

*ENVIRONMENTAL AFFAIRS  
AIR SERVICES REPORT*

*NITROGEN OXIDES - BEST  
AVAILABLE CONTROL  
TECHNOLOGY DETERMINATION  
SOURCE EMISSION TEST #7*

*POLK POWER STATION*

*AIRS # 1050233*

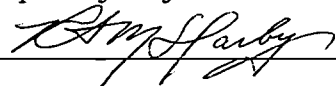
*UNIT NO.1 COMBUSTION TURBINE &  
HEAT RECOVERY STEAM GENERATOR  
FIRED ON SYNGAS*

*OCTOBER 17, 2000*

*Prepared by Tampa Electric Company  
Environmental Affairs  
November 15, 2000*

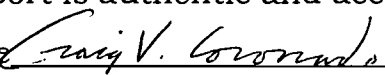
## REPORT CERTIFICATION

I have reviewed the test performance, the resulting calculations, and the contents of this report, and verify that all project quality objectives have been met.

Date 11/9/2000 Signature 

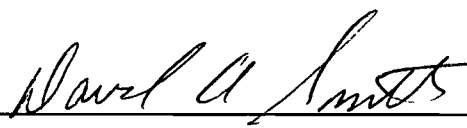
Quality Assurance/Quality Control Specialist  
Senior Environmental Technician  
Air Services  
Environmental Affairs  
Tampa Electric Company

The sampling and analysis performed for this report were carried out under my direction and I hereby certify that this test report is authentic and accurate.

Date 11/09/2000 Signature 

Report Author  
Environmental Technician  
Air Services  
Environmental Affairs  
Tampa Electric Company

The testing performed for this report was carried out under my direct supervision. I have reviewed the testing details and results in this report, and hereby certify that the test report is authentic and accurate to the best of my knowledge.

Date 11/9/00 Signature 

Coordinator  
Air Services  
Environmental Affairs  
Tampa Electric Company

# TABLE OF CONTENTS

---

<u>SECTION</u>	<u>PAGE NO.</u>
1.0 SUMMARY OF RESULTS	1
2.0 SOURCE DESCRIPTION/TEST PROCEDURES	2
FIGURE 1...OXYGEN TRAVERSE LOCATION DIAGRAM	6
FIGURE 2...SAMPLING TRAVERSE LOCATION DIAGRAM	7
FIGURE 3...TEST SYSTEM DIAGRAM	8
3.0 TEST RESULTS	9
NITROGEN OXIDES TEST SUMMARY	10

## APPENDICES

- A. SOURCE TEST CALCULATIONS
  - A-1 NITROGEN OXIDE CALCULATIONS
  - A-2 OXYGEN CALCULATIONS
  
- B. TURBINE DATA
  
- C. UNCORRECTED REFERENCE METHOD DATA
  
- D. SAMPLING EQUIPMENT CALIBRATIONS
  - D-1 LINEARITY CALIBRATIONS
  - D-2 DRIFT ASSESMENT CALS
  - D-3 CYLINDER GAS CERTIFICATIONS
  - D-4 CONVERTER EFFICIENCY RESULTS
  
- E. TEST PARTICIPANTS

## 1.0 SUMMARY OF RESULTS

---

On October 17, 2000, the Environmental Affairs, Air Services group of Tampa Electric Company performed source emission tests on IGCC Unit No. 1 at the Polk Power Station. The combustion turbine was fired with syngas from a coal gasification system.

This test was conducted to satisfy requirements in Title V permit no. 1050233-001-AV for NO<sub>x</sub> Best Available Control Technology (BACT) determinations. Testing was performed according to USEPA test methods as referenced in 40 CFR Part 60, Appendix A.

The Nitrogen Oxides (NO<sub>x</sub>) emission rate was derived from three test runs. The calculated average was 22.5 ppm corrected to 15% oxygen on a dry basis.

During the tests on October 17, 2000, Unit No. 1 Combustion Turbine was operated at an average load of 191 megawatts. Details of turbine operation are included in Appendix C.

## **2.0 SOURCE DESCRIPTION/TEST PROCEDURES**

---

Polk Power Station is located at 9995 State Route 37 South, Mulberry, Polk County, Florida. Unit No. 1 is an IGCC generating unit, 192 MW capacity when fired with Syngas fuel. The source sampling location consists of a circular stack 19 ft. in diameter with four sample ports located 90° apart on the stack circumference. A diagram of the stack sampling location is included in Figure 1 and 2 along with other pertinent information on the test site.

Nitrogen Oxides sampling was performed in accordance with USEPA Reference Method 20 (40 CFR Part 60, Appendix A) "Determination of Nitrogen Oxides, Sulfur Dioxide, and Diluent Emissions from Stationary Gas Turbines". Testing was performed using a Thermo Environmental Model 10 A/R Chemiluminescent NO-NO<sub>x</sub> Gas Analyzer. Details of fuel bound nitrogen is found in Appendix B.

Diluent sampling was performed in accordance with USEPA Reference Method 3-A (40 CFR Part 60, Appendix A), "Determination of Oxygen and Carbon Dioxide concentrations in Emissions from Stationary Sources (Instrumental Analyzer Procedure)". Testing was performed using a Servomex 1400 B Oxygen Analyzer.

## **TCEMS Description**

The following discussion briefly outlines the operation principles of Environmental Affairs Transportable Continuous Emissions Monitoring System (TCEMS). Additional information on instrument operation may be found in the individual instrument manuals provided by the manufacturers. A schematic of the TCEMS set-up is presented in Figure 3.

## **Servomex Model 1400 B O<sub>2</sub> Analyzer**

The Servomex 1400B oxygen analyzer measures the paramagnetic susceptibility of the sample gas by means of a magneto-dynamic type measuring cell.

## **Thermo Environmental Instruments Model 10A/R NO/NO<sub>x</sub> Analyzer**

The Thermo Environmental Instruments model 10A/R NO/NO<sub>x</sub> analyzer automatically and continuously determines the concentration of nitric oxide (NO) and/or oxides of nitrogen (NO<sub>x</sub>) in a flowing gas mixture. The analytical technique is chemiluminescence.

To measure NO concentrations, the gas sample to be analyzed is blended with ozone (O<sub>3</sub>) in a reaction chamber. The resulting chemiluminescence activity is monitored through an optical filter by a high sensitivity photomultiplier tube positioned at one end of the chamber.

This filter and photomultiplier combination responds to light of a narrow wavelength band unique to the NO/O<sub>3</sub> reaction, producing an interference free signal. The output from the photomultiplier is linearly proportional to the NO concentration.

To measure NO<sub>x</sub> concentrations (i.e., NO plus NO<sub>2</sub>), the sample gas flow is diverted through an NO<sub>2</sub>-to-NO converter. The chemiluminescent action in the reaction chamber to the converter effluent is linearly proportional to the NO<sub>x</sub> concentration entering the converter.

### **Data Acquisition System**

The data acquisition system (DAS) developed by Entropy Environmentalists Inc. uses a portable personal computer with an internal 32 bit analog-to-digital converter with an external 16 channel multiplexer. In addition to providing an instantaneous display of analyzer responses, the DAS can average data, calculate emission rates, and document analyzer calibrations. The test results and calibrations are stored on the hard disk and printed on a dot matrix printer.

### **TCEMS Sample Handling System**

The extractive monitors utilized in the TCEMS require that the effluent stream be conditioned to eliminate any possible interference (i.e., water vapor and particulate matter), before being transported and injected into each analyzer. Figure 3 depicts a schematic of the entire sample handling system. The major components of this system are listed below:

- Gas transport tubing
- Moisture removal system
- Sampling pump

### **Gas Transport Tubing**

Two separate 1/4 inch O.D. Teflon tubes were used for the sample gas transport.

### **Moisture Removal System**

The moisture removal system was comprised of an ice bath condenser, constructed of a 30-foot section of 3/8 inch O.D. Teflon tubing wrapped in a 12-inch coil. Effluent travels through this coil and then passes, in series, through two stainless steel moisture traps where the condensate drops out and is removed via a condensate discharge pump. With the exception of the discharge pump, the entire assembly is chilled in an ice bath.

### **Sampling Pump**

The Thomas Model 2107CE20-TFE pump is used to transport the effluent sample through the conditioning system to the analyzers. All internal parts of the pump that come into contact with the gas sample are constructed of 316 stainless steel or Teflon.



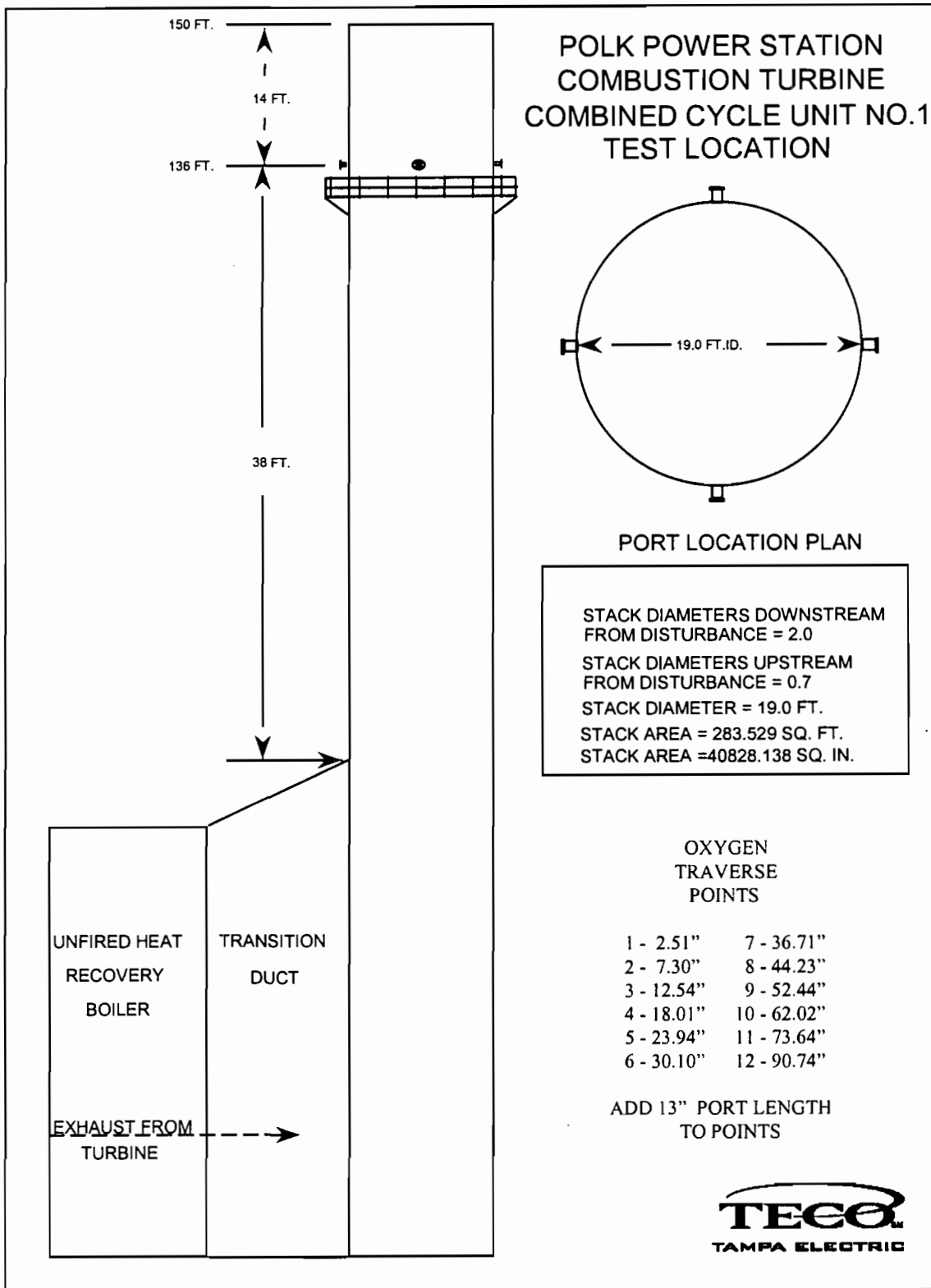


FIGURE 1

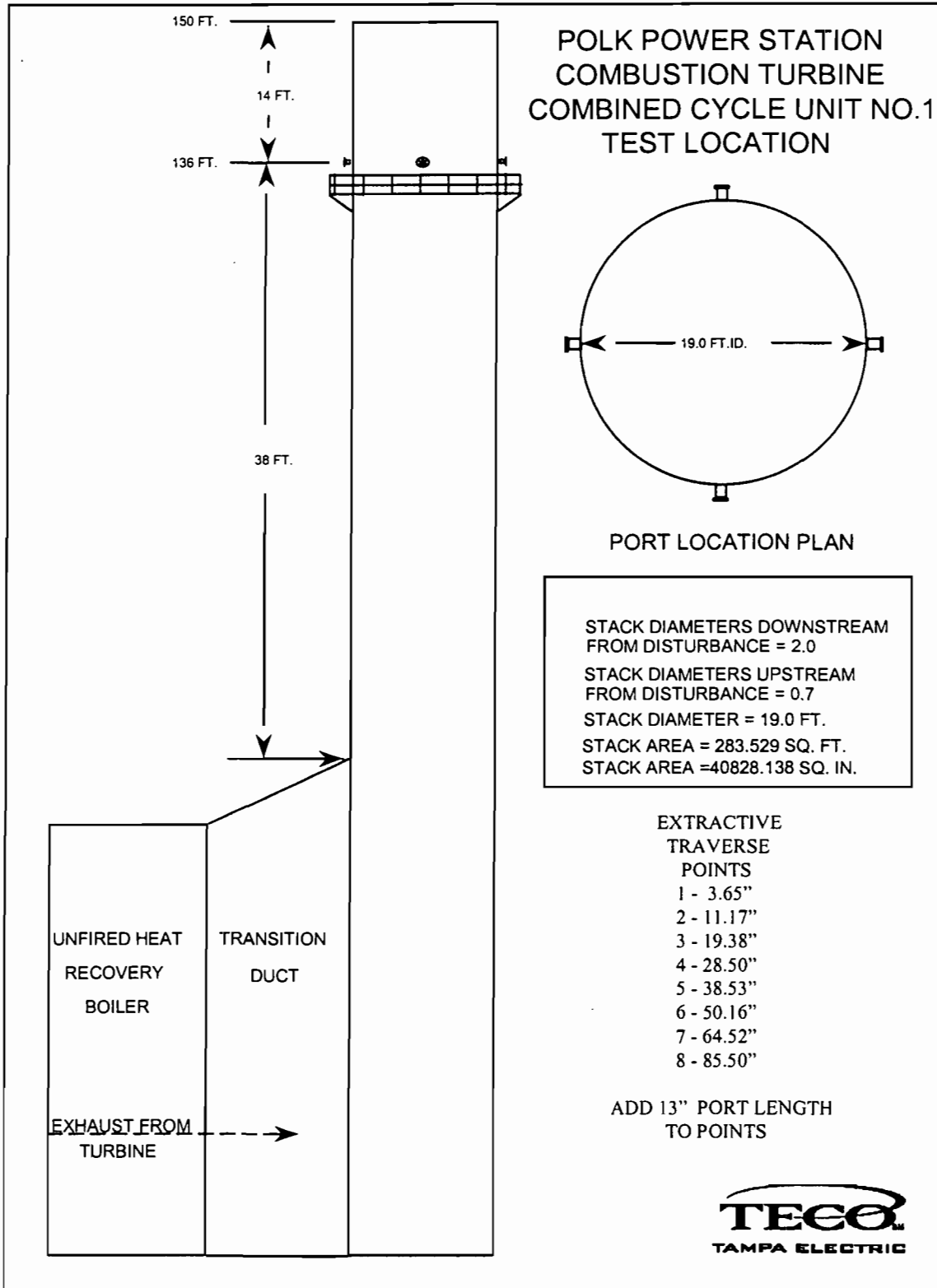


FIGURE 2

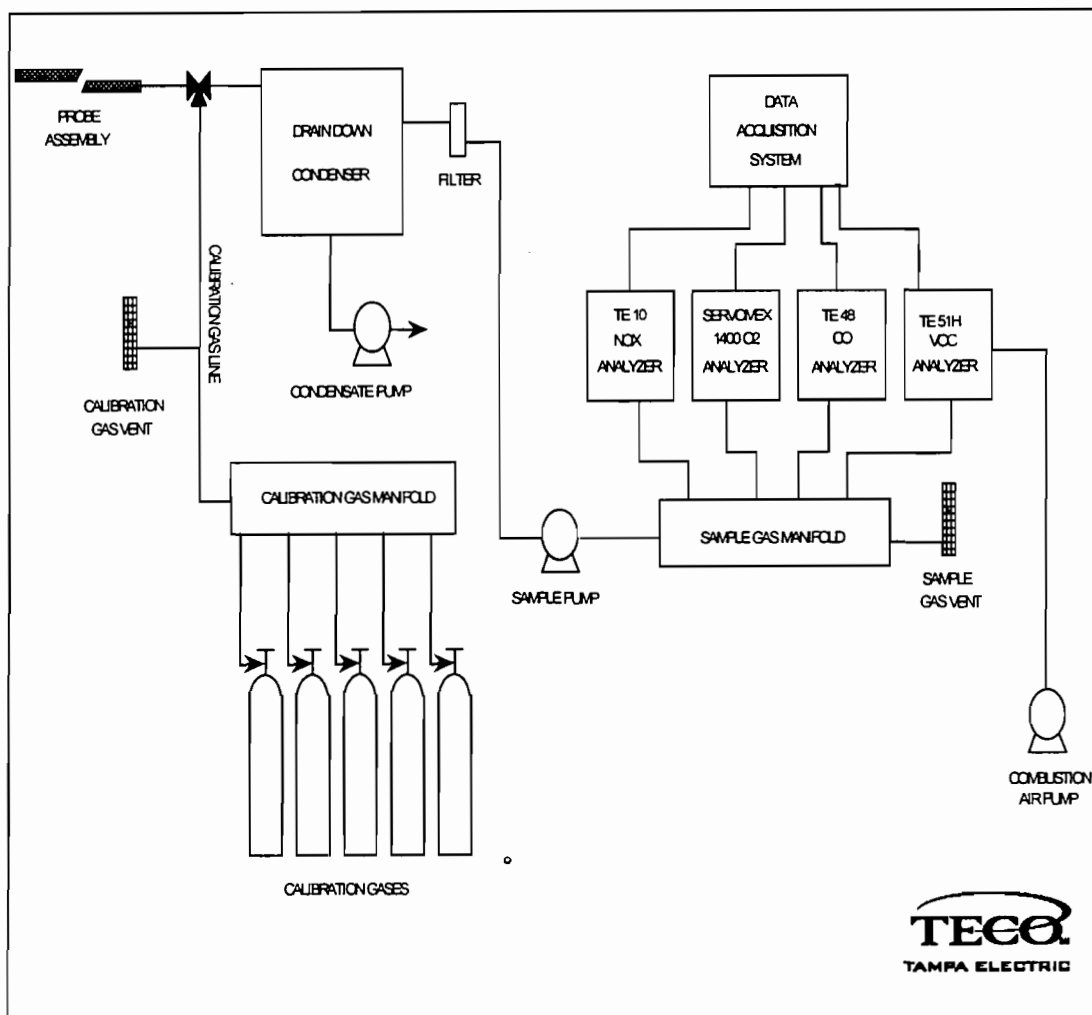


FIGURE 3  
 Extractive Method Sampling Trains  
 USEPA METHODS 3A, 10, 20, 25A

### 3.0 TEST RESULTS

---

**POLK POWER STATION  
NITROGEN OXIDES BACT TESTING**

---

<b>IGCC COMBUSTION TURBINE UNIT 1 OCTOBER 17, 2000</b>
--

<b>RUN NO.</b>	<b>TIME</b>	<b>O2%</b>	<b>ppm NOx Dry</b>	<b>CORRECTED 15% O2</b>
1	11:19 – 12:19	12.0	34.0	22.5
2	12:29 – 13:29	12.0	34.0	22.5
3	13:37 – 14:37	12.0	34.0	22.5
	<b>Average</b>	12.0	34.0	22.5

Corrected NOx calculated as:

Concentration (ppm NOx) x (Cd / (20.9 - %O<sub>2</sub>))

Where:

Cd = NOx coefficient of 5.9

**APPENDIX A**

**SOURCE TEST CALCULATIONS**

**APPENDIX A - 1 NITROGEN OXIDE CALCULATIONS**

**APPENDIX A - 2 OXYGEN CALCULATIONS**

**APPENDIX A - 1**

**NITROGEN OXIDE CALCULATIONS**

CALCULATION OF AVERAGE NITROGEN OXIDES EMISSIONS

RUN: 1  
 SOURCE: POLK POWER STATION UNIT 1 BACT #7  
 TEST DATE: 10/17/00

GAS VALUE	INITIAL CAL	FINAL CAL	MEAN CAL
0.0 ppm NOx	1.6	2.4	2.0
25.5 ppm NOx	26.5	27.4	27.0
0.00 % Oxygen	0.08	0.05	0.07
12.00 % Oxygen	11.99	11.97	11.98

$\bar{C}(\text{NOx}) = 35.7$        $\bar{C}(\text{O2}) = 11.99$

**CORRECTED RESULTS**

34 ppm NOx  
 12.0 % Oxygen  
 22.5 ppm NOx @15% O2

Corr. Conc. =  $\bar{C}_m(C - C_o)/(C_m - C_o)$  (for NOx)

Corr. Conc. =  $[(C_m - C_o)/(C_m - C_o)](C - C_m) + C_m$  (for O2)

Where:  $\bar{C}$  = mean reference measurement  
 $C_o$  = mean zero calibration response  
 $C_oa$  = actual low-level calibration gas concentration  
 $C_m$  = mean mid or upscale calibration gas response  
 $C_ma$  = actual mid or upscale calibration gas concentration

$E = (\text{ppm NOx})(5.9)/(20.9 - \% \text{ Oxygen})$

8200  
 1.994E-07



CALCULATION OF AVERAGE NITROGEN OXIDES EMISSIONS

RUN: 2  
 SOURCE: POLK POWER STATION UNIT 1 BACT #7  
 TEST DATE: 10/17/00

GAS VALUE	INITIAL CAL	FINAL CAL	MEAN CAL
0.0 ppm NOx	2.4	2.7	2.6
25.5 ppm NOx	27.4	27.9	27.7
0.00 % Oxygen	0.05	0.03	0.04
12.00 % Oxygen	11.97	11.97	11.97

$\bar{C}(\text{NOx}) = 36.1$        $\bar{C}(\text{O2}) = 11.98$

**CORRECTED RESULTS**

34 ppm NOx  
 12.0 % Oxygen  
 22.5 ppm NOx @15% O2

Corr. Conc. =  $\bar{C}_{ma}(C - C_o)/(C_m - C_o)$  (for NOx)

Corr. Conc. =  $[(C_{ma} - C_{oa})/(C_m - C_o)](C - C_m) + C_{ma}$  (for O2)

Where:  $\bar{C}$  = mean reference measurement  
 C<sub>o</sub> = mean zero calibration response  
 C<sub>oa</sub> = actual low-level calibration gas concentration  
 C<sub>m</sub> = mean mid or upscale calibration gas response  
 C<sub>ma</sub> = actual mid or upscale calibration gas concentration

E = (ppm NOx)(5.9)/(20.9 - % Oxygen)

8200  
 1.994E-07

CALCULATION OF AVERAGE NITROGEN OXIDES EMISSIONS

RUN: 3  
 SOURCE: POLK POWER STATION UNIT 1 BACT #7  
 TEST DATE: 10/17/00

GAS VALUE	INITIAL CAL	FINAL CAL	MEAN CAL
0.0 ppm NOx	2.7	3.3	3.0
25.5 ppm NOx	27.9	28.3	28.1
0.00 % Oxygen	0.03	-0.01	0.01
12.00 % Oxygen	11.97	11.95	11.96
$\bar{C}(\text{NOx}) =$	36.5	$\bar{C}(\text{O2}) =$	11.96

**CORRECTED RESULTS**

34 ppm NOx  
 12.0 % Oxygen  
 22.5 ppm NOx @15% O2

Corr. Conc. =  $\bar{C}_m(C - C_o)/(C_m - C_o)$  (for NOx)

Corr. Conc. =  $[(C_{ma} - C_{oa})/(C_m - C_o)](C - C_m) + C_{ma}$  (for O2)

Where:  $\bar{C}$  = mean reference measurement  
 C<sub>o</sub> = mean zero calibration response  
 C<sub>oa</sub> = actual low-level calibration gas concentration  
 C<sub>m</sub> = mean mid or upscale calibration gas response  
 C<sub>ma</sub> = actual mid or upscale calibration gas concentration

E = (ppm NOx)(5.9)/(20.9 - % Oxygen)

8200  
 1.994E-07

**APPENDIX A - 2**

**OXYGEN CALCULATIONS**

# CALCULATION OF AVERAGE OXYGEN CONCENTRATION

RUN: 1  
SOURCE: POLK POWER STATION UNIT 1 BACT #7  
TEST DATE: 10/17/00

GAS VALUE	INITIAL CAL	FINAL CAL	MEAN CAL
0.00 % Oxygen	0.08	0.05	0.07
12.00 % Oxygen	11.99	11.97	11.98

$\bar{C} = 11.99$

## CORRECTED RESULTS

12.0 % Oxygen

$$\text{Corrected Conc.} = C_{ma}(C - \bar{C}_o)/(C_m - C_o)$$

Where:  $\bar{C}$  = mean reference measurement

$C_o$  = mean zero calibration response

$C_m$  = mean mid or upscale calibration gas response

$C_{ma}$  = actual mid or upscale calibration gas concentration

CALCULATION OF AVERAGE OXYGEN CONCENTRATION

RUN: 2  
SOURCE: POLK POWER STATION UNIT 1 BACT #7  
TEST DATE: 10/17/00

GAS VALUE	INITIAL CAL	FINAL CAL	MEAN CAL
0.00 % Oxygen	0.05	0.03	0.04
12.00 % Oxygen	11.97	11.97	11.97

$\bar{C} =$  11.98

CORRECTED RESULTS  
12.0 % Oxygen

$$\text{Corrected Conc.} = C_{ma}(C - \bar{C}_o)/(C_m - C_o)$$

Where:  $\bar{C}$  = mean reference measurement  
 $C_o$  = mean zero calibration response  
 $C_m$  = mean mid or upscale calibration gas response  
 $C_{ma}$  = actual mid or upscale calibration gas concentration

CALCULATION OF AVERAGE OXYGEN CONCENTRATION

RUN: 3

SOURCE: POLK POWER STATION UNIT 1 BACT #7

TEST DATE: 10/17/00

GAS VALUE	INITIAL CAL	FINAL CAL	MEAN CAL
0.00 % Oxygen	0.03	-0.01	0.01
12.00 % Oxygen	11.97	11.95	11.96

$\bar{C} = 11.96$

CORRECTED RESULTS

12.0 % Oxygen

$$\text{Corrected Conc.} = C_{ma}(C - \bar{C}_o)/(C_m - C_o)$$

- Where:  $\bar{C}$  = mean reference measurement  
 $C_o$  = mean zero calibration response  
 $C_m$  = mean mid or upscale calibration gas response  
 $C_{ma}$  = actual mid or upscale calibration gas concentration

POLK POWER STATION UNIT 1 BACT #7

10-18-2000

TIME	CHAN 3	CHAN 6	STACK
	STACK	STACK	ppmNOX
	%O2	ppmNOX	@15%O2
09:48	12.16	38.1	25.7
09:49	12.16	38.0	25.7
09:50	12.15	38.3	25.9
09:51	12.15	38.5	26.0
09:52	12.15	38.7	26.1
09:53	12.16	38.7	26.1
09:54	12.14	38.4	25.9
09:55	12.14	38.2	25.7
09:56	12.15	38.1	25.7
09:57	12.15	38.0	25.7
09:58	12.16	38.1	25.7
09:59	12.16	38.0	25.6

AVERAGE VALUES FOR THE LAST 12 MINUTES

09:59	12.15	38.3	25.8
-------	-------	------	------

COMMENTS: O2 TRAVERSE  
WEST PORT

POLK POWER STATION UNIT 1 BACT #7

10-18-2000

TIME	CHAN 3 STACK %O2	CHAN 6 STACK ppmNOX	STACK ppmNOX @15%O2
10:04	12.14	38.8	26.2
10:05	12.13	38.7	26.0
10:06	12.13	38.9	26.1
10:07	12.15	38.7	26.1
10:08	12.13	38.4	25.8
10:09	12.13	38.3	25.8
10:10	12.14	38.2	25.8
10:11	12.13	38.1	25.6
10:12	12.13	38.5	25.9
10:13	12.15	38.7	26.1
10:14	12.15	38.8	26.1
10:15	12.29	38.3	26.3

AVERAGE VALUES FOR THE LAST 12 MINUTES

10:15	12.15	38.5	26.0
-------	-------	------	------

COMMENTS: O2 TRAVERSE  
SOUTH PORT



POLK POWER STATION UNIT 1 BACT #7

10-18-2000

TIME	CHAN 3 STACK %O2	CHAN 6 STACK ppmNOX	STACK ppmNOX @15%O2
10:19	12.16	39.0	26.4
10:20	12.16	39.1	26.4
10:21	12.17	39.3	26.6
10:22	12.15	39.2	26.5
10:23	12.16	39.2	26.4
10:24	12.15	39.3	26.5
10:25	12.16	39.3	26.6
10:26	12.17	39.5	26.7
10:27	12.16	39.5	26.6
10:28	12.18	39.9	27.0
10:29	12.18	39.9	27.0
10:30	12.17	39.8	26.9

AVERAGE VALUES FOR THE LAST 12 MINUTES

10:30	12.16	39.4	26.6
-------	-------	------	------

COMMENTS: O2 TRAVERSE  
EAST PORT

POLK POWER STATION UNIT 1 BACT #7

10-18-2000

TIME	CHAN 3 STACK %O2	CHAN 6 STACK ppmNOX	STACK ppmNOX @15%O2
10:37	12.14	39.2	26.4
10:38	12.13	39.5	26.6
10:39	12.14	39.6	26.7
10:40	12.16	40.2	27.1
10:41	12.17	40.5	27.4
10:42	12.17	40.4	27.3
10:43	12.19	40.5	27.4
10:44	12.18	40.6	27.4
10:45	12.19	40.7	27.6
10:46	12.17	40.1	27.1
10:47	12.16	40.2	27.1
10:48	12.23	39.7	27.0

AVERAGE VALUES FOR THE LAST 12 MINUTES

10:48	12.17	40.1	27.1
-------	-------	------	------

COMMENTS: O2 TRAVERSE  
NORTH PORT

**APPENDIX B**

**TURBINE DATA**

## POLK POWER STATION UNIT 1 BACT #7

10/18/2000 1M	Gas Flow lb/sec	Load Watts	Gen Watts	Heating Content, BTU/lb	N2 Flow	Inlet Temp, Deg,F	Bar, Press
10/18/2000 Date:Time	1TSYFI910	1PWRJI900	1GMLJI962	1TSYJY1910	1NITFI920A	1TMSTI922M	1TMSPI909
Polk 1	18-Oct-00 09:00:00	99.65	191.6	192.5	174.95	113.84	63.53 29.85
	18-Oct-00 09:01:00	99.67	191.6	192.5	174.95	113.35	63.53 29.85
	18-Oct-00 09:02:00	99.70	191.8	192.5	174.95	113.12	63.53 29.85
	18-Oct-00 09:03:00	99.81	191.9	192.4	174.95	112.22	63.24 29.85
	18-Oct-00 09:04:00	99.89	191.7	192.4	174.95	111.65	63.15 29.85
	18-Oct-00 09:05:00	99.85	191.6	192.4	174.95	111.26	63.36 29.85
	18-Oct-00 09:06:00	99.81	191.8	192.4	174.95	109.88	63.56 29.85
	18-Oct-00 09:07:00	99.96	191.8	192.4	174.95	109.98	63.57 29.85
	18-Oct-00 09:08:00	99.78	191.7	192.4	174.95	109.77	63.60 29.85
	18-Oct-00 09:09:00	99.60	192.0	192.4	174.95	109.90	63.99 29.85
	18-Oct-00 09:10:00	99.89	192.1	192.4	174.95	110.34	64.21 29.85
	18-Oct-00 09:11:00	100.06	191.9	192.3	174.95	110.95	64.82 29.85
	18-Oct-00 09:12:00	99.71	191.7	192.3	174.95	111.00	64.74 29.85
	18-Oct-00 09:13:00	99.96	191.6	192.3	174.95	110.64	64.72 29.85
	18-Oct-00 09:14:00	99.92	191.7	192.3	174.95	110.58	64.85 29.85
	18-Oct-00 09:15:00	99.86	191.7	192.3	174.95	110.37	64.88 29.85
	18-Oct-00 09:16:00	100.18	191.8	192.3	174.95	110.32	65.36 29.85
	18-Oct-00 09:17:00	99.97	191.8	192.3	174.95	110.55	65.50 29.85
	18-Oct-00 09:18:00	100.03	191.6	192.3	174.95	110.44	65.70 29.85
	18-Oct-00 09:19:00	100.14	191.6	192.4	174.95	110.39	65.66 29.85
	18-Oct-00 09:20:00	100.15	191.7	192.5	174.95	110.58	65.68 29.85
	18-Oct-00 09:21:00	99.92	191.5	192.5	174.95	111.09	65.97 29.85
	18-Oct-00 09:22:00	99.85	191.8	192.5	174.95	111.04	65.98 29.85
	18-Oct-00 09:23:00	100.01	192.0	192.5	174.95	111.03	66.09 29.85
	18-Oct-00 09:24:00	99.79	192.0	192.5	174.95	110.55	66.01 29.85
	18-Oct-00 09:25:00	99.74	191.6	192.5	174.95	110.86	65.95 29.85
	18-Oct-00 09:26:00	99.57	191.9	192.5	174.95	110.77	66.50 29.85
	18-Oct-00 09:27:00	99.62	191.7	192.5	174.95	110.64	66.19 29.85
	18-Oct-00 09:28:00	99.84	191.6	192.5	174.95	109.46	66.37 29.85
	18-Oct-00 09:29:00	99.97	191.6	192.5	174.95	110.03	66.37 29.85
	18-Oct-00 09:30:00	99.71	191.8	192.5	174.95	110.36	66.55 29.85
	18-Oct-00 09:31:00	99.95	191.6	192.5	174.95	110.77	66.96 29.85
	18-Oct-00 09:32:00	100.08	191.7	192.5	174.95	110.58	66.68 29.85
	18-Oct-00 09:33:00	100.05	191.9	192.5	174.95	111.03	67.17 29.85
	18-Oct-00 09:34:00	99.95	191.8	192.5	174.95	111.80	67.60 29.85
	18-Oct-00 09:35:00	99.91	191.8	192.5	174.95	111.57	67.62 29.85

## POLK POWER STATION UNIT 1 BACT #7

18-Oct-00 09:36:00	100.09	191.8	192.5	174.95	111.26	67.55	29.85
18-Oct-00 09:37:00	100.03	191.8	192.5	174.95	111.21	67.59	29.85
18-Oct-00 09:38:00	99.98	191.7	192.5	174.95	111.23	67.61	29.85
18-Oct-00 09:39:00	99.74	191.6	192.4	174.95	110.32	67.90	29.85
18-Oct-00 09:40:00	100.15	191.7	192.4	174.95	110.81	68.11	29.85
18-Oct-00 09:41:00	99.98	191.7	192.4	174.95	110.84	68.27	29.85
18-Oct-00 09:42:00	99.87	191.7	192.4	174.95	110.62	68.66	29.85
18-Oct-00 09:43:00	100.09	191.7	192.4	174.95	110.62	68.77	29.85
18-Oct-00 09:44:00	99.97	191.7	192.4	174.95	111.22	68.47	29.85
18-Oct-00 09:45:00	100.02	191.7	192.4	174.95	111.71	68.65	29.85
18-Oct-00 09:46:00	100.08	191.7	192.4	174.95	111.66	68.91	29.85
18-Oct-00 09:47:00	100.05	191.8	192.4	174.95	111.78	68.76	29.85
18-Oct-00 09:48:00	100.24	192.0	192.4	174.95	111.86	68.94	29.84
18-Oct-00 09:49:00	99.82	191.7	192.4	174.95	111.48	69.40	29.84
18-Oct-00 09:50:00	99.93	191.7	192.4	174.95	110.81	69.63	29.84
18-Oct-00 09:51:00	100.03	191.8	192.4	174.95	110.40	69.63	29.84
18-Oct-00 09:52:00	99.94	191.6	192.4	174.95	110.03	69.91	29.84
18-Oct-00 09:53:00	99.89	191.8	192.4	174.95	110.79	70.23	29.84
18-Oct-00 09:54:00	100.12	192.0	192.2	174.95	111.12	70.43	29.84
18-Oct-00 09:55:00	100.24	191.9	192.2	174.95	110.84	70.57	29.84
18-Oct-00 09:56:00	100.11	191.8	192.2	174.95	110.76	70.70	29.84
18-Oct-00 09:57:00	99.75	191.8	192.3	174.95	111.22	70.80	29.84
18-Oct-00 09:58:00	100.03	192.0	192.4	174.95	112.19	71.08	29.84
18-Oct-00 09:59:00	99.98	191.6	192.5	174.95	111.83	71.33	29.84
18-Oct-00 10:00:00	99.86	191.7	192.5	174.95	111.66	71.40	29.84
18-Oct-00 10:01:00	99.77	192.0	192.5	174.95	111.48	71.28	29.84
18-Oct-00 10:02:00	99.80	191.6	192.5	174.95	110.98	71.57	29.84
18-Oct-00 10:03:00	100.02	191.7	192.4	174.95	110.89	71.76	29.84
18-Oct-00 10:04:00	99.88	192.0	192.4	174.95	111.12	71.63	29.84
18-Oct-00 10:05:00	99.92	191.7	192.4	174.95	111.27	71.54	29.84
18-Oct-00 10:06:00	100.22	191.3	192.4	174.95	111.34	71.68	29.84
18-Oct-00 10:07:00	100.06	191.8	192.6	174.95	111.25	71.62	29.84
18-Oct-00 10:08:00	100.17	191.8	192.4	174.95	111.22	71.06	29.84
18-Oct-00 10:09:00	100.10	191.9	192.3	174.95	111.47	71.34	29.84
18-Oct-00 10:10:00	99.96	191.6	192.2	174.95	112.06	71.70	29.84
18-Oct-00 10:11:00	100.00	191.7	192.2	174.95	112.02	72.18	29.84
18-Oct-00 10:12:00	100.14	191.8	192.2	174.95	111.64	72.66	29.84
18-Oct-00 10:13:00	99.99	191.9	192.2	174.95	111.77	73.15	29.84
18-Oct-00 10:14:00	100.03	191.9	192.2	174.95	111.63	72.93	29.84

## POLK POWER STATION UNIT 1 BACT #7

18-Oct-00 10:15:00	100.01	191.8	192.2	174.95	111.50	73.08	29.84
18-Oct-00 10:16:00	99.85	191.7	192.2	174.95	111.00	73.06	29.84
18-Oct-00 10:17:00	99.91	191.6	192.2	174.95	111.00	73.00	29.84
18-Oct-00 10:18:00	100.01	191.8	192.2	174.95	111.30	72.94	29.84
18-Oct-00 10:19:00	99.83	191.8	192.2	174.95	111.08	72.88	29.84
18-Oct-00 10:20:00	99.80	191.7	192.2	174.95	111.46	72.84	29.84
18-Oct-00 10:21:00	100.08	191.8	192.2	174.95	111.34	73.00	29.84
18-Oct-00 10:22:00	100.14	191.8	192.2	174.95	111.17	73.20	29.84
18-Oct-00 10:23:00	100.01	191.8	192.2	174.95	111.54	73.37	29.84
18-Oct-00 10:24:00	99.93	191.7	192.2	174.95	111.90	73.37	29.84
18-Oct-00 10:25:00	99.92	191.6	192.2	174.95	111.59	73.28	29.84
18-Oct-00 10:26:00	100.06	191.8	192.2	174.95	112.13	73.29	29.84
18-Oct-00 10:27:00	100.05	191.9	192.2	174.95	111.83	73.50	29.84
18-Oct-00 10:28:00	100.12	191.7	192.2	174.95	111.85	73.63	29.84
18-Oct-00 10:29:00	99.83	191.6	192.2	174.95	111.81	73.78	29.84
18-Oct-00 10:30:00	99.95	191.5	192.2	174.95	110.98	74.22	29.84
18-Oct-00 10:31:00	99.99	191.5	192.1	174.95	110.93	74.17	29.84
18-Oct-00 10:32:00	99.99	191.7	192.1	174.95	111.39	74.14	29.84
18-Oct-00 10:33:00	99.93	191.8	192.1	174.95	111.61	74.24	29.84
18-Oct-00 10:34:00	99.80	191.6	192.1	174.95	111.60	74.34	29.84
18-Oct-00 10:35:00	99.98	191.6	192.1	174.95	111.02	74.76	29.84
18-Oct-00 10:36:00	100.05	191.8	192.1	174.95	111.68	74.85	29.84
18-Oct-00 10:37:00	99.90	191.7	192.2	174.95	111.61	75.00	29.84
18-Oct-00 10:38:00	99.77	192.1	192.2	174.95	112.00	75.00	29.84
18-Oct-00 10:39:00	99.90	191.7	192.3	174.95	112.43	75.00	29.84
18-Oct-00 10:40:00	100.06	191.8	192.3	174.95	112.35	74.69	29.84
18-Oct-00 10:41:00	99.95	192.1	192.3	174.95	111.79	74.69	29.84
18-Oct-00 10:42:00	99.77	191.9	192.3	174.95	112.05	74.69	29.84
18-Oct-00 10:43:00	99.99	191.8	192.3	174.95	110.74	74.69	29.84
18-Oct-00 10:44:00	99.94	191.8	192.3	174.95	111.11	74.69	29.84
18-Oct-00 10:45:00	100.00	191.8	192.3	174.95	111.34	74.92	29.84
18-Oct-00 10:46:00	99.97	191.8	192.3	174.95	111.53	74.79	29.84
18-Oct-00 10:47:00	100.11	191.8	192.3	174.95	111.57	75.08	29.84
18-Oct-00 10:48:00	99.93	191.6	192.3	174.95	111.87	75.09	29.84
18-Oct-00 10:49:00	99.92	191.5	192.3	174.95	112.63	75.17	29.84
18-Oct-00 10:50:00	99.89	191.6	192.3	174.95	112.21	75.29	29.84
18-Oct-00 10:51:00	99.84	192.0	192.3	174.95	111.72	75.41	29.84
18-Oct-00 10:52:00	100.06	192.0	192.3	174.95	111.57	75.53	29.84
18-Oct-00 10:53:00	99.92	191.7	192.3	174.95	112.11	75.53	29.84

## POLK POWER STATION UNIT 1 BACT #7

18-Oct-00 10:54:00	100.03	191.8	192.3	174.95	111.99	75.37	29.84
18-Oct-00 10:55:00	100.43	191.7	192.3	174.95	111.68	75.50	29.84
18-Oct-00 10:56:00	100.45	191.9	192.3	174.95	111.59	75.73	29.84
18-Oct-00 10:57:00	100.35	192.0	192.3	174.95	111.98	76.18	29.84
18-Oct-00 10:58:00	100.48	191.6	192.3	174.95	112.35	76.27	29.84
18-Oct-00 10:59:00	100.44	191.8	192.3	174.95	112.37	75.55	29.84
18-Oct-00 11:00:00	100.58	191.7	192.3	174.95	112.68	76.18	29.84
18-Oct-00 11:01:00	100.29	191.5	192.3	174.95	113.11	76.76	29.84
18-Oct-00 11:02:00	100.37	191.7	192.4	174.95	113.39	76.69	29.84
18-Oct-00 11:03:00	100.62	191.8	192.4	174.95	112.90	77.00	29.84
18-Oct-00 11:04:00	100.40	191.8	192.4	174.95	113.28	77.11	29.84
18-Oct-00 11:05:00	100.46	191.8	192.4	174.95	113.03	77.07	29.84
18-Oct-00 11:06:00	100.50	191.8	192.4	174.95	112.09	76.28	29.84
18-Oct-00 11:07:00	100.34	191.8	192.4	174.95	112.14	76.20	29.84
18-Oct-00 11:08:00	100.54	191.8	192.4	174.95	111.87	76.75	29.84
18-Oct-00 11:09:00	100.54	191.8	192.4	174.95	112.04	76.86	29.84
18-Oct-00 11:10:00	100.41	191.4	192.4	174.95	112.44	77.00	29.84
18-Oct-00 11:11:00	100.63	191.8	192.4	174.95	112.59	76.83	29.84
18-Oct-00 11:12:00	100.51	191.8	192.4	174.95	112.98	76.39	29.84
18-Oct-00 11:13:00	100.51	191.7	192.3	174.95	113.96	76.52	29.84
18-Oct-00 11:14:00	100.48	191.6	192.3	174.95	113.27	76.83	29.84
18-Oct-00 11:15:00	100.43	191.6	192.2	174.95	113.26	77.06	29.84
18-Oct-00 11:16:00	100.55	191.5	192.2	174.95	113.30	77.65	29.84
18-Oct-00 11:17:00	100.70	191.7	192.2	174.95	112.49	77.52	29.84
18-Oct-00 11:18:00	100.48	192.0	192.1	174.95	112.66	76.78	29.84
18-Oct-00 11:19:00	100.56	191.5	192.1	174.95	112.67	76.59	29.84
18-Oct-00 11:20:00	100.60	191.5	192.0	174.95	112.39	77.16	29.84
18-Oct-00 11:21:00	100.59	191.6	192.0	174.95	112.80	77.34	29.84
18-Oct-00 11:22:00	100.62	191.8	192.2	174.95	112.97	76.98	29.84
18-Oct-00 11:23:00	100.56	192.1	192.5	174.95	113.10	76.69	29.84
18-Oct-00 11:24:00	100.53	191.6	192.5	174.95	113.07	77.34	29.84
18-Oct-00 11:25:00	100.73	191.7	192.4	174.95	113.02	77.52	29.84
18-Oct-00 11:26:00	100.62	191.9	192.4	174.95	112.54	77.07	29.84
18-Oct-00 11:27:00	100.53	192.1	192.4	174.95	113.24	76.96	29.84
18-Oct-00 11:28:00	100.48	192.2	192.3	174.95	113.38	77.12	29.84
18-Oct-00 11:29:00	100.55	191.8	192.2	174.95	113.42	77.27	29.84
18-Oct-00 11:30:00	100.39	191.7	192.1	174.95	112.73	77.42	29.84
18-Oct-00 11:31:00	100.51	191.7	192.4	174.95	113.22	77.49	29.84
18-Oct-00 11:32:00	100.60	191.8	192.4	174.95	113.08	77.37	29.84

## POLK POWER STATION UNIT 1 BACT #7

18-Oct-00 11:33:00	100.59	191.6	192.2	174.95	113.14	77.60	29.83
18-Oct-00 11:34:00	100.62	191.8	192.2	174.95	113.31	78.06	29.83
18-Oct-00 11:35:00	100.67	191.9	192.4	174.95	113.36	77.91	29.83
18-Oct-00 11:36:00	100.61	191.6	192.4	174.95	112.87	77.93	29.83
18-Oct-00 11:37:00	100.53	191.6	192.2	174.95	112.15	78.01	29.83
18-Oct-00 11:38:00	100.69	191.8	192.1	174.95	112.89	78.14	29.83
18-Oct-00 11:39:00	100.77	191.9	192.1	174.95	112.95	78.33	29.83
18-Oct-00 11:40:00	100.70	192.0	192.1	174.95	113.08	78.09	29.83
18-Oct-00 11:41:00	100.50	191.9	192.1	174.95	113.02	77.73	29.83
18-Oct-00 11:42:00	100.61	191.8	192.1	174.95	113.67	77.60	29.83
18-Oct-00 11:43:00	100.37	192.0	192.1	174.95	113.17	78.00	29.83
18-Oct-00 11:44:00	100.27	192.3	192.1	174.95	112.87	77.93	29.83
18-Oct-00 11:45:00	100.21	191.8	192.1	174.95	113.26	78.04	29.83
18-Oct-00 11:46:00	100.54	191.5	192.1	174.95	113.44	78.63	29.83
18-Oct-00 11:47:00	100.44	191.7	192.1	174.95	113.47	78.39	29.83
18-Oct-00 11:48:00	100.46	191.7	192.1	174.95	113.16	78.08	29.83
18-Oct-00 11:49:00	100.59	191.7	192.1	174.95	111.99	77.95	29.83
18-Oct-00 11:50:00	100.45	191.7	192.1	174.95	112.33	78.39	29.83
18-Oct-00 11:51:00	100.58	191.7	192.1	174.95	112.77	78.44	29.83
18-Oct-00 11:52:00	100.57	191.6	192.1	174.95	112.63	78.52	29.83
18-Oct-00 11:53:00	100.48	191.7	192.2	174.95	112.29	78.10	29.83
18-Oct-00 11:54:00	100.51	191.9	192.4	174.95	112.85	77.53	29.83
18-Oct-00 11:55:00	100.59	191.7	192.4	174.95	113.70	78.05	29.83
18-Oct-00 11:56:00	100.59	191.9	192.4	174.95	113.33	78.51	29.83
18-Oct-00 11:57:00	100.45	192.0	192.4	174.95	113.41	78.39	29.83
18-Oct-00 11:58:00	100.52	191.7	192.4	174.95	113.33	77.65	29.83
18-Oct-00 11:59:00	100.52	191.7	192.4	174.95	112.71	77.58	29.83
18-Oct-00 12:00:00	100.51	191.5	192.4	174.95	113.21	78.27	29.83
18-Oct-00 12:01:00	100.49	191.6	192.4	174.95	113.14	78.44	29.83
18-Oct-00 12:02:00	100.35	191.7	192.4	174.95	112.16	78.40	29.83
18-Oct-00 12:03:00	100.59	191.6	192.4	174.95	112.15	77.96	29.83
18-Oct-00 12:04:00	100.58	191.8	192.4	174.95	113.09	77.94	29.83
18-Oct-00 12:05:00	100.49	191.9	192.4	174.95	112.61	78.07	29.83
18-Oct-00 12:06:00	100.36	191.8	192.4	174.95	112.96	77.99	29.83
18-Oct-00 12:07:00	100.49	191.7	192.4	174.95	112.82	78.43	29.83
18-Oct-00 12:08:00	100.57	192.0	192.4	174.95	112.99	78.84	29.83
18-Oct-00 12:09:00	100.57	191.8	192.4	174.95	113.24	79.24	29.83
18-Oct-00 12:10:00	100.46	191.9	192.4	174.95	113.34	79.06	29.83
18-Oct-00 12:11:00	100.49	191.8	192.4	174.95	113.43	78.61	29.83



## POLK POWER STATION UNIT 1 BACT #7

18-Oct-00 12:12:00	100.41	192.0	192.4	174.95	113.00	78.48	29.83
18-Oct-00 12:13:00	100.63	191.9	192.4	174.95	113.34	78.54	29.83
18-Oct-00 12:14:00	100.72	191.7	192.4	174.95	113.44	78.60	29.83
18-Oct-00 12:15:00	100.70	191.5	192.4	174.95	112.94	78.66	29.83
18-Oct-00 12:16:00	100.54	191.8	192.4	174.95	113.57	78.75	29.83
18-Oct-00 12:17:00	100.51	192.0	192.4	174.95	112.88	78.89	29.83
18-Oct-00 12:18:00	100.41	191.8	192.2	174.95	113.03	78.92	29.83
18-Oct-00 12:19:00	100.17	192.2	192.1	174.95	112.74	79.22	29.83
18-Oct-00 12:20:00	100.44	191.9	192.2	174.95	112.49	79.22	29.83
18-Oct-00 12:21:00	100.29	191.7	192.2	174.95	112.67	79.23	29.83
18-Oct-00 12:22:00	100.44	191.7	192.3	174.95	112.72	79.22	29.83
18-Oct-00 12:23:00	100.55	191.8	192.3	174.95	112.66	79.23	29.83
18-Oct-00 12:24:00	100.53	191.8	192.3	174.95	113.08	78.93	29.83
18-Oct-00 12:25:00	100.67	191.8	192.2	174.95	112.87	78.91	29.83
18-Oct-00 12:26:00	100.63	191.7	192.1	174.95	112.80	78.87	29.83
18-Oct-00 12:27:00	100.65	191.8	192.1	174.95	113.00	79.29	29.83
18-Oct-00 12:28:00	100.60	191.7	192.2	174.95	113.67	79.24	29.83
18-Oct-00 12:29:00	100.64	192.0	192.2	174.95	113.79	79.14	29.83
18-Oct-00 12:30:00	100.58	191.5	192.2	174.95	113.95	79.16	29.83
18-Oct-00 12:31:00	100.47	191.6	192.2	174.95	113.48	79.57	29.83
18-Oct-00 12:32:00	100.55	191.8	192.3	174.95	113.25	79.49	29.83
18-Oct-00 12:33:00	100.65	191.5	192.3	174.95	112.63	79.45	29.83
18-Oct-00 12:34:00	100.59	191.8	192.3	174.95	112.97	78.98	29.83
18-Oct-00 12:35:00	100.72	191.7	192.3	174.95	113.09	79.31	29.83
18-Oct-00 12:36:00	100.65	191.9	192.4	174.95	112.94	79.53	29.83
18-Oct-00 12:37:00	100.65	191.7	192.4	174.95	112.81	79.43	29.83
18-Oct-00 12:38:00	100.67	191.6	192.4	174.95	113.56	80.19	29.83
18-Oct-00 12:39:00	100.63	191.8	192.4	174.95	113.23	80.98	29.83
18-Oct-00 12:40:00	100.63	192.0	192.4	174.95	114.01	80.18	29.83
18-Oct-00 12:41:00	100.79	191.9	192.5	174.95	113.97	79.78	29.83
18-Oct-00 12:42:00	100.87	191.7	192.5	174.95	113.91	79.58	29.83
18-Oct-00 12:43:00	100.59	191.6	192.4	174.95	113.44	79.52	29.83
18-Oct-00 12:44:00	100.55	191.7	192.3	174.95	113.45	80.19	29.83
18-Oct-00 12:45:00	100.70	191.7	192.3	174.95	113.15	80.20	29.83
18-Oct-00 12:46:00	100.77	191.8	192.3	174.95	112.80	79.61	29.83
18-Oct-00 12:47:00	100.54	191.6	192.4	174.95	112.69	79.97	29.83
18-Oct-00 12:48:00	100.50	191.9	192.4	174.95	113.30	79.54	29.83
18-Oct-00 12:49:00	100.69	192.0	192.5	174.95	112.77	79.73	29.83
18-Oct-00 12:50:00	100.50	191.8	192.3	174.95	113.08	80.38	29.83

## POLK POWER STATION UNIT 1 BACT #7

18-Oct-00 12:51:00	100.72	191.8	192.2	174.95	112.85	80.57	29.83
18-Oct-00 12:52:00	100.54	191.6	192.2	174.95	113.71	80.01	29.83
18-Oct-00 12:53:00	100.68	191.8	192.2	174.95	113.48	80.22	29.83
18-Oct-00 12:54:00	100.84	192.1	192.2	174.95	113.61	80.09	29.83
18-Oct-00 12:55:00	100.75	191.9	192.3	174.95	113.95	80.37	29.83
18-Oct-00 12:56:00	100.69	191.9	192.3	174.95	113.80	80.73	29.83
18-Oct-00 12:57:00	100.70	191.9	192.4	174.95	113.87	80.62	29.83
18-Oct-00 12:58:00	100.72	192.1	192.3	174.95	113.91	80.61	29.83
18-Oct-00 12:59:00	100.82	191.9	192.3	174.95	113.87	80.20	29.83
18-Oct-00 13:00:00	100.61	191.8	192.3	174.95	113.60	80.05	29.83
18-Oct-00 13:01:00	100.52	191.7	192.3	174.95	112.91	80.13	29.83
18-Oct-00 13:02:00	100.71	191.7	192.3	174.95	113.12	80.20	29.83
18-Oct-00 13:03:00	100.89	191.8	192.3	174.95	113.00	80.31	29.83
18-Oct-00 13:04:00	100.85	191.7	192.3	174.95	113.27	80.50	29.83
18-Oct-00 13:05:00	100.70	191.7	192.3	174.95	113.54	80.29	29.83
18-Oct-00 13:06:00	100.84	192.0	192.3	174.95	113.81	80.09	29.83
18-Oct-00 13:07:00	100.40	192.1	192.3	174.95	113.83	80.33	29.83
18-Oct-00 13:08:00	100.66	191.7	192.3	174.95	113.70	79.99	29.83
18-Oct-00 13:09:00	100.56	191.4	192.4	174.95	113.81	79.92	29.83
18-Oct-00 13:10:00	100.55	191.8	192.4	174.95	113.42	79.77	29.83
18-Oct-00 13:11:00	100.68	191.9	192.4	174.95	113.50	79.41	29.83
18-Oct-00 13:12:00	100.63	191.9	192.4	174.95	113.39	79.63	29.83
18-Oct-00 13:13:00	100.75	191.9	192.4	174.95	113.32	80.28	29.83
18-Oct-00 13:14:00	100.66	192.1	192.4	174.95	113.14	80.71	29.83
18-Oct-00 13:15:00	100.69	191.8	192.3	174.95	112.95	80.70	29.83
18-Oct-00 13:16:00	100.64	192.0	192.3	174.95	112.85	80.54	29.83
18-Oct-00 13:17:00	100.62	192.1	192.2	174.95	112.96	80.61	29.83
18-Oct-00 13:18:00	100.66	192.1	192.3	174.95	113.08	80.42	29.82
18-Oct-00 13:19:00	100.56	192.0	192.5	174.95	113.20	80.12	29.82
18-Oct-00 13:20:00	100.72	192.0	192.5	174.95	113.37	79.89	29.82
18-Oct-00 13:21:00	100.64	191.8	192.4	174.95	113.67	80.03	29.82
18-Oct-00 13:22:00	100.52	191.7	192.4	174.95	113.78	79.95	29.82
18-Oct-00 13:23:00	100.66	191.9	192.4	174.95	114.16	80.22	29.82
18-Oct-00 13:24:00	100.71	191.7	192.4	174.95	113.66	80.12	29.82
18-Oct-00 13:25:00	100.53	191.7	192.4	174.95	113.36	80.55	29.82
18-Oct-00 13:26:00	100.64	191.8	192.4	174.95	113.41	81.05	29.82
18-Oct-00 13:27:00	100.65	191.7	192.4	174.95	113.25	80.99	29.82
18-Oct-00 13:28:00	100.60	191.8	192.3	174.95	113.59	81.11	29.82
18-Oct-00 13:29:00	100.78	191.7	192.1	174.95	112.95	81.02	29.82

POLK POWER STATION UNIT 1 BACT #7

18-Oct-00 13:30:00	100.99	191.9	192.4	174.95	112.83	80.77	29.82
18-Oct-00 13:31:00	100.90	192.1	192.5	174.95	112.93	80.73	29.82
18-Oct-00 13:32:00	100.70	191.8	192.5	174.95	113.48	80.99	29.82
18-Oct-00 13:33:00	100.61	191.7	192.5	174.95	113.77	80.78	29.82
18-Oct-00 13:34:00	100.60	192.0	192.5	174.95	113.94	80.71	29.82
18-Oct-00 13:35:00	100.61	192.1	192.5	174.95	114.31	81.13	29.82
18-Oct-00 13:36:00	100.63	191.8	192.5	174.95	113.77	81.01	29.82
18-Oct-00 13:37:00	100.62	191.8	192.1	174.95	113.46	81.14	29.82
18-Oct-00 13:38:00	100.82	191.6	192.4	174.95	113.36	80.73	29.82
18-Oct-00 13:39:00	100.67	191.7	192.3	174.95	113.08	80.67	29.82
18-Oct-00 13:40:00	100.44	191.7	192.3	174.95	113.28	81.06	29.82
18-Oct-00 13:41:00	100.63	191.6	192.2	174.95	113.05	80.47	29.82
18-Oct-00 13:42:00	100.62	192.1	192.2	174.95	112.38	80.11	29.82
18-Oct-00 13:43:00	100.60	192.1	192.2	174.95	113.08	80.63	29.82
18-Oct-00 13:44:00	100.70	191.9	192.2	174.95	113.02	81.35	29.82
18-Oct-00 13:45:00	100.65	191.6	192.2	174.95	113.34	81.20	29.82
18-Oct-00 13:46:00	100.52	191.9	192.2	174.95	113.68	80.67	29.82
18-Oct-00 13:47:00	100.62	191.7	192.2	174.95	113.25	80.43	29.82
18-Oct-00 13:48:00	100.48	191.8	192.2	174.95	113.74	80.64	29.82
18-Oct-00 13:49:00	100.36	191.9	192.2	174.95	113.50	80.78	29.82
18-Oct-00 13:50:00	100.53	191.6	192.2	174.95	113.56	80.80	29.82
18-Oct-00 13:51:00	100.48	191.6	192.2	174.95	113.45	80.59	29.82
18-Oct-00 13:52:00	100.71	191.5	192.2	174.95	113.19	80.39	29.82
18-Oct-00 13:53:00	100.47	191.4	192.2	174.95	113.21	80.60	29.82
18-Oct-00 13:54:00	100.66	191.2	192.2	174.95	113.19	81.03	29.82
18-Oct-00 13:55:00	100.66	191.5	192.2	174.95	112.21	80.85	29.82
18-Oct-00 13:56:00	100.61	191.7	192.3	174.95	112.87	80.69	29.82
18-Oct-00 13:57:00	100.64	191.8	192.3	174.95	113.53	80.95	29.82
18-Oct-00 13:58:00	100.56	191.7	192.3	174.95	113.73	81.25	29.82
18-Oct-00 13:59:00	100.73	191.8	192.3	174.95	113.62	81.56	29.82
18-Oct-00 14:00:00	100.69	191.5	192.3	174.95	113.42	81.72	29.82
18-Oct-00 14:01:00	100.98	191.7	192.3	174.95	113.32	81.42	29.82
18-Oct-00 14:02:00	100.75	191.6	192.3	174.95	113.75	81.53	29.82
18-Oct-00 14:03:00	100.88	191.9	192.3	174.95	114.09	81.90	29.82
18-Oct-00 14:04:00	100.82	191.8	192.3	174.95	114.11	81.56	29.82
18-Oct-00 14:05:00	100.68	191.7	192.3	174.95	113.73	81.28	29.82
18-Oct-00 14:06:00	100.75	191.7	192.3	174.95	113.36	81.38	29.82
18-Oct-00 14:07:00	100.84	191.8	192.3	174.95	112.82	81.73	29.82
18-Oct-00 14:08:00	100.82	191.8	192.3	174.95	113.46	81.87	29.82

## POLK POWER STATION UNIT 1 BACT #7

18-Oct-00 14:09:00	100.57	192.1	192.3	174.95	114.09	82.08	29.82
18-Oct-00 14:10:00	100.70	191.8	192.3	174.95	113.39	82.29	29.82
18-Oct-00 14:11:00	100.61	191.9	192.4	174.95	113.21	81.89	29.82
18-Oct-00 14:12:00	100.88	192.0	192.4	174.95	113.58	82.04	29.82
18-Oct-00 14:13:00	100.79	192.0	192.4	174.95	113.74	82.32	29.82
18-Oct-00 14:14:00	100.63	191.9	192.4	174.95	113.70	81.90	29.82
18-Oct-00 14:15:00	100.70	192.0	192.4	174.95	113.54	82.21	29.82
18-Oct-00 14:16:00	100.62	191.8	192.3	174.95	112.74	82.01	29.82
18-Oct-00 14:17:00	100.44	191.6	192.3	174.95	112.90	81.86	29.82
18-Oct-00 14:18:00	100.72	191.7	192.3	174.95	113.51	82.21	29.82
18-Oct-00 14:19:00	100.59	191.8	192.3	174.95	113.23	81.36	29.82
18-Oct-00 14:20:00	100.66	191.7	192.3	174.95	113.00	81.34	29.82
18-Oct-00 14:21:00	100.62	191.5	192.3	174.95	113.07	81.67	29.82
18-Oct-00 14:22:00	100.59	191.9	192.3	174.95	113.54	81.04	29.82
18-Oct-00 14:23:00	100.51	192.0	192.3	174.95	113.70	81.01	29.82
18-Oct-00 14:24:00	100.42	192.0	192.3	174.95	113.82	81.46	29.82
18-Oct-00 14:25:00	100.52	191.6	192.3	174.95	113.45	81.41	29.82
18-Oct-00 14:26:00	100.48	191.6	192.3	174.95	113.49	81.15	29.82
18-Oct-00 14:27:00	100.58	191.7	192.3	174.95	114.09	81.03	29.82
18-Oct-00 14:28:00	100.55	192.0	192.3	174.95	113.51	81.13	29.82
18-Oct-00 14:29:00	100.87	191.9	192.2	174.95	113.82	81.21	29.82
18-Oct-00 14:30:00	100.84	191.7	192.3	174.95	113.45	80.98	29.82
18-Oct-00 14:31:00	100.71	191.9	192.3	174.95	112.53	80.73	29.82
18-Oct-00 14:32:00	100.82	192.0	192.3	174.95	112.83	81.00	29.82
18-Oct-00 14:33:00	100.73	191.8	192.3	174.95	113.25	80.81	29.82
18-Oct-00 14:34:00	100.69	191.9	192.3	174.95	113.53	80.69	29.82
18-Oct-00 14:35:00	100.69	191.9	192.4	174.95	113.04	81.08	29.82
18-Oct-00 14:36:00	100.77	191.9	192.4	174.95	113.21	81.25	29.82
18-Oct-00 14:37:00	100.64	191.9	192.3	174.95	113.43	81.38	29.82
18-Oct-00 14:38:00	100.61	191.8	192.3	174.95	113.79	81.98	29.82
18-Oct-00 14:39:00	100.52	191.6	192.3	174.95	113.46	82.12	29.82
18-Oct-00 14:40:00	100.48	191.9	192.6	174.95	113.52	81.59	29.82
18-Oct-00 14:41:00	100.62	191.7	192.6	174.95	113.68	81.06	29.82
18-Oct-00 14:42:00	100.52	191.6	192.5	174.95	113.24	81.32	29.82
18-Oct-00 14:43:00	100.57	191.8	192.5	174.95	113.74	81.47	29.82
18-Oct-00 14:44:00	100.76	192.0	192.4	174.95	112.74	81.34	29.82
18-Oct-00 14:45:00	100.82	192.0	192.4	174.95	113.26	81.39	29.82
18-Oct-00 14:46:00	100.81	191.8	192.3	174.95	113.54	81.42	29.82
18-Oct-00 14:47:00	100.57	191.8	192.3	174.95	113.19	81.73	29.82

### POLK POWER STATION UNIT 1 BACT #7

18-Oct-00 14:48:00	100.59	191.8	192.3	174.95	112.95	81.55	29.82
18-Oct-00 14:49:00	100.53	191.8	192.3	174.95	113.35	81.56	29.82
18-Oct-00 14:50:00	100.75	191.8	192.3	174.95	113.56	81.70	29.82
18-Oct-00 14:51:00	100.78	191.8	192.3	174.95	113.59	82.11	29.82
18-Oct-00 14:52:00	100.58	191.9	192.3	174.95	114.09	81.96	29.82
18-Oct-00 14:53:00	100.31	191.7	192.3	174.95	114.03	82.19	29.82
18-Oct-00 14:54:00	100.40	191.8	192.3	174.95	113.32	81.46	29.82
18-Oct-00 14:55:00	100.59	191.8	192.3	174.95	113.77	81.59	29.82
18-Oct-00 14:56:00	100.50	191.9	192.4	174.95	113.43	81.77	29.82
18-Oct-00 14:57:00	100.47	192.0	192.3	174.95	113.14	82.10	29.82
18-Oct-00 14:58:00	100.52	191.5	192.0	174.95	112.49	82.49	29.82
18-Oct-00 14:59:00	100.75	191.5	192.0	174.95	113.17	82.71	29.82
<b>Total Average</b>	<b>100.39</b>	<b>191.78</b>	<b>192.31</b>	<b>174.95</b>	<b>112.58</b>	<b>76.60</b>	<b>29.83</b>

KW1  
BACT # 7

Record#	DATE	TIME	PC1GEN11	PC1CO212	PC1NOX13	PC1NOX14	PC1PRS15	PC1TMP16
1	10/17/2000	112000	191.196	7.739	30.722	0.109	29.894	282.885
2	10/17/2000	112100	191.379	7.742	30.738	0.110	29.892	282.839
3	10/17/2000	112200	191.426	7.747	30.404	0.108	29.890	283.609
4	10/17/2000	112300	191.279	7.744	30.057	0.107	29.893	284.881
5	10/17/2000	112400	191.317	7.753	29.238	0.104	29.890	284.514
6	10/17/2000	112500	191.404	7.758	29.103	0.103	29.893	281.831
7	10/17/2000	112600	191.076	7.774	29.148	0.103	29.891	281.616
8	10/17/2000	112700	191.085	7.769	29.157	0.104	29.893	281.502
9	10/17/2000	112800	191.100	7.777	29.162	0.103	29.892	281.563
10	10/17/2000	112900	190.877	7.789	29.083	0.103	29.890	281.934
11	10/17/2000	113000	190.799	7.782	29.046	0.103	29.890	282.047
12	10/17/2000	113100	190.904	7.781	29.309	0.104	29.890	282.132
13	10/17/2000	113200	191.244	7.776	29.517	0.105	29.891	282.330
14	10/17/2000	113300	191.083	7.773	29.393	0.104	29.890	282.333
15	10/17/2000	113400	190.906	7.783	29.199	0.103	29.894	281.906
16	10/17/2000	113500	190.651	7.775	29.259	0.104	29.892	281.751
17	10/17/2000	113600	190.963	7.767	29.289	0.104	29.891	280.537
18	10/17/2000	113700	191.442	7.755	29.236	0.104	29.892	279.742
19	10/17/2000	113800	191.368	7.752	29.225	0.104	29.890	280.188
20	10/17/2000	113900	191.454	7.757	29.287	0.104	29.890	280.903
21	10/17/2000	114000	191.257	7.754	29.335	0.104	29.890	280.853
22	10/17/2000	114100	191.085	7.763	29.395	0.104	29.886	282.213
23	10/17/2000	114200	191.144	7.755	29.280	0.104	29.890	282.627
24	10/17/2000	114300	191.268	7.751	29.035	0.103	29.890	281.948
25	10/17/2000	114400	191.087	7.761	29.080	0.103	29.884	281.104
26	10/17/2000	114500	191.087	7.755	29.137	0.104	29.884	281.217
27	10/17/2000	114600	191.110	7.752	29.037	0.103	29.888	283.430
28	10/17/2000	114700	191.277	7.752	29.145	0.104	29.888	283.425
29	10/17/2000	114800	191.048	7.752	29.080	0.103	29.889	281.504
30	10/17/2000	114900	190.685	7.752	28.960	0.103	29.887	279.901
31	10/17/2000	115000	191.282	7.757	28.945	0.103	29.889	280.616
32	10/17/2000	115100	191.083	7.762	29.047	0.103	29.890	281.730
33	10/17/2000	115200	191.281	7.764	28.999	0.103	29.888	281.403
34	10/17/2000	115300	190.866	7.770	29.101	0.103	29.885	280.786
35	10/17/2000	115400	191.094	7.770	29.097	0.103	29.887	280.739
36	10/17/2000	115500	191.531	7.774	29.310	0.104	29.886	280.917
37	10/17/2000	115600	191.306	7.754	29.335	0.104	29.885	281.204
38	10/17/2000	115700	191.327	7.753	29.266	0.104	29.883	281.239
39	10/17/2000	115800	191.503	7.750	29.118	0.104	29.884	281.812
40	10/17/2000	115900	191.122	7.760	29.001	0.103	29.885	281.978
41	10/17/2000	120000	190.875	7.760	29.240	0.104	29.883	281.578
42	10/17/2000	120100	190.872	7.755	29.330	0.104	29.883	280.991
43	10/17/2000	120200	191.081	7.746	29.453	0.105	29.883	281.125
44	10/17/2000	120300	190.686	7.750	29.388	0.105	29.885	281.847
45	10/17/2000	120400	191.009	7.755	29.325	0.104	29.881	281.686
46	10/17/2000	120500	191.446	7.746	29.096	0.104	29.881	280.715
47	10/17/2000	120600	191.162	7.748	29.182	0.104	29.881	280.477
48	10/17/2000	120700	191.083	7.752	29.066	0.103	29.881	281.064
49	10/17/2000	120800	190.935	7.762	29.012	0.103	29.881	281.765
50	10/17/2000	120900	191.027	7.766	29.134	0.103	29.877	281.876
51	10/17/2000	121000	191.087	7.745	29.248	0.104	29.875	281.589
52	10/17/2000	121100	190.948	7.749	29.612	0.105	29.879	281.578
53	10/17/2000	121200	190.717	7.747	29.785	0.106	29.877	281.184
54	10/17/2000	121300	191.069	7.756	29.695	0.106	29.879	281.132
55	10/17/2000	121400	191.308	7.757	29.801	0.106	29.880	281.362
56	10/17/2000	121500	191.294	7.754	29.787	0.106	29.877	281.606
57	10/17/2000	121600	191.164	7.746	29.558	0.105	29.875	281.867
58	10/17/2000	121700	191.206	7.742	29.366	0.105	29.872	282.491

59	10/17/2000	121800	191.064	7.522	29.175	0.107	30.058	282.371	
60	10/17/2000	121900	191.097	4.731	17.070	0.100	29.875	280.816	
61	/	/							
62	/	/	AVE	191.125	7.704	29.127	0.104	29.889	281.680

KW  
BACT # 7

Record#	DATE	TIME	PC1GEN11	PC1CO212	PC1NOX13	PC1NOX14	PC1PRS15	PC1TMP16
1	10/17/2000	123000	191.285	7.640	28.610	0.103	29.873	282.377
2	10/17/2000	123100	191.247	7.655	28.737	0.104	29.871	282.229
3	10/17/2000	123200	191.092	7.671	28.772	0.103	29.869	282.150
4	10/17/2000	123300	191.071	7.684	29.040	0.104	29.872	281.267
5	10/17/2000	123400	191.018	7.681	28.814	0.103	29.869	281.124
6	10/17/2000	123500	191.412	7.689	28.902	0.104	29.869	281.060
7	10/17/2000	123600	190.917	7.687	29.033	0.104	29.868	280.479
8	10/17/2000	123700	191.119	7.689	28.869	0.104	29.868	280.496
9	10/17/2000	123800	191.266	7.700	29.070	0.104	29.868	282.227
10	10/17/2000	123900	191.111	7.696	28.926	0.104	29.864	282.587
11	10/17/2000	124000	191.307	7.692	29.120	0.104	29.862	283.341
12	10/17/2000	124100	191.289	7.686	28.905	0.104	29.866	284.165
13	10/17/2000	124200	191.048	7.696	28.854	0.103	29.866	283.949
14	10/17/2000	124300	190.648	7.716	28.860	0.103	29.868	282.787
15	10/17/2000	124400	191.082	7.733	28.996	0.103	29.869	282.444
16	10/17/2000	124500	191.088	7.743	29.145	0.104	29.869	282.620
17	10/17/2000	124600	191.313	7.732	29.285	0.104	29.864	282.972
18	10/17/2000	124700	190.881	7.725	29.263	0.104	29.863	283.133
19	10/17/2000	124800	190.873	7.718	29.165	0.104	29.862	283.507
20	10/17/2000	124900	191.083	7.719	29.184	0.104	29.863	283.540
21	10/17/2000	125000	191.079	7.722	29.092	0.104	29.865	282.178
22	10/17/2000	125100	191.267	7.732	29.280	0.104	29.858	281.618
23	10/17/2000	125200	190.935	7.728	29.290	0.105	29.860	282.153
24	10/17/2000	125300	190.868	7.738	29.175	0.104	29.859	282.968
25	10/17/2000	125400	191.057	7.748	29.191	0.104	29.859	282.965
26	10/17/2000	125500	191.082	7.754	29.043	0.103	29.859	279.284
27	10/17/2000	125600	191.064	7.771	29.098	0.103	29.858	278.818
28	10/17/2000	125700	190.932	7.765	29.224	0.104	29.858	279.261
29	10/17/2000	125800	191.023	7.771	29.152	0.103	29.859	280.449
30	10/17/2000	125900	191.391	7.775	29.082	0.103	29.859	280.531
31	10/17/2000	130000	191.086	7.773	29.264	0.104	29.856	280.711
32	10/17/2000	130100	191.153	7.760	29.246	0.104	29.857	280.955
33	10/17/2000	130200	191.302	7.754	29.181	0.104	29.852	281.108
34	10/17/2000	130300	191.157	7.743	29.211	0.104	29.854	281.253
35	10/17/2000	130400	191.202	7.732	29.285	0.104	29.852	281.230
36	10/17/2000	130500	191.424	7.723	29.139	0.104	29.853	281.219
37	10/17/2000	130600	191.282	7.715	29.008	0.104	29.851	281.234
38	10/17/2000	130700	191.060	7.711	28.809	0.103	29.851	281.584
39	10/17/2000	130800	191.074	7.721	28.771	0.103	29.849	281.959
40	10/17/2000	130900	191.073	7.727	28.828	0.103	29.848	281.685
41	10/17/2000	131000	191.187	7.734	28.786	0.103	29.848	282.687
42	10/17/2000	131100	191.218	7.732	28.941	0.103	29.850	282.698
43	10/17/2000	131200	191.178	7.740	29.134	0.104	29.848	283.336
44	10/17/2000	131300	191.222	7.750	29.068	0.103	29.849	283.823
45	10/17/2000	131400	191.092	7.747	28.791	0.103	29.848	283.582
46	10/17/2000	131500	191.024	7.744	28.893	0.103	29.847	282.209
47	10/17/2000	131600	190.942	7.750	28.819	0.103	29.848	282.192
48	10/17/2000	131700	191.142	7.756	28.940	0.103	29.851	282.721
49	10/17/2000	131800	191.290	7.748	29.037	0.103	29.849	283.067
50	10/17/2000	131900	191.170	7.743	28.902	0.103	29.850	283.110
51	10/17/2000	132000	190.908	7.740	28.770	0.103	29.848	283.672
52	10/17/2000	132100	191.011	7.743	28.899	0.103	29.848	283.532
53	10/17/2000	132200	190.994	7.751	28.964	0.103	29.848	283.363
54	10/17/2000	132300	191.428	7.759	29.008	0.103	29.848	283.801
55	10/17/2000	132400	190.912	7.760	28.947	0.103	29.849	283.887
56	10/17/2000	132500	191.129	7.756	29.096	0.103	29.844	285.210
57	10/17/2000	132600	191.289	7.753	29.050	0.103	29.844	286.337
58	10/17/2000	132700	191.067	7.757	28.798	0.102	29.843	286.364



59	10/17/2000	132800	191.111	7.749	29.005	0.103	29.842	285.081	
60	10/17/2000	132900	191.488	7.746	29.274	0.104	29.842	285.015	
61	/	/							
62	/	/	AVE	191.124	7.730	29.017	0.103	29.857	282.455

Run 5  
BACT 7

Record#	DATE	TIME	PC1GEN11	PC1CO212	PC1NOX13	PC1NOX14	PC1PRS15	PC1TMP16
1	10/17/2000	133800	190.901	7.736	29.211	0.104	29.840	284.084
2	10/17/2000	133900	191.278	7.742	29.364	0.105	29.838	284.900
3	10/17/2000	134000	190.903	7.737	29.583	0.105	29.840	284.938
4	10/17/2000	134100	191.047	7.738	29.696	0.106	29.841	284.161
5	10/17/2000	134200	191.080	7.748	29.635	0.105	29.837	284.140
6	10/17/2000	134300	191.086	7.746	29.463	0.105	29.838	282.372
7	10/17/2000	134400	191.081	7.744	29.133	0.104	29.838	281.618
8	10/17/2000	134500	190.899	7.754	29.033	0.103	29.838	281.610
9	10/17/2000	134600	191.528	7.748	29.036	0.103	29.837	281.376
10	10/17/2000	134700	191.086	7.758	29.003	0.103	29.833	281.224
11	10/17/2000	134800	191.019	7.771	29.117	0.103	29.833	283.472
12	10/17/2000	134900	190.805	7.760	28.905	0.103	29.834	284.066
13	10/17/2000	135000	190.973	7.751	28.996	0.103	29.835	282.892
14	10/17/2000	135100	191.090	7.756	29.044	0.103	29.836	280.610
15	10/17/2000	135200	191.215	7.749	28.905	0.103	29.835	280.632
16	10/17/2000	135300	191.178	7.752	28.954	0.103	29.830	280.610
17	10/17/2000	135400	190.979	7.767	29.138	0.103	29.834	280.629
18	10/17/2000	135500	191.120	7.774	28.917	0.103	29.832	282.433
19	10/17/2000	135600	191.303	7.772	28.913	0.103	29.834	283.418
20	10/17/2000	135700	191.092	7.768	28.697	0.102	29.834	283.345
21	10/17/2000	135800	191.093	7.769	28.703	0.102	29.831	283.125
22	10/17/2000	135900	191.179	7.765	28.678	0.102	29.831	282.731
23	10/17/2000	140000	191.082	7.764	28.680	0.102	29.829	283.545
24	10/17/2000	140100	191.086	7.751	28.508	0.101	29.832	283.822
25	10/17/2000	140200	191.096	7.748	28.921	0.103	29.830	284.015
26	10/17/2000	140300	190.927	7.750	28.832	0.103	29.830	284.470
27	10/17/2000	140400	190.711	7.757	29.043	0.103	29.829	284.518
28	10/17/2000	140500	191.066	7.741	28.916	0.103	29.828	284.689
29	10/17/2000	140600	191.514	7.740	28.916	0.103	29.829	284.775
30	10/17/2000	140700	191.518	7.752	28.611	0.102	29.827	284.786
31	10/17/2000	140800	191.573	7.747	28.617	0.102	29.824	285.712
32	10/17/2000	140900	191.539	7.733	28.636	0.102	29.825	285.760
33	10/17/2000	141000	190.947	7.723	28.721	0.103	29.829	285.703
34	10/17/2000	141100	191.294	7.725	28.919	0.103	29.828	285.326
35	10/17/2000	141200	191.302	7.739	29.197	0.104	29.828	285.134
36	10/17/2000	141300	191.310	7.752	29.180	0.104	29.830	285.814
37	10/17/2000	141400	191.262	7.748	29.221	0.104	29.828	286.121
38	10/17/2000	141500	190.876	7.737	29.117	0.104	29.828	285.864
39	10/17/2000	141600	191.096	7.741	29.238	0.104	29.828	283.654
40	10/17/2000	141700	190.875	7.744	29.297	0.104	29.825	283.706
41	10/17/2000	141800	191.088	7.739	29.229	0.104	29.829	284.439
42	10/17/2000	141900	191.077	7.744	29.173	0.104	29.826	284.790
43	10/17/2000	142000	191.070	7.752	29.058	0.103	29.824	284.367
44	10/17/2000	142100	191.070	7.749	29.093	0.104	29.824	282.226
45	10/17/2000	142200	191.074	7.749	28.931	0.103	29.824	282.202
46	10/17/2000	142300	190.876	7.759	28.782	0.102	29.826	284.129
47	10/17/2000	142400	191.080	7.775	28.904	0.103	29.827	284.401
48	10/17/2000	142500	191.481	7.777	28.989	0.103	29.825	283.819
49	10/17/2000	142600	190.960	7.782	29.024	0.103	29.824	282.294
50	10/17/2000	142700	191.268	7.764	29.029	0.103	29.823	282.496
51	10/17/2000	142800	190.952	7.746	28.918	0.103	29.823	281.352
52	10/17/2000	142900	191.408	7.725	28.921	0.103	29.824	281.358
53	10/17/2000	143000	191.176	7.726	28.887	0.103	29.824	281.605
54	10/17/2000	143100	191.258	7.724	28.854	0.103	29.823	282.090
55	10/17/2000	143200	191.126	7.732	28.769	0.103	29.820	282.494
56	10/17/2000	143300	191.238	7.730	28.999	0.103	29.819	284.527
57	10/17/2000	143400	191.122	7.722	29.041	0.104	29.819	284.535
58	10/17/2000	143500	191.383	7.721	29.025	0.104	29.820	284.121

59	10/17/2000	143600	191.367	7.720	29.095	0.104	29.823	283.630	
60	10/17/2000	143700	191.004	7.735	29.021	0.103	29.822	283.384	
61	/	/							
62	/	/	AVE	191.135	7.748	29.007	0.103	29.829	283.501

**APPENDIX C**

**UNCORRECTED REFERENCE METHOD DATA SHEETS**

TIME	CHAN 3	CHAN 6	STACK
	STACK	STACK	ppmNOX
	%O2	ppmNOX	@15%O2
11:20	12.05	37.0	24.7
11:21	12.03	36.4	24.2
11:22	12.01	35.6	23.6
11:23	11.99	35.1	23.3
11:24	11.99	35.2	23.3
11:25	11.99	35.3	23.4
11:26	12.00	35.3	23.4
11:27	11.99	35.4	23.4
11:28	12.00	35.2	23.4
11:29	12.00	35.5	23.5
11:30	12.01	35.7	23.7
11:31	12.01	35.7	23.7

## AVERAGE VALUES FOR THE LAST 12 MINUTES

11:31	12.01	35.6	23.6
11:32	11.98	35.4	23.4
11:33	12.00	35.5	23.5
11:34	11.99	35.6	23.5
11:35	12.00	35.6	23.6
11:36	12.00	35.7	23.6
11:37	12.00	35.6	23.6
11:38	12.00	35.7	23.6
11:39	12.00	35.8	23.7
11:40	12.00	35.6	23.6
11:41	12.00	35.3	23.4
11:42	12.00	35.4	23.4
11:43	12.00	35.4	23.5

## AVERAGE VALUES FOR THE LAST 12 MINUTES

11:43	12.00	35.5	23.6
11:44	11.99	35.4	23.4
11:45	11.99	35.5	23.5
11:46	11.99	35.5	23.5
11:47	11.99	35.3	23.4
11:48	11.99	35.4	23.5
11:49	11.98	35.4	23.4
11:50	11.99	35.4	23.4
11:51	11.99	35.5	23.5
11:52	11.98	35.6	23.5
11:53	11.99	35.6	23.6
11:54	11.99	35.8	23.7
11:55	12.00	35.8	23.7

## AVERAGE VALUES FOR THE LAST 12 MINUTES

11:55	11.99	35.5	23.5
11:56	12.00	35.7	23.7
11:57	11.98	35.4	23.4
11:58	11.98	35.7	23.6
11:59	11.98	35.8	23.7
12:00	11.99	36.1	23.9
12:01	12.00	36.0	23.9
12:02	11.99	36.0	23.8

POLK POWER STATION UNIT 1 BACT #7

10-18-2000

TIME	CHAN 3 STACK %O2	CHAN 6 STACK ppmNOX	STACK ppmNOX @15%O2
12:03	11.98	35.7	23.6
12:04	11.98	35.5	23.5
12:05	11.98	35.5	23.5
12:06	11.98	35.6	23.6
12:07	11.96	35.7	23.6

AVERAGE VALUES FOR THE LAST 12 MINUTES

12:07	11.98	35.7	23.6
12:08	11.98	35.8	23.7
12:09	12.00	36.2	24.0
12:10	12.01	36.6	24.3
12:11	12.00	36.5	24.2
12:12	12.00	36.6	24.3
12:13	12.01	36.6	24.3
12:14	12.00	36.4	24.1
12:15	11.99	36.1	23.9
12:16	11.99	36.1	23.9
12:17	11.99	36.0	23.8
12:18	11.97	35.9	23.7
12:19	11.98	35.8	23.7

AVERAGE VALUES FOR THE LAST 12 MINUTES

12:19	11.99	36.2	24.0
-------	-------	------	------

*11.99*      *36.2*

COMMENTS: END RUN ONE

TIME	CHAN 3 STACK %O2	CHAN 6 STACK ppmNOX	STACK ppmNOX @15%O2
12:30	11.96	35.8	23.7
12:31	11.97	36.1	23.9
12:32	11.97	35.9	23.7
12:33	11.97	35.9	23.7
12:34	11.98	36.0	23.8
12:35	11.98	35.9	23.7
12:36	11.98	36.0	23.8
12:37	11.98	36.1	23.9
12:38	11.98	36.1	23.9
12:39	11.98	36.0	23.8
12:40	11.99	36.0	23.8
12:41	11.96	35.9	23.7
12:42	11.97	35.8	23.6
12:43	11.96	36.0	23.8
12:44	11.98	36.2	24.0
12:45	11.99	36.3	24.0
12:46	11.99	36.2	24.0
12:47	11.98	36.2	23.9
12:48	11.98	36.2	23.9
12:49	11.98	36.3	24.0
12:50	11.98	36.2	24.0
12:51	11.99	36.3	24.0
12:52	11.98	36.2	24.0
12:53	11.98	36.2	23.9
12:54	11.98	36.1	23.9
12:55	11.97	36.3	24.0
12:56	11.98	36.2	23.9
12:57	11.98	36.1	23.9
12:58	11.98	36.1	23.9
12:59	11.99	36.3	24.0
13:00	11.98	36.4	24.1
13:01	11.98	36.4	24.1
13:02	11.99	36.4	24.1
13:03	11.99	36.4	24.1
13:04	11.98	36.3	24.0
13:05	11.98	36.0	23.8
13:06	11.98	36.0	23.8
13:07	11.95	36.0	23.7
13:08	11.98	35.9	23.7
13:09	11.98	36.0	23.8
13:10	11.99	36.2	24.0
13:11	11.97	36.2	23.9
13:12	11.96	35.8	23.7
13:13	11.97	35.9	23.7
13:14	11.97	35.9	23.7
13:15	11.96	35.9	23.7
13:16	11.98	36.0	23.8
13:17	11.98	36.0	23.8
13:18	11.98	35.8	23.7
13:19	11.98	36.0	23.8
13:20	11.98	36.1	23.9
13:21	11.98	36.2	23.9
13:22	11.98	36.1	23.9
13:23	11.99	36.3	24.0
13:24	11.99	36.3	24.1

POLK POWER STATION UNIT 1 BACT #7

10-18-2000

	CHAN 3 STACK	CHAN 6 STACK	STACK ppmNOX
TIME	%O2	ppmNOX	@15%O2
13:25	11.96	36.0	23.8
13:26	11.96	36.1	23.8
13:27	11.97	36.5	24.1
13:28	11.97	36.5	24.1
13:29	11.97	36.3	24.0

-----  
AVERAGE VALUES FOR THE LAST HOUR: 60 MINUTES OF VALID DATA

13:29	11.98	36.1	23.9
-------	-------	------	------

-----

COMMENTS: END RUN TWO



TIME	CHAN 3 STACK %O2	CHAN 6 STACK ppmNOX	STACK ppmNOX @15%O2
13:38	11.98	36.9	24.4
13:39	11.99	37.1	24.5
13:40	11.98	37.1	24.5
13:41	11.98	36.9	24.4
13:42	11.97	36.6	24.2
13:43	11.96	36.3	24.0
13:44	11.96	36.4	24.0
13:45	11.96	36.4	24.0
13:46	11.95	36.4	24.0
13:47	11.95	36.3	23.9
13:48	11.96	36.4	24.0
13:49	11.96	36.3	24.0
13:50	11.95	36.2	23.9
13:51	11.95	36.3	23.9
13:52	11.95	36.4	24.0
13:53	11.93	36.3	23.9
13:54	11.94	36.2	23.8
13:55	11.94	36.1	23.8
13:56	11.93	36.0	23.7
13:57	11.93	36.2	23.8
13:58	11.93	36.0	23.7
13:59	11.94	35.9	23.7
14:00	11.95	36.3	24.0
14:01	11.96	36.3	23.9
14:02	11.95	36.4	24.0
14:03	11.96	36.4	24.0
14:04	11.96	36.3	24.0
14:05	11.94	36.3	23.9
14:06	11.94	36.1	23.8
14:07	11.94	36.1	23.8
14:08	11.94	36.4	23.9
14:09	11.97	36.5	24.1
14:10	11.97	36.7	24.3
14:11	11.97	36.7	24.3
14:12	11.97	36.7	24.2
14:13	11.97	36.8	24.3
14:14	11.97	36.8	24.3
14:15	11.97	36.9	24.4
14:16	11.95	36.7	24.2
14:17	11.97	36.9	24.3
14:18	11.96	36.7	24.2
14:19	11.96	36.7	24.2
14:20	11.96	36.6	24.1
14:21	11.96	36.5	24.1
14:22	11.96	36.6	24.1
14:23	11.96	36.5	24.1
14:24	11.96	36.6	24.1
14:25	11.96	36.5	24.1
14:26	11.96	36.6	24.1
14:27	11.96	36.6	24.2
14:28	11.97	36.6	24.2
14:29	11.96	36.5	24.1
14:30	11.96	36.5	24.1
14:31	11.96	36.6	24.2
14:32	11.97	36.8	24.3

POLK POWER STATION UNIT 1 BACT #7

10-18-2000

	CHAN 3	CHAN 6	STACK
	STACK	STACK	ppmNOX
TIME	%O2	ppmNOX	@15%O2
14:33	11.97	36.8	24.3
14:34	11.98	36.8	24.4
14:35	11.98	36.9	24.4
14:36	11.97	36.7	24.2
14:37	11.98	37.0	24.4

-----  
AVERAGE VALUES FOR THE LAST HOUR: 60 MINUTES OF VALID DATA

14:37	11.96	36.5	24.1
-------	-------	------	------

-----

COMMENTS: END RUN THREE

**APPENDIX D**

**SAMPLING EQUIPMENT CALIBRATIONS**

**APPENDIX D-1           LINEARITY CALIBRATIONS**

**APPENDIX D-2       DRIFT ASSESSMENT CALS**

**APPENDIX D-3   CYLINDER GAS CERTIFICATION**

**APPENDIX D-4   CONVERTER EFFICIENCY RESULTS**

**APPENDIX D-1**

**LINEARITY CALIBRATIONS**

*Polk Power Station Unit 1 BACT # 7*

SOURCE: ~~HARDEE POWER STATION UNIT 2B DATA~~

REASON: INITIAL CAL

DATE : 10-18-2000 TIME: 08:20 - 08:34

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
3	STACK	%O2	0.00	-0.01
3	STACK	%O2	12.00	11.99
3	STACK	%O2	20.90	21.03
6	STACK	ppmNOX	0.0	-0.1
6	STACK	ppmNOX	25.5	25.3
6	STACK	ppmNOX	49.5	50.5
6	STACK	ppmNOX	81.8	81.3

CALIBRATION SUMMARY

SOURCE: POLK POWER STATION UNIT 1 BACT #7

REASON: INITIAL BIAS CAL

DATE : 10-18-2000 TIME: 09:34 - 09:42

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
3	STACK	%O2	0.00	0.08
3	STACK	%O2	12.00	12.00
6	STACK	ppmNOX	0.0	0.7
6	STACK	ppmNOX	25.5	25.9

CALIBRATION SUMMARY

SOURCE: POLK POWER STATION UNIT 1 BACT #7

REASON: POST O2 TRAVERSE BIAS CAL

DATE : 10-18-2000      TIME: 10:48 - 10:54

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
3	STACK	%O2	0.00	0.08
3	STACK	%O2	12.00	11.99
6	STACK	ppmNOX	0.0	1.6
6	STACK	ppmNOX	25.5	26.5

**APPENDIX D-2**

**DRIFT ASSESSMENT CALS**



CALIBRATION SUMMARY

SOURCE: POLK POWER STATION UNIT 1 BACT #7

REASON: RUN ONE BIAS CAL

DATE : 10-18-2000 TIME: 12:19 - 12:23

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
3	STACK	%O2	0.00	0.05
3	STACK	%O2	12.00	11.97
6	STACK	ppmNOX	0.0	2.4
6	STACK	ppmNOX	25.5	27.4

SYSTEM CALIBRATION BIAS AND DRIFT CALCULATIONS

SOURCE: POLK POWER STATION UNIT 1 BACT #7

TEST DATE: 10/17/00

RUN NUMBER: 1

SPAN VALUES: 100 ppm NOx  
25 % Oxygen

	—INITIAL VALUES—			—FINAL VALUES—		
	ANALYZER CAL. RESPONSE	SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	DRIFT (% OF SPAN)
NOx ZERO GAS	1.6	1.6	0.00	2.4	0.80	0.80
NOx UP-SCALE	26.5	26.5	0.00	27.4	0.90	0.90
O2 LOW GAS	0.08	0.08	0.00	0.05	-0.12	-0.12
O2 UP-SCALE	11.99	11.99	0.00	11.97	-0.08	-0.08

$$\text{SYSTEM CAL. BIAS} = \frac{\text{SYSTEM CAL. RESPONSE} - \text{ANALYZER CAL. RESPONSE}}{\text{SPAN}} \times 100$$

$$\text{DRIFT} = \frac{\text{FINAL SYSTEM CAL. RESPONSE} - \text{INITIAL CAL. RESPONSE}}{\text{SPAN}} \times 100$$

SYSTEM CALIBRATION BIAS AND DRIFT CALCULATIONS

SOURCE: POLK POWER STATION UNIT 1 BACT #7

TEST DATE: 10/17/00

RUN NUMBER: 1

SPAN VALUE: 25 % Oxygen

	-----INITIAL VALUES-----			-----FINAL VALUES-----		
	ANALYZER CAL. RESPONSE	SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	DRIFT (% OF SPAN)
O2 ZERO GAS	0.08	0.08	0.00	0.05	-0.12	-0.12
O2 UP-SCALE	11.99	11.99	0.00	11.97	-0.08	-0.08

$$\text{SYSTEM CAL. BIAS} = \frac{\text{SYSTEM CAL. RESPONSE} - \text{ANALYZER CAL. RESPONSE}}{\text{SPAN}} \times 100$$

$$\text{DRIFT} = \frac{\text{FINAL SYSTEM CAL. RESPONSE} - \text{INITIAL CAL. RESPONSE}}{\text{SPAN}} \times 100$$

CALIBRATION SUMMARY

SOURCE: POLK POWER STATION UNIT 1 BACT #7

REASON: RUN TWO BIAS CAL

DATE : 10-18-2000 TIME: 13:29 - 13:33

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
3	STACK	%O2	0.00	0.03
3	STACK	%O2	12.00	11.97
6	STACK	ppmNOX	0.0	2.7
6	STACK	ppmNOX	25.5	27.9

SYSTEM CALIBRATION BIAS AND DRIFT CALCULATIONS

SOURCE: POLK POWER STATION UNIT 1 BACT #7

TEST DATE: 10/17/00

RUN NUMBER: 2

SPAN VALUES: 100 ppm NOx  
25 % Oxygen

	—INITIAL VALUES—			—FINAL VALUES—		
	ANALYZER CAL. RESPONSE	SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	DRIFT (% OF SPAN)
NOx ZERO GAS	1.6	2.4	0.80	2.7	1.10	0.30
NOx UP-SCALE	26.5	27.4	0.90	27.9	1.40	0.50
O2 LOW GAS	0.08	0.05	-0.12	0.03	-0.20	-0.08
O2 UP-SCALE	11.99	11.97	-0.08	11.97	-0.08	0.00

$$\text{SYSTEM CAL. BIAS} = \frac{\text{SYSTEM CAL. RESPONSE} - \text{ANALYZER CAL. RESPONSE}}{\text{SPAN}} \times 100$$

$$\text{DRIFT} = \frac{\text{FINAL SYSTEM CAL. RESPONSE} - \text{INITIAL CAL. RESPONSE}}{\text{SPAN}} \times 100$$

SYSTEM CALIBRATION BIAS AND DRIFT CALCULATIONS

SOURCE: POLK POWER STATION UNIT 1 BACT #7

TEST DATE: 10/17/00

RUN NUMBER: 2

SPAN VALUE: 25 % Oxygen

	-----INITIAL VALUES-----			-----FINAL VALUES-----		
	ANALYZER CAL. RESPONSE	SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	DRIFT (% OF SPAN)
O2 ZERO GAS	0.08	0.05	-0.12	0.03	-0.20	-0.08
O2 UP-SCALE	11.99	11.97	-0.08	11.97	-0.08	0.00

$$\text{SYSTEM CAL. BIAS} = \frac{\text{SYSTEM CAL. RESPONSE} - \text{ANALYZER CAL. RESPONSE}}{\text{SPAN}} \times 100$$

$$\text{DRIFT} = \frac{\text{FINAL SYSTEM CAL. RESPONSE} - \text{INITIAL CAL. RESPONSE}}{\text{SPAN}} \times 100$$

CALIBRATION SUMMARY

SOURCE: POLK POWER STATION UNIT 1 BACT #7

REASON: RUN THREE BIAS CAL

DATE : 10-18-2000 TIME: 14:37 - 14:41

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
3	STACK	%O2	0.00	-0.01
3	STACK	%O2	12.00	11.95
6	STACK	ppmNOX	0.0	3.3
6	STACK	ppmNOX	25.5	28.3

SYSTEM CALIBRATION BIAS AND DRIFT CALCULATIONS

SOURCE: POLK POWER STATION UNIT 1 BACT #7

TEST DATE: 10/17/00

RUN NUMBER: 3

SPAN VALUES: 100 ppm NOx  
25 % Oxygen

	—INITIAL VALUES—			—FINAL VALUES—			DRIFT (% OF SPAN)
	ANALYZER CAL. RESPONSE	SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)		
NOx ZERO GAS	1.6	2.7	1.10	3.3	1.70	0.60	
NOx UP-SCALE	26.5	27.9	1.40	28.3	1.80	0.40	
O2 LOW GAS	0.08	0.03	-0.20	-0.01	-0.36	-0.16	
O2 UP-SCALE	11.99	11.97	-0.08	11.95	-0.16	-0.08	

$$\text{SYSTEM CAL. BIAS} = \frac{\text{SYSTEM CAL. RESPONSE} - \text{ANALYZER CAL. RESPONSE}}{\text{SPAN}} \times 100$$

$$\text{DRIFT} = \frac{\text{FINAL SYSTEM CAL. RESPONSE} - \text{INITIAL CAL. RESPONSE}}{\text{SPAN}} \times 100$$



SYSTEM CALIBRATION BIAS AND DRIFT CALCULATIONS

SOURCE: POLK POWER STATION UNIT 1 BACT #7

TEST DATE: 10/17/00

RUN NUMBER: 3

SPAN VALUE: 25 % Oxygen

	-----INITIAL VALUES-----			-----FINAL VALUES-----		
	ANALYZER CAL. RESPONSE	SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	DRIFT (% OF SPAN)
O2 ZERO GAS	0.08	0.03	-0.20	-0.01	-0.36	-0.16
O2 UP-SCALE	11.99	11.97	-0.08	11.95	-0.16	-0.08

$$\text{SYSTEM CAL. BIAS} = \frac{\text{SYSTEM CAL. RESPONSE} - \text{ANALYZER CAL. RESPONSE}}{\text{SPAN}} \times 100$$

$$\text{DRIFT} = \frac{\text{FINAL SYSTEM CAL. RESPONSE} - \text{INITIAL CAL. RESPONSE}}{\text{SPAN}} \times 100$$

**APPENDIX D-3**

**CYLINDER GAS CERTIFICATION**



**Scott Specialty Gases**

**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

P.O. No.: EN75516  
 SCOTT SPECIALTY GASES Project No.: 01-43154-003  
 6141 EASTON ROAD, BLDG 1  
 PLUMSTEADVILLE, PA 18949-0310

Customer

TAMPA ELECTRIC  
 CRAIG CORONADO  
 5010 CAUSEWAY BLVD  
 TAMPA FL 33619

**ANALYTICAL INFORMATION**

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards: Procedure #G1; September, 1997.

Cylinder Number: AAL21296 Certification Date: 10/03/00 Exp. Date: 10/03/2003  
 Cylinder Pressure\*\*\*: 2000 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
	Value	Unit	Value	Method
OXYGEN	12.0	%	+/- 1%	Direct NIST and NMI
NITROGEN	BALANCE			

\*\*\* Do not use when cylinder pressure is below 150 psig.

\*\* Analytical accuracy is based on the requirements of EPA Protocol procedure G1, September 1997.

Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards.

**REFERENCE STANDARD**

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2350	2/01/04	XA3063	23.51 %	OXYGEN

**INSTRUMENTATION**

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
BECKMAN/755/2002452	09/25/00	PARAMAGNETIC

**ANALYZER READINGS**

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

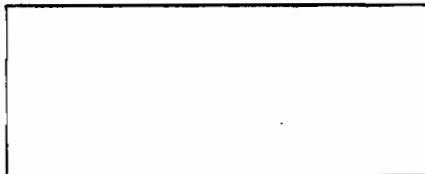
First Triad Analysis

Second Triad Analysis

Calibration Curve

**OXYGEN**

Date: 10/03/00	Response Unit: VOLTS	
Z1 = 0.00110	R1 = 0.94340	T1 = 0.48220
R2 = 0.94440	Z2 = 0.00180	T2 = 0.48030
Z3 = 0.00130	T3 = 0.48010	R3 = 0.94540
Avg. Concentration:	12.00	%



Concentration = A + Bx + Cx <sup>2</sup> + Dx <sup>3</sup> + Ex <sup>4</sup>	
r = 0.99999	2350
Constants:	A = -8.2194E-02
B = 2.4983E + 01	C =
D =	E =

APPROVED BY:

1-11-11

**RATA CLASS**



**Scott Specialty Gases**

*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

SCOTT SPECIALTY GASES  
6141 EASTON ROAD, BLDG 1  
PLUMSTEADVILLE, PA 18949-0310

P.O. No.: EN75516  
Project No.: 01-43154-002

Customer

TAMPA ELECTRIC  
CRAIG CORONADO  
5010 CAUSEWAY BLVD  
TAMPA FL 33619

**ANALYTICAL INFORMATION**

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure #G1; September, 1997.

Cylinder Number: ALM042722      Certification Date: 10/09/00      Exp. Date: 10/09/2002  
Cylinder Pressure\*\*\*: 2000 PSIG

**ANALYTICAL**

<u>COMPONENT</u>	<u>CERTIFIED CONCENTRATION (Moles)</u>	<u>ACCURACY**</u>	<u>TRACEABILITY</u>
NITRIC OXIDE	25.32 PPM	+/- 1%	Direct NIST and NMI
NITROGEN - OXYGEN FREE	BALANCE		
TOTAL OXIDES OF NITROGEN	25.46 PPM		Reference Value Only

\*\*\* Do not use when cylinder pressure is below 150 psig.

\*\* Analytical accuracy is based on the requirements of EPA Protocol procedure G1, September 1997.

Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards.

**REFERENCE STANDARD**

<u>TYPE/SRM NO.</u>	<u>EXPIRATION DATE</u>	<u>CYLINDER NUMBER</u>	<u>CONCENTRATION</u>	<u>COMPONENT</u>
NTRM 1683	4/03/03	ALM017214	48.90 PPM	NITRIC OXIDE

**INSTRUMENTATION**

<u>INSTRUMENT/MODEL/SERIAL#</u>	<u>DATE LAST CALIBRATED</u>	<u>ANALYTICAL PRINCIPLE</u>
HORIBA/CLA220/5708850810	09/22/00	CHEMILUMINESCENCE

**ANALYZER READINGS**

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

First Triad Analysis

Second Triad Analysis

Calibration Curve

**NITRIC OXIDE**

Date: 10/02/00	Response Unit: VOLTS		
Z1 = 0.00370	R1 = 3.16600	T1 = 1.64250	
R2 = 3.16860	Z2 = 0.00600	T2 = 1.64290	
Z3 = 0.00640	T3 = 1.63900	R3 = 3.17540	
Avg. Concentration:	25.36	PPM	

Date: 10/09/00	Response Unit: VOLTS		
Z1 = 0.03520	R1 = 3.17810	T1 = 1.64090	
R2 = 3.18080	Z2 = 0.00640	T2 = 1.64220	
Z3 = 0.00650	T3 = 1.64010	R3 = 3.18910	
Avg. Concentration:	25.28	PPM	

Concentration = A + Bx + Cx <sup>2</sup> + Dx <sup>3</sup> + Ex <sup>4</sup>	
r = 0.99999	1683
Constants:	A = 0.058937
B = 15.458178	C =
D =	E =

APPROVED BY:

COLIN MCCARTY



Scott Specialty Gases

Dual-Analyzed Calibration Standard

1750 EAST CLUB BLVD, DURHAM, NC 27704

Phone: 919-220-0803

Fax: 919-220-0808

**CERTIFICATE OF ACCURACY: Interference Free <sup>TM</sup> EPA Protocol Gas**

Assay Laboratory

SCOTT SPECIALTY GASES  
1750 EAST CLUB BLVD  
DURHAM, NC 27704

P.O. No.: N75516  
Project No.: 12-36341-002

Customer

TAMPA ELECTRIC CO  
RAY MCDARBY  
5010 CAUSEWAY BLVD  
TAMPA FL 33619

**ANALYTICAL INFORMATION**

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure #G1; September, 1997.

Cylinder Number: ALM017813      Certification Date: 10/29/99      Exp. Date: 10/28/2001  
Cylinder Pressure\*\*\*: 1912 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
	NITRIC OXIDE	48.56	PPM	+/- 1%
NITROGEN - OXYGEN FREE		BALANCE		
TOTAL OXIDES OF NITROGEN	49.47	PPM		Reference Value Only

\*\*\* Do not use when cylinder pressure is below 150 psig.  
\*\* Analytical accuracy is based on the requirements of EPA Protocol procedure G1, September 1997.  
Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards.

**REFERENCE STANDARD**

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM1683	4/03/03	ALM020586	48.90 PPM	NO/N2

**INSTRUMENTATION**

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR System/8220/AAB9400252	10/22/99	Scott Enhanced FTIR

**ANALYZER READINGS**

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

First Triad Analysis

Second Triad Analysis

Calibration Curve

**NITRIC OXIDE**

Date: 10/22/99	Response Unit: PPM	
Z1 = -0.01310	R1 = 48.79556	T1 = 48.39187
R2 = 48.89616	Z2 = 0.16660	T2 = 48.61919
Z3 = 0.08300	T3 = 48.62870	R3 = 49.00827
Avg. Concentration: 48.55 PPM		

Date: 10/29/99	Response Unit: PPM	
Z1 = 0.14850	R1 = 49.06593	T1 = 48.55658
R2 = 48.76309	Z2 = 0.12020	T2 = 48.69997
Z3 = 0.04920	T3 = 48.54071	R3 = 48.87097
Avg. Concentration: 48.57 PPM		

Concentration = A + Bx + Cx <sup>2</sup> + Dx <sup>3</sup> + Ex <sup>4</sup>	
r = 0.999990	
Constants:	A = 0.000000
B = 1.000000	C = 0.000000
D = 0.000000	E = 0.000000

APPROVED BY:

B.M. Becton



# Scott Specialty Gases

1750 EAST CLUB BLVD, DURHAM, NC 27704

## RATA CLASS (S-HARD-3)

### Dual-Analyzed Calibration Standard

Phone: 919-220-0803

Fax: 919-220-0806

## CERTIFICATE OF ACCURACY: Interference Free <sup>TM</sup> EPA Protocol Gas

### Assay Laboratory

SCOTT SPECIALTY GASES  
1750 EAST CLUB BLVD  
DURHAM, NC 27704

P.O. No.: N31923  
Project No.: 12-35046-001

### Customer

TAMPA ELECTRIC CO  
5010 CAUSEWAY BLVD  
TAMPA FL 33619

### ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure #G1; September, 1997.

Cylinder Number: ALM019127      Certification Date: 7/19/99      Exp. Date: 7/18/2001  
Cylinder Pressure\*\*\*: 1994 PSIG

### ANALYTICAL

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ACCURACY**	TRACEABILITY
NITRIC OXIDE	81.13 PPM	+/- 1%	Direct NIST and NMI
NITROGEN - OXYGEN FREE	BALANCE		
TOTAL OXIDES OF NITROGEN	81.82 PPM		Reference Value Only

\*\*\* Do not use when cylinder pressure is below 150 psig.

\*\* Analytical accuracy is based on the requirements of EPA Protocol procedure G1, September 1997.

Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards.

### REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM1683	4/03/03	ALM020566	48.90 PPM	NO/N2

### INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR System/8220/AAB9400252	07/15/99	Scott Enhanced FTIR

### ANALYZER READINGS

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

First Triad Analysis

Second Triad Analysis

Calibration Curve

#### NITRIC OXIDE

Date: 07/12/99	Response Unit: PPM		
Z1 = 0.1222	R1 = 48.911	T1 = 80.909	
R2 = 48.792	Z2 = -0.077	T2 = 81.157	
Z3 = 0.1565	T3 = 81.343	R3 = 48.996	
Avg. Concentration:	81.14	PPM	

Date: 07/19/99	Response Unit: PPM		
Z1 = 0.2335	R1 = 48.805	T1 = 81.051	
R2 = 48.938	Z2 = -0.005	T2 = 81.173	
Z3 = 0.1145	T3 = 81.120	R3 = 48.957	
Avg. Concentration:	81.11	PPM	

Concentration = A + Bx + Cx <sup>2</sup> + Dx <sup>3</sup> + Ex <sup>4</sup>	
r = 0.999990	
Constants:	A = 0.000000
B = 1.000000	C = 0.000000
D = 0.000000	E = 0.000000

APPROVED BY:

B.M. Becton

**APPENDIX D-4**

**CONVERTER EFFICIENCY RESULTS**

**BEST AVAILABLE COPY**

POLK POWER STATION UNIT 1 BACT #7 10-18-2000

TIME	CHAN 3	CHAN 6	STACK
	STACK	STACK	ppmNOX
	%O2	ppmNOX	@15%O2
08:58	21.28	24.4	-376.9
08:59	21.28	24.4	-375.9
09:00	21.28	24.5	-376.4
09:01	21.29	24.5	-372.5
09:02	21.29	24.5	-376.2
09:03	21.29	24.5	-374.2
09:04	21.29	24.5	-374.7
09:05	21.29	24.6	-374.6
09:06	21.29	24.5	-372.0
09:07	21.29	24.5	-370.6
09:08	21.29	24.5	-370.2
09:09	21.30	24.5	-366.4
09:10	21.30	24.6	-366.1
09:11	21.30	24.5	-364.6
09:12	21.30	24.6	-366.2
09:13	21.30	24.5	-366.2
09:14	21.30	24.5	-364.4
09:15	21.30	24.5	-363.3
09:16	21.30	24.5	-364.2
09:17	21.30	24.5	-365.3
09:18	21.30	24.5	-364.4
09:19	21.30	24.5	-365.5
09:20	21.29	24.4	-366.3
09:21	21.29	24.5	-367.3
09:22	21.29	24.4	-366.0
09:23	21.29	24.4	-366.0
09:24	21.29	24.4	-367.7
09:25	21.29	24.4	-367.4
09:26	21.29	24.4	-368.9
09:27	21.29	24.4	-369.9

AVERAGE VALUES FOR THE LAST 30 MINUTES

09:27	21.29	24.5	-369.0
-------	-------	------	--------

COMMENTS: CONVERTER EFFICIENCY TEST  
NO2 TO NO



**APPENDIX E**

**TEST PARTICIPANTS**

## **TEST PARTICIPANTS**

---

### **Corporate Environmental Services**

Craig Coronado

Technician

Mike Skirvin

Environmental Technician

David Smith

Coordinator- Air Services

### **Polk Power Station**

Mike Skirvin

Environmental Coordinator