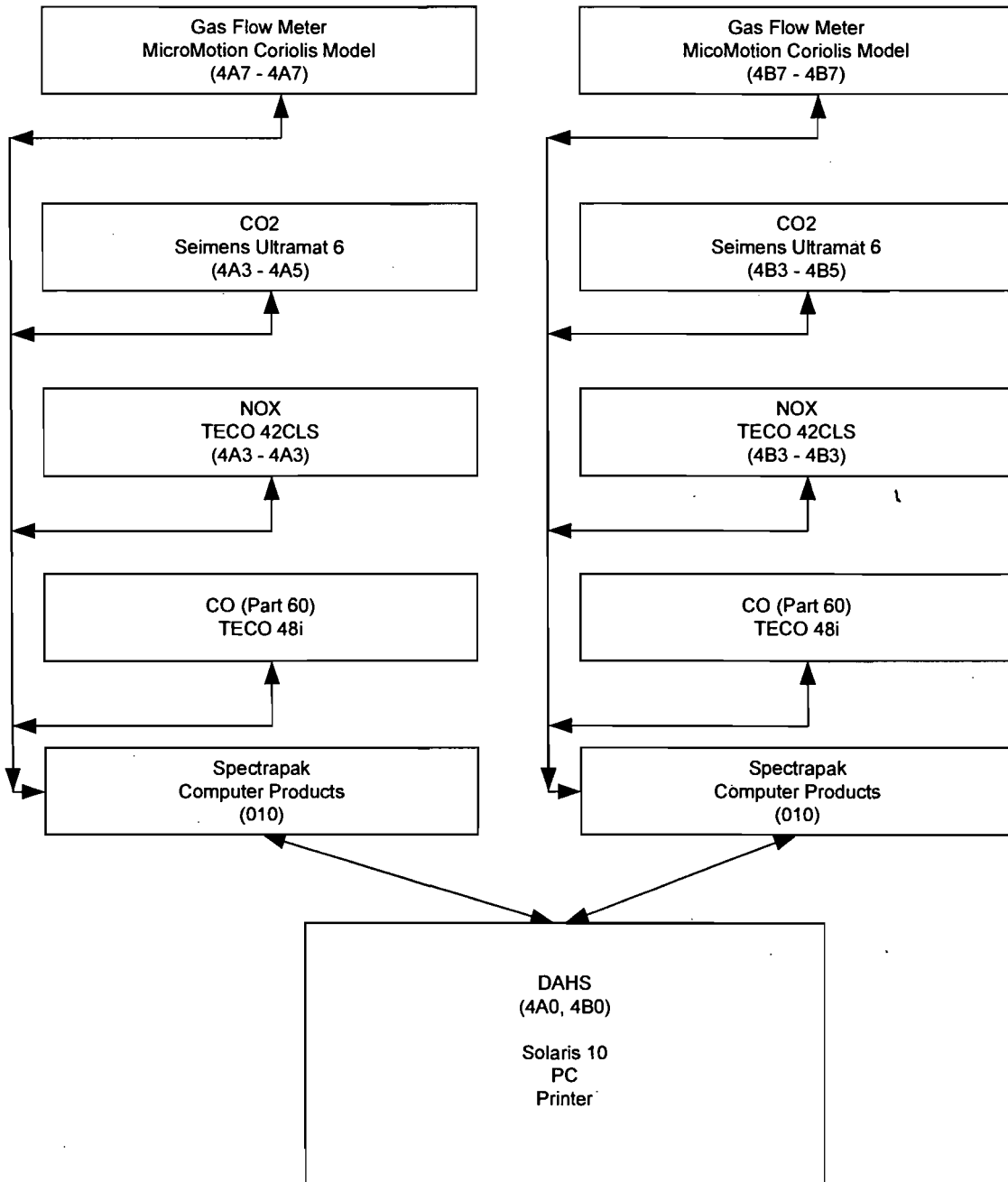
Data Type Codes Descriptions: A - Actual
 D - Demonstration
 P - Projected

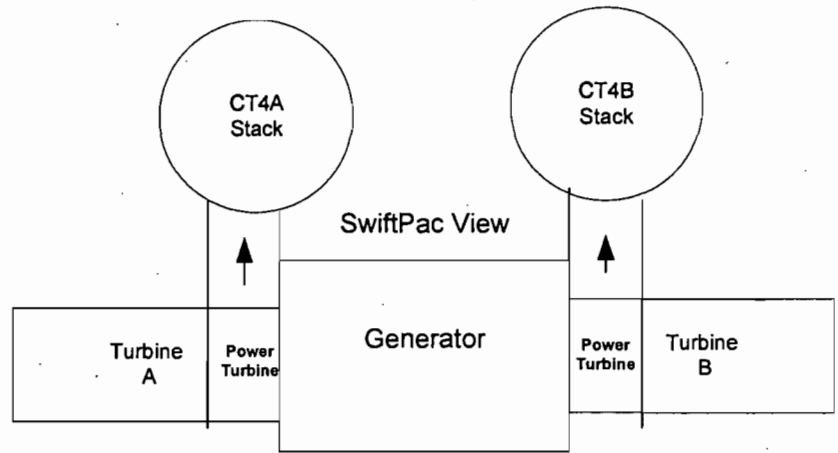
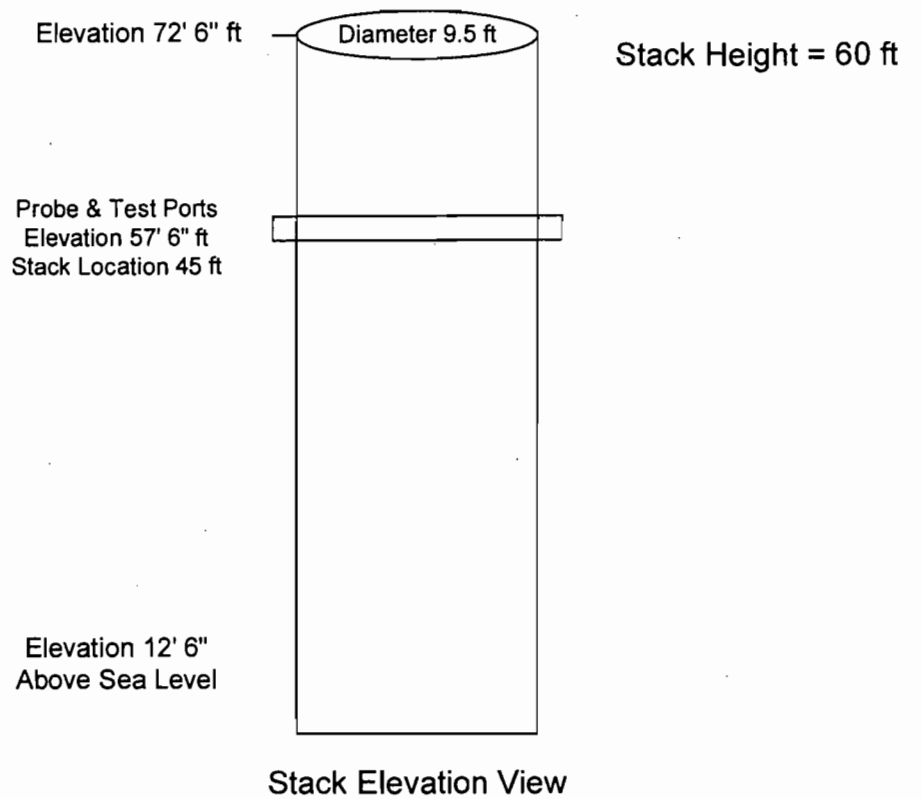
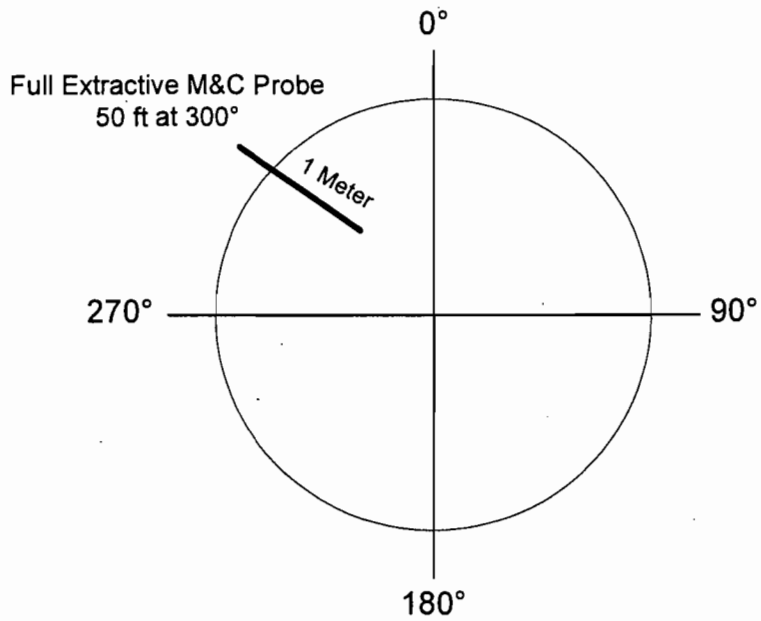


Appendix A
 Bayside Power Station
 CT6A & CT6B General Configuration

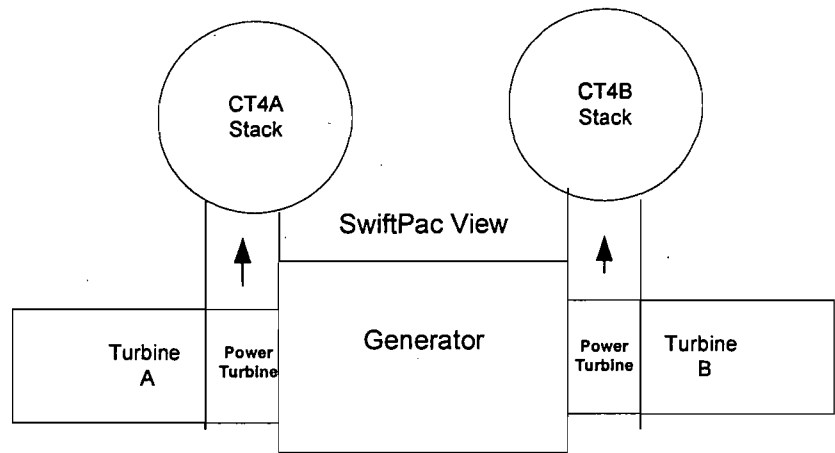
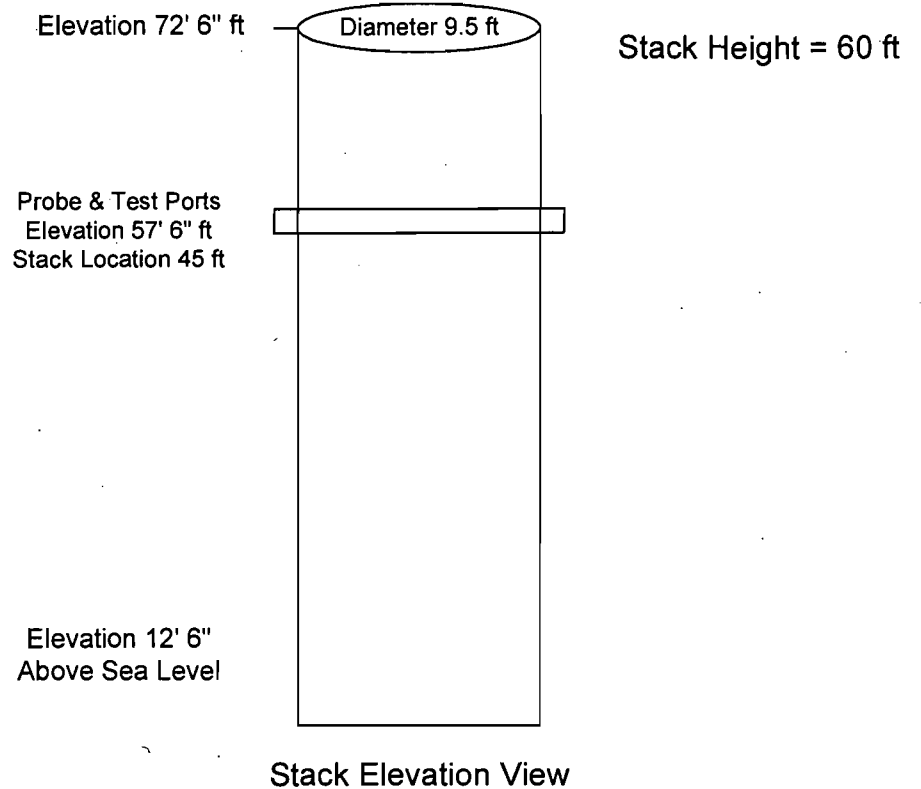
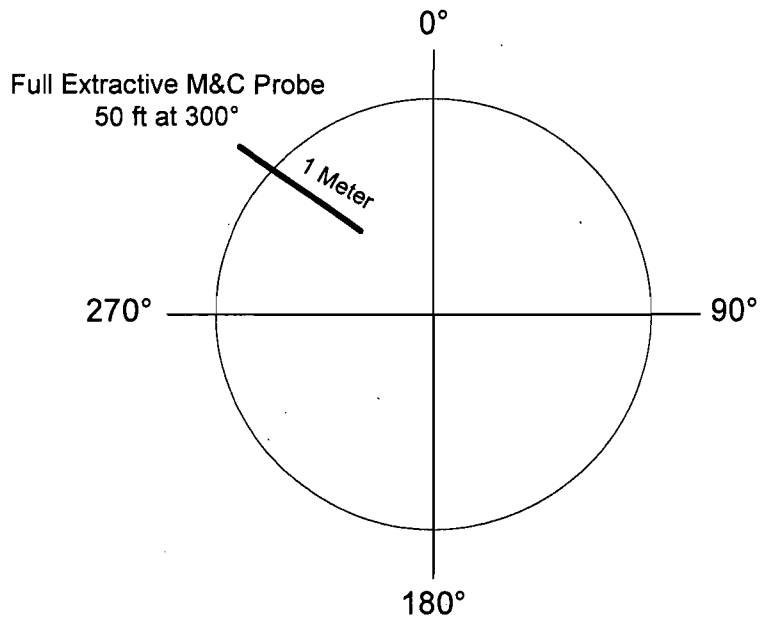
Appendix B

Bayside CT4A & CT4B CEM Data Flow Diagram





Appendix C
 Bayside Power Station
 CT4A Stack Configuration



Appendix C
Bayside Power Station
CT4B Stack Configuration

APPENDIX - D

NOX HIGH AND CO2 MPC EXPLANATIONS

**Maximum Potential Concentration (MPC) Calculation Description
Oxides of Nitrogen (NOx)**

Method of Determination selected as "other" (Revised Electronic Data Reports – Version 2.1 March , 2003, Table 26, Monitoring Plan File Record Structures, Monitoring Plan Information, Span Table).

Maximum Potential Concentration (MPC) as defined in facilities operating permits:
25.0 ppm when combusting natural gas (15% O₂ Corrected on 4 Hr Avg)

Maximum Emission Rate (MER) calculated as:

$$E = K \times C_h \times F_c \times (100/\%CO_2) \quad (40CFR75, \text{ Appendix F, equation F- 6})$$

Where:

$$K = 1.194E-07, (\text{lbs/dscf}) / \text{ppm NO}_x$$

C_h = hourly average NO_x concentration, ppm

or: F_c = 1040, scf CO₂/mmBtu, when combusting natural gas

and:

CO₂ = hourly average CO₂ concentration, %, further assumed as 1.0% as per
40CFR74, Appendix F, Section 3.3.4.

$$E = 1.194E-07 \times 25.0 \times 1040 \times (100/1)$$

$$E = 0.31 \text{ lbs/mmBtu when combusting natural gas}$$

**Maximum Potential Concentration (MPC) Calculation Description
Carbon Dioxide (CO₂)**

Maximum Potential Concentration (MPC), set as 6.0% as per 40CFR75, Appendix A, Specification and Test Procedure, Section 2.1.3.1 Maximum Potential Concentration of CO₂.

CO₂ span value selected as 10.0%, as per 40CFR75, Appendix A, Specification and Test Procedures, Section 2.1.3, CO₂ and O₂ monitors.

MPC CO₂ = 6% volume

CO₂ Span = 10% volume