Florida Department of
Environmental Protection

South District
2295 Victoria Avenue
Fort Myers, Florida 33901

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

PERMITTEE:
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

I.D.No: 52FTM28001801
Permit/Certification
Number: A028-234787
Date of Issue: October 15, 1993
Expiration Date: October 5, 1998
County: Highlands
Latitude: 27° 26′ 35" N
Longitude: 81° 21′ 40" W
Section/Town/Range: 7/35S/30E
Project: Tampa Electric Phillips
Slow Speed Diesel No. 1

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Rules 17-4, 17-296, and 17-297. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

Operate a 19.535 MW slow speed diesel generating unit having a heat input capacity of 172 MMBtu/hr. The unit is fired with No. 6 fuel oil. An exhaust gas heat recovery unit generates an additional 1.558 MW of electrical power.

The facility is located at 7301 Airport Road, Sebring, Florida.

This is an amended version of the permit issued on October 5, 1993, and is to clarify some of the wording in the specific conditions.

PERMITTEE:
Tampa Electric Company

I.D. No.: 52FTM28001801
Permit/Cert. No.: AO28-234787
Date of Issue: October 15, 1993
Expiration Date: October 5, 1998

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5) F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by any order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

GENERAL CONDITIONS:

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credential or other documents as may be required by law, and at reasonable times, access to the premises where the permitted activity is located or conducted to:
   a. Have access to and copy any records that must be kept under the conditions of the permit;
   b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
   c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
   a. a description of and cause of non-compliance; and
   b. The period of non-compliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Section 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

GENERAL CONDITIONS:

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 17-3.051, shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard.

11. This permit is transferable only upon Department approval in accordance with F.A.C. Rules 17-4.120 and 17-30.300, F.A.C. as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

( ) Determination of Best Available Control Technology (BACT)
(X) Determination of Prevention of Significant Deterioration (PSD)
( ) Compliance with New Source Performance Standards

14. The permittee shall comply with the following:

(a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically, unless otherwise stipulated by the Department.
(b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.

GENERAL CONDITIONS:

(c) Records of monitoring information shall include:

1. the date, exact place, and time of sampling or measurements;
2. the person responsible for performing the sampling or measurements;
3. the dates analyses were performed;
4. the person responsible for performing the analyses;
5. the analytical techniques or methods used;
6. the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

PERMITTEE:
Tampa Electric Company

I.D. No.: 52FTM28001801
Permit/Cert. No.: AO28-234787
Date of Issue: October 15, 1993
Expiration Date: October 5, 1998

SPECIFIC CONDITIONS:

FACILITY OPERATIONS

1. All fugitive dust generated at this site shall be adequately controlled. [Reference Rule 17-296.310(3), F.A.C.]

2. There shall be no discharges of liquid effluents or contaminated runoff from the plant site.

3. Stack sampling facilities provided by the owner shall be in accordance with the requirements of Chapter 17-297.345, F.A.C.

4. An annual operation report (DER Form 17-210.900(4) attached) shall be submitted by March 1st each year. The attached form shall be reproduced by the permittee and used for future annual submittals.

5. The following parameters are to be monitored on a daily basis; appropriate records shall be maintained on site for Department inspection:

   (a) intake manifold temperature
   (b) intake manifold pressure
   (c) fuel flow
   (d) injector timing

CONDITIONS OF COMPLIANCE

6. Visible emissions shall not exceed 20% opacity. [Reference Rule 17-296.310(2), F.A.C.]

7. Nitrogen oxide emissions shall not exceed 819 ppmv, corrected to 15% oxygen on dry basis.

8. Sulfur dioxide emissions shall not exceed 2.67 pounds per million BTU heat input. Compliance will be calculated from analyses of sulfur in the fuel oil. Sulfur content in fuel shall not exceed 2.5%.

9. Copies of fuel oil analyses, including density, heating value, and percent sulfur content by weight, shall be submitted to the department quarterly.

10. Carbon monoxide emissions shall not exceed 0.575 pounds per million Btu heat input.

11. Particulate emissions shall not exceed 0.1 pounds per million BTU heat input.

PERMITTEE:
Tampa Electric Company

I.D. No.: 52FTM28001801
Permit/Cert. No.: AO28-234787
Date of Issue: October 15, 1993
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SPECIFIC CONDITIONS:

12. Based on the PSD determination cited in the construction permit, emissions shall not exceed any of the following values:

Pollutant	Factor	Units	Basis
Nitrogen oxide	571.8	lb/hr	Hours of operation
Carbon monoxide	98.9	lb/hr	Hours of operation
Particulate	17.2	lb/hr	Hours of operation
Sulfur dioxide	0.050	lb/lb	Pounds of oil burned
Hydrocarbons	44.7	lb/hr	Hours of operation

REQUIRED TESTING

13. Notification of the Department prior to any required testing shall include as a minimum: the date and time of the test, the exact location of the test, and the name and telephone number of the contact person at the site.

14. Nitrogen oxide emissions tests are required to show continuing compliance with the standards of the Department. The test results must provide reasonable assurance that the unit is capable of compliance at the permitted maximum operating rate. Test shall be conducted in accordance with EPA Method 7E as published in 40 CFR-60, Appendix A, or State approved equivalent method. Such tests shall be conducted once per year within 90 days prior to October 31 of each calendar year. Results shall be submitted to the Department within 45 days after testing. The Department shall be notified at least 15 days prior to testing to allow witnessing.

15. Carbon monoxide emissions tests are required to show continuing compliance with the standards of the Department. The test results must provide reasonable assurance that the unit is capable of compliance at the permitted maximum operating rate. Test shall be conducted in accordance with EPA Method Ten as published in 40 CFR-60, Appendix A, or State approved equivalent method. Such tests shall be conducted once per year within 90 days prior to October 31 of each calendar year. Results shall be submitted to the Department within 45 days after testing. The Department shall be notified at least 15 days prior to testing to allow witnessing.

16. Visible emissions tests are required to show continuing compliance with the standards of the Department. The test results must provide reasonable assurance that the unit is capable of

PERMITTEE:
Tampa Electric Company

I.D. No.: 52FTM28001801
Permit/Cert. No.: AO28-234787
Date of Issue: October 15, 1993
Expiration Date: October 5, 1998

SPECIFIC CONDITIONS:

compliance at the permitted maximum operating rate. Test shall be conducted in accordance with EPA Method Nine as published in 40 CFR-60, Appendix A, or State approved equivalent method. Such tests shall be conducted once per year within 90 days prior to October 31 of each calendar year. Results shall be submitted to the Department within 45 days after testing. The Department shall be notified at least 15 days prior to testing to allow witnessing.

17. Particulate matter emissions tests are required to show continuing compliance with the standards of the Department. The test results must provide reasonable assurance that the unit is capable of compliance at the permitted maximum operating rate. Test shall be conducted in accordance with EPA Method Five as published in 40 CFR-60, Appendix A, or State approved equivalent method. Such tests shall be conducted once per year within 90 days prior to October 31 of each calendar year. Results shall be submitted to the Department within 45 days after testing. The Department shall be notified at least 15 days prior to testing to allow witnessing.

Note: In the event of an emergency the permittee shall contact the Department by calling (904) 488-1320. During normal business hours, the permittee shall call (813) 332-6975.

Issued this 15th day of Oct, 1993.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Philip R. Edwards
Director of
District Management

PRE/AEL/ael
__//__ Pages Attached

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APR 21 1994

ENVIRONMENTAL PLANNING

Florida Department of Environmental Protection

Lawton Chiles
Governor

South District
2295 Victoria Avenue
Fort Myers, Florida 33901

Virginia B. Wetherell
Secretary

NOTICE OF PERMIT AMENDMENTS

April 18, 1994

CERTIFIED MAIL NO. Z 128 058 937
RETURN RECEIPT REQUESTED

In the Matter of a Request for
Amendments to Two Permits by:
Patrick A. Ho, P.E.
Manager, Environmental Planning
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

DEP File No. AO28-234787
and AO28-234794
Highlands County - AP

This document is an amendment of Permits Number AO28-234787 and AO28-234794 to operate two slow speed diesel electric generators issued pursuant to Section(s) 403.087, Florida Statutes.

Tampa Electric requested amendments to re-establish the Alternate Sampling Procedure for particulate emissions which was granted in the construction permit. A review by the Office of General Council of the Consent Order of January 5, 1987 has determined that the intent of the order was to require the EPA Method 5 test only once to comply with the permit conditions. Therefore, the following **SPECIFIC CONDITION** is added to both Permit Number AO28-234787 and AO28-234794:

18. As an Alternate Sampling Procedure, Specific Condition 17 is waived if the visible emission, as determined by EPA Method Nine, is 10% opacity or less.

A person whose substantial interests are affected by these permit amendments may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes (F.S.). The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of receipt of these Permit amendments. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S..

The Petition shall contain the following information;

(a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;

(b) A statement of how and when each petitioner received notice of the Department's action or proposed action;

(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;

(d) A statement of the material facts disputed by Petitioner, if any;

(e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;

(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and

(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this permit amendments. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, Florida Administrative Code (F.A.C.).

These permit amendments are final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition and conforms to Rule 17-103.070, F.A.C.. Upon timely filing of a petition or a request for an extension of time these permit amendments will not be effective until further Order of the Department.

When the Order (Permit Amendments) are final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable

filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date the Final Order is filed with the Clerk of the Department.

Executed in Fort Myers, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Ronald D. Blackburn
Acting Director of
District Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT AMENDMENTS and all copies were mailed by certified mail before the close of business on April 19, 1994 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to §120.52(11), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

(Clerk) 4-19-94 (Date)

RDB/AEL/ael

Enclosures

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ENVIRONMENTAL PLANNING

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NOTICE OF PERMIT AMENDMENTS

November 15, 1993

CERTIFIED MAIL NO. P 287 405 554
RETURN RECEIPT REQUESTED

In the Matter of a Request for Amendments to Two Permits by:
Patrick A. Ho, P.E.
Manager, Environmental Planning
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

DEP File No. AO28-234787
and AO28-234794
Highlands County - AP

Enclosed are amended Permits Numbers AO28-234787 and AO28-234794 to operate two slow speed diesel electric generators issued pursuant to Section(s) 403.087, Florida Statutes.

Tampa Electric requested amendments to remove any reference to Title V of the Clean Air Act Amendments of 1990 and to specific conditions (2), (7), (8), (11), (12), (14), (15), (16), and (17). Specific Condition (2) has been in all previous permits and will remain. Specific Conditions (7), (8), (11), (12), (14), (15), and (16) have been changed as requested. The requested change of date in Specific condition (17) has been made, however, the requested waiver of the particulate testing is denied. The rule requires particulate testing, and the conditions of the waiver were recinded by a consent order of January 5, 1987.

A person whose substantial interests are affected by these permit amendments may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes (F.S.). The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of receipt of these Permit amendments. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S..

The Petition shall contain the following information;

(a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;

(b) A statement of how and when each petitioner received notice of the Department's action or proposed action;

(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;

(d) A statement of the material facts disputed by Petitioner, if any;

(e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;

(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and

(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this permit amendments. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, Florida Administrative Code (F.A.C.).

These permit amendments are final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition and conforms to Rule 17-103.070, F.A.C.. Upon timely filing of a petition or a request for an extension of time these permit amendments will not be effective until further Order of the Department.

When the Order (Permit Amendments) are final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The

Notice of Appeal must be filed within 30 days from the date the Final Order is filed with the Clerk of the Department.

Executed in Fort Myers, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Philip R. Edwards
Director of
District Management
South District Office
2295 Victoria Avenue, Suite 364
Fort Myers, Florida 33901-2896
(813)332-6975

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT AMENDMENTS and all copies were mailed by certified mail before the close of business on November 17, 1993 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to §120.52(11), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

(Clerk) 11-17-93 (Date)

PRE/AEL/ael

Enclosures

Florida Department of
Environmental Protection

Lawton Chiles
Governor

South District
2295 Victoria Avenue
Fort Myers, Florida 33901

Virginia B. Wetherell
Secretary

PERMITTEE:
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

I.D.No: 52FTM28001802
Permit/Certification
Number: AO28-234794
Date of Issue: October 15, 1993
Expiration Date: October 5, 1998
County: Highlands
Latitude: 27° 26′ 35" N
Longitude: 81° 21′ 40" W
Section/Town/Range: 7/35S/30E
Project: Tampa Electric Phillips
Slow Speed Diesel No. 2

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Rules 17-4, 17-296, and 17-297. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

Operate a 19.535 MW slow speed diesel generating unit having a heat input capacity of 172 MMBtu/hr. The unit is fired with No. 6 fuel oil. An exhaust gas heat recovery unit generates an additional 1.558 MW of electrical power.

The facility is located at 7301 Airport Road, Sebring, Florida.

This is an amended version of the permit issued on October 5, 1993, and is to clarify some of the wording in the specific conditions.

PERMITTEE:
Tampa Electric Company

I.D. No.: 52FTM28001802
Permit/Cert. No.: AO28-234794
Date of Issue: October 15, 1993
Expiration Date: October 5, 1998

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5) F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by any order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

GENERAL CONDITIONS:

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credential or other documents as may be required by law, and at reasonable times, access to the premises where the permitted activity is located or conducted to:
   a. Have access to and copy any records that must be kept under the conditions of the permit;
   b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
   c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
   a. a description of and cause of non-compliance; and
   b. The period of non-compliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Section 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

PERMITTEE:
Tampa Electric Company

I.D. No.: 52FTM28001802
Permit/Cert. No.: AO28-234794
Date of Issue: October 15, 1993
Expiration Date: October 5, 1998

GENERAL CONDITIONS:

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 17-3.051, shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard.

11. This permit is transferable only upon Department approval in accordance with F.A.C. Rules 17-4.120 and 17-30.300, F.A.C. as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

( ) Determination of Best Available Control Technology (BACT)
(X) Determination of Prevention of Significant Deterioration (PSD)
( ) Certification of compliance with State Water Quality Standards (Section 401, PL 92-500)
( ) Compliance with New Source Performance Standards

14. The permittee shall comply with the following:

(a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically, unless otherwise stipulated by the Department.
(b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.

PSD 7

GENERAL CONDITIONS:

(c) Records of monitoring information shall include:

1. the date, exact place, and time of sampling or measurements;
2. the person responsible for performing the sampling or measurements;
3. the dates analyses were performed;
4. the person responsible for performing the analyses;
5. the analytical techniques or methods used;
6. the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

PERMITTEE:
Tampa Electric Company

I.D. No.: 52FTM28001802
Permit/Cert. No.: AO28-234794
Date of Issue: October 15, 1993
Expiration Date: October 5, 1998

SPECIFIC CONDITIONS:

FACILITY OPERATIONS

1. All fugitive dust generated at this site shall be adequately controlled. [Reference Rule 17-296.310(3), F.A.C.]

2. There shall be no discharges of liquid effluents or contaminated runoff from the plant site.

3. Stack sampling facilities provided by the owner shall be in accordance with the requirements of Chapter 17-297.345, F.A.C.

4. An annual operation report (DER Form 17-210.900(4) attached) shall be submitted by March 1st each year. The attached form shall be reproduced by the permittee and used for future annual submittals.

5. The following parameters are to be monitored on a daily basis; appropriate records shall be maintained on site for Department inspection:

   (a) intake manifold temperature
   (b) intake manifold pressure
   (c) fuel flow
   (d) injector timing

CONDITIONS OF COMPLIANCE

6. Visible emissions shall not exceed 20% opacity. [Reference Rule 17-296.310(2), F.A.C.]

7. Nitrogen oxide emissions shall not exceed 819 ppmv, corrected to 15% oxygen on dry basis.

8. Sulfur dioxide emissions shall not exceed 2.67 pounds per million BTU heat input. Compliance will be calculated from analyses of sulfur in the fuel oil. Sulfur content in fuel shall not exceed 2.5%.

9. Copies of fuel oil analyses, including density, heating value, and percent sulfur content by weight, shall be submitted to the department quarterly.

10. Carbon monoxide emissions shall not exceed 0.575 pounds per million Btu heat input.

11. Particulate emissions shall not exceed 0.1 pounds per million BTU heat input.

SPECIFIC CONDITIONS:

12. Based on the PSD determination cited in the construction permit, emissions shall not exceed any of the following values:

Pollutant	Factor	Units	Basis
Nitrogen oxide	571.8	lb/hr	Hours of operation
Carbon monoxide	98.9	lb/hr	Hours of operation
Particulate	17.2	lb/hr	Hours of operation
Sulfur dioxide	0.050	lb/lb	Pounds of oil burned
Hydrocarbons	44.7	lb/hr	Hours of operation

REQUIRED TESTING

13. Notification of the Department prior to any required testing shall include as a minimum: the date and time of the test, the exact location of the test, and the name and telephone number of the contact person at the site.

14. Nitrogen oxide emissions tests are required to show continuing compliance with the standards of the Department. The test results must provide reasonable assurance that the unit is capable of compliance at the permitted maximum operating rate. Test shall be conducted in accordance with EPA Method 7E as published in 40 CFR-60, Appendix A, or State approved equivalent method. Such tests shall be conducted once per year within 90 days prior to October 31 of each calendar year. Results shall be submitted to the Department within 45 days after testing. The Department shall be notified at least 15 days prior to testing to allow witnessing.

15. Carbon monoxide emissions tests are required to show continuing compliance with the standards of the Department. The test results must provide reasonable assurance that the unit is capable of compliance at the permitted maximum operating rate. Test shall be conducted in accordance with EPA Method Ten as published in 40 CFR-60, Appendix A, or State approved equivalent method. Such tests shall be conducted once per year within 90 days prior to October 31 of each calendar year. Results shall be submitted to the Department within 45 days after testing. The Department shall be notified at least 15 days prior to testing to allow witnessing.

16. Visible emissions tests are required to show continuing compliance with the standards of the Department. The test results must provide reasonable assurance that the unit is capable of

SPECIFIC CONDITIONS:

compliance at the permitted maximum operating rate. Test shall be conducted in accordance with EPA Method Nine as published in 40 CFR-60, Appendix A, or State approved equivalent method. Such tests shall be conducted once per year within 90 days prior to October 31 of each calendar year. Results shall be submitted to the Department within 45 days after testing. The Department shall be notified at least 15 days prior to testing to allow witnessing.

17. Particulate matter emissions tests are required to show continuing compliance with the standards of the Department. The test results must provide reasonable assurance that the unit is capable of compliance at the permitted maximum operating rate. Test shall be conducted in accordance with EPA Method Five as published in 40 CFR-60, Appendix A, or State approved equivalent method. Such tests shall be conducted once per year within 90 days prior to October 31 of each calendar year. Results shall be submitted to the Department within 45 days after testing. The Department shall be notified at least 15 days prior to testing to allow witnessing.

Note: In the event of an emergency the permittee shall contact the Department by calling (904) 488-1320. During normal business hours, the permittee shall call (813) 332-6975.

Issued this 15th day of Oct, 1993.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Philip R. Edwards
Director of
District Management

PRE/AEL/ael
8 Pages Attached

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NOTICE OF PERMIT AMENDMENTS

January 18, 1994

CERTIFIED MAIL #P 287 405 603
RETURN RECEIPT REQUESTED

In the Matter of a Request for
Amendments to a Permit by:

DEP File No. AO28-234794
Highlands County - AP

Patrick A. Ho, P.E.,
Manager, Environmental Planning
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111
_____/

Permit Number AO28-234794 to operate a slow speed Diesel Electric Generating Unit is amended pursuant to Section(s) 403.087, Florida Statutes.

Tampa Electric Company requested an amendment to the permit to reinstate the waiver of Method Five particulate testing which was a part of the construction permit. Specific Condition No. 6 of the permit is amended to read as follows:

6. Visible emissions shall not exceed 20% opacity. [Reference Rule 17-296.310(2), F.A.C.] Specific Condition No. 17 requiring a Method Five test for particulate emissions is waived if the visible emissions results are 10% opacity or less.

A person whose substantial interests are affected by these permit amendments may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of receipt of these permit amendments. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information;

(a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
(b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;

(d) A statement of the material facts disputed by Petitioner, if any;

(e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;

(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and

(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in these permit amendments. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

These permit amendments are final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition and conforms to Rule 17-103.070, F.A.C. Upon timely filing of a petition or a request for an extension of time these permit amendments will not be effective until further Order of the Department.

When the Order (Permit Amendments) is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date the Final Order is filed with the Clerk of the Department.

Executed in Fort Myers, Florida.

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL PROTECTION

Ronald D. Blackburn
Acting Director of
District Management
South District Office
2295 Victoria Avenue, Suite 364
Fort Myers, Florida 33901
(813)332-6975

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT ISSUANCE and all copies were mailed by certified mail before the close of business on January 19, 1994 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to §120.52(11), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

(Clerk) 1-19-94 (Date)

RDB/AEL/jw

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NOTICE OF PERMIT AMENDMENTS

November 15, 1993

CERTIFIED MAIL NO. P 287 405 554
RETURN RECEIPT REQUESTED

In the Matter of a Request for Amendments to Two Permits by:
Patrick A. Ho, P.E.
Manager, Environmental Planning
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111
_____/

DEP File No. AO28-234787
and AO28-234794
Highlands County - AP

Enclosed are amended Permits Numbers AO28-234787 and AO28-234794 to operate two slow speed diesel electric generators issued pursuant to Section(s) 403.087, Florida Statutes.

Tampa Electric requested amendments to remove any reference to Title V of the Clean Air Act Amendments of 1990 and to specific conditions (2), (7), (8), (11), (12), (14), (15), (16), and (17). Specific Condition (2) has been in all previous permits and will remain. Specific Conditions (7), (8), (11), (12), (14), (15), and (16) have been changed as requested. The requested change of date in Specific condition (17) has been made, however, the requested waiver of the particulate testing is denied. The rule requires particulate testing, and the conditions of the waiver were recinded by a consent order of January 5, 1987.

A person whose substantial interests are affected by these permit amendments may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes (F.S.). The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of receipt of these Permit amendments. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S..

The Petition shall contain the following information;

(a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;

(b) A statement of how and when each petitioner received notice of the Department's action or proposed action;

(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;

(d) A statement of the material facts disputed by Petitioner, if any;

(e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;

(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and

(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this permit amendments. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, Florida Administrative Code (F.A.C.).

These permit amendments are final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition and conforms to Rule 17-103.070, F.A.C.. Upon timely filing of a petition or a request for an extension of time these permit amendments will not be effective until further Order of the Department.

When the Order (Permit Amendments) are final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The

Notice of Appeal must be filed within 30 days from the date the Final Order is filed with the Clerk of the Department.

Executed in Fort Myers, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Philip R. Edwards
Director of
District Management
South District Office
2295 Victoria Avenue, Suite 364
Fort Myers, Florida 33901-2896
(813)332-6975

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT AMENDMENTS and all copies were mailed by certified mail before the close of business on November 17, 1993 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to §120.52(11), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

(Clerk) 11-17-93 (Date)

PRE/AEL/ael

Enclosures

PA 30

RECEIVED

NOV 19 1993

ENVIRONMENTAL PLANNING

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NOTICE OF PERMIT ISSUANCE

November 17, 1993

CERTIFIED MAIL No. P 287 405 317
RETURN RECEIPT REQUESTED

In the Matter of an
Application for Permit by:

DER File No. AO28-234735
Highlands County - AP

Patrick A. Ho, P.E., Manager
Environmental Planning
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

Enclosed is amended Permit Number AO28-234735 to operate a package boiler issued pursuant to Section(s) 403.087, Florida Statutes.

Tampa Electric requested amendments to remove any reference to Title V of the Clean Air Act Amendments of 1990 and to specific conditions (5), (8), and (10). This amended permit incorporates these changes.

A person whose substantial interests are affected by these permit amendments may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes (F.S.). The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of receipt of these Permit amendments. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S..

The Petition shall contain the following information;

(a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;

(b) A statement of how and when each petitioner received notice of the Department's action or proposed action;

(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;

(d) A statement of the material facts disputed by Petitioner, if any;

(e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;

(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and

(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this permit amendments. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, Florida Administrative Code (F.A.C.).

These permit amendments are final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition and conforms to Rule 17-103.070, F.A.C. Upon timely filing of a petition or a request for an extension of time these permit amendments will not be effective until further Order of the Department.

When the Order (Permit Amendments) are final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The

Notice of Appeal must be filed within 30 days from the date the Final Order is filed with the Clerk of the Department.

Executed in Fort Myers, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Philip R. Edwards
Director of
District Management
South District Office
2295 Victoria Avenue, Suite 364
Fort Myers, Florida 33901-2896
(813)332-6975

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT AMENDMENTS and all copies were mailed by certified mail before the close of business on November 17, 1993 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to §120.52(11), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

(Clerk) 11-17-93 (Date)

PRE/AEL/ael

Enclosures

Florida Department of
Environmental Protection

South District
2295 Victoria Avenue
Fort Myers, Florida 33901

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

PERMITTEE:
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

I.D. No.: 52FTM28001804
Permit/Certification
Number: A028-234735
Date of Issue: November 17, 1993
Expiration Date: October 5, 1998
County: Highlands
Latitude: 27° 26′ 35" N
Longitude: 81° 21′ 40" W
Section/Town/Range: 07/35S/30E
Project: Tampa Electric Company
Auxiliary Steam Boiler
Phillips Power Plant

This permit is issued under the provisions of Chapter 403.087, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Rules 17-296, 17-297 and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

Operate a package steam boiler having a maximum rated heat input of 10.4 MMBtu/hr, fired with Number 2 fuel oil with a maximum sulfur content of 0.50%.

This facility is located at 7301 Airport Road, Sebring, Florida.

This is an amended version of the permit issued on October 5, 1993, and is to clarify some of the wording in the specific conditions.

PERMITTEE:
Tampa Electric Company

I.D. No.: 52FTM28001804
Permit/Cert. No.: AO28-234735
Date of Issue: November 17, 1993
Expiration Date: October 5, 1998

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5) Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by any order from the Department.

GENERAL CONDITIONS:

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law, and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

a. Have access to and copy any records that must be kept under the conditions of the permit;

b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and

c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

a. a description of and cause of non-compliance; and

b. the period of non-compliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted

GENERAL CONDITIONS:

source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Section 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-30.300, F.A.C. as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

( ) Determination of Best Available Control Technology (BACT)
(X) Determination of Prevention of Significant Deterioration (PSD)
( ) Compliance with New Source Performance Standards (NSPS)

14. The permittee shall comply with the following:

(a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically, unless otherwise stipulated by the Department.

(b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for

GENERAL CONDITIONS:

this permit. These materials shall be retained at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.

(c) Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used;
- the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

PERMITTEE:
Tampa Electric Company

I.D. No.: 52FTM28001804
Permit/Cert. No.: AO28-234735
Date of Issue: November 17, 1993
Expiration Date: October 5, 1998

SPECIFIC CONDITIONS:

FACILITY OPERATIONS

1. All fugitive dust generated at this site shall be adequately controlled. [Reference Rule 17-296.310(3), F.A.C.]

2. This facility shall be operated in such a fashion so as to preclude objectionable odors. [Reference Rule 17-296.320(2), F.A.C.]

3. There shall be no discharges of liquid effluents or contaminated run-off from the plant site.

CONDITIONS OF COMPLIANCE

4. An annual operation report (DER Form 17-210.900(4) attached) shall be submitted by March 1st each year. The attached form shall be reproduced by the permittee and used for future annual submittals.

5. Visible emissions shall not exceed 20% opacity under normal operation except for up to one 6 minutes period per hour at not more than 27% opacity. [Reference Rule 17-296.406(1), F.A.C.]

6. Copies of fuel oil analyses, especially density, heating value, and percent sulfur content by weight, shall be submitted to the Department quarterly.

7. Sulfur content in fuel shall not exceed 0.50%.

8. Based on the PSD determination cited in the construction permit, emissions shall not exceed any of the following values:

POLLUTANT	FACTOR	UNITS	BASIS
Sulfur Dioxide	0.01	lb/lb	pounds of oil burned
or	0.50	lb/MMBtu	Btu per gal. of fuel

9. Notification of the Department prior to any required testing shall include as a minimum: the date and time of the test, the exact location of the test, and the name and telephone number of the contact person at the site.

PERMITTEE:
Tampa Electric Company

I.D. No.: 52FTM28001804
Permit/Cert. No.: AO28-234735
Date of Issue: November 17, 1993
Expiration Date: October 5, 1998

SPECIFIC CONDITIONS:

REQUIRED TESTING

10. Visible emissions tests are required to show continuing compliance with the standards of the Department. The test results must provide reasonable assurance that the unit is capable of compliance at the permitted maximum operating rate. Test shall be conducted in accordance with EPA Method Nine as published in 40 CFR-60, Appendix A, or State approved equivalent method. Such tests shall be conducted once per year within 90 days prior to October 31 of each calendar year. Results shall be submitted to the Department within 45 days after testing. The Department shall be notified at least 15 days prior to testing to allow witnessing.

NOTE: In the event of an emergency the permittee shall contact the Department by calling (904)488-1320. During normal business hours, the permittee shall call (813)332-6975.

Issued this 17th day of November, 1993.

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL PROTECTION

Philip R. Edwards
Director of
District Management

PRE/AEL/ael

10 Pages Attached

TECO
TAMPA ELECTRIC

CORPORATE ENVIRONMENTAL SERVICES

AIR PROGRAMS REPORT

NITROGEN OXIDES - BEST
AVAILABLE CONTROL
TECHNOLOGY DETERMINATION
SOURCE EMISSION TEST #3

POLK POWER GENERATING STATION

AIRS # 1050233

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

FEBRUARY 7, 2000

Prepared by Tampa Electric Company
Corporate Environmental Services
February 22, 2000

REPORT CERTIFICATION

I have calculated and reviewed all data in this report, and hereby certify that the test report is authentic and accurate to the best of my knowledge.

Date 3/3/2000 Signature _____

QA/QC Coordinator
Senior Environmental Technician
Air Services and Auditing
Corporate Environmental Services
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 3/7/00 Signature _____

Test Team Leader
Senior Environmental Technician
Air Services and Auditing
Corporate Environmental Services
Tampa Electric Company

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 3/7/00 Signature _____

Air Administrator
Air Programs
Tampa Electric Company

TABLE OF CONTENTS

1.0 SUMMARY OF RESULTS

On February 7, 2000, Corporate Environmental Services, Air Services and Auditing group of Tampa Electric Company performed source emission tests on IGCC Unit No. 1 at the Polk Power Electrical Generating 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 NOx Best Available Control Technology (BACT) determinations. Testing was performed according to USEPA test methods stipulated in 40 CFR Part 60, Appendix A.

The Nitrogen Oxides (NO_x) emission rate was derived from three test runs. The calculated average was 19 ppm corrected to 15% oxygen on a dry basis.

During the tests on February 7, 2000, Unit No. 1 Combustion Turbine was operated at an average load of 192 megawatts. Details of turbine operation are included in Appendix C.

2.0 SOURCE DESCRIPTION/TEST PROCEDURES

Polk Power Electrical Generating Station is located at County Road 630 approximately 13 miles southwest of Bartow, Polk County, Florida. Unit No. 1 is a 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_x 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 Corporate Environmental Services 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_2 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/NOx Analyzer

The Thermo Environmental Instruments model 10A/R NO/NOx analyzer automatically and continuously determines the concentration of nitric oxide (NO) and/or oxides of nitrogen (NO_x) 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_3) 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_3 reaction, producing an interference free signal. The output from the photomultiplier is linearly proportional to the NO concentration.

To measure NO_x concentrations (i.e., NO plus NO_2), the sample gas flow is diverted through a NO_2-to-NO converter. The chemiluminescent action in the reaction chamber to the converter effluent is linearly proportional to the NO_x 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.

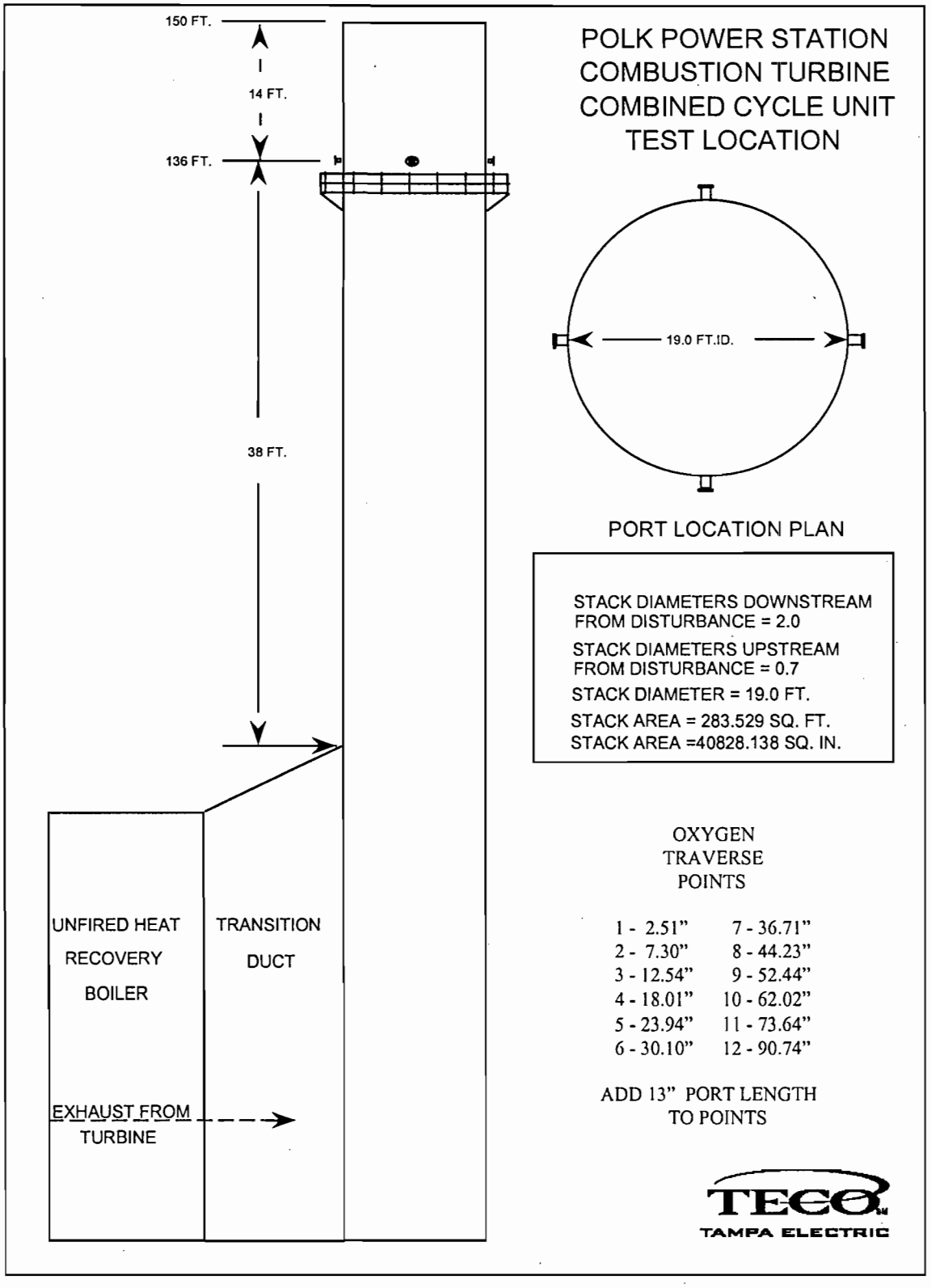
150 FT.
14 FT.
136 FT.
38 FT.
UNFIRED HEAT RECOVERY BOILER
TRANSITION DUCT
EXHAUST FROM TURBINE
POLK POWER STATION
COMBUSTION TURBINE
COMBINED CYCLE UNIT
TEST LOCATION
19.0 FT.ID.
PORT LOCATION PLAN
STACK DIAMETERS DOWNSTREAM FROM DISTURBANCE = 2.0
STACK DIAMETERS UPSTREAM FROM DISTURBANCE = 0.7
STACK DIAMETER = 19.0 FT.
STACK AREA = 283.529 SQ. FT.
STACK AREA =40828.138 SQ. IN.
OXYGEN TRAVERSE POINTS
1 - 2.51" 7 - 36.71"
2 - 7.30" 8 - 44.23"
3 - 12.54" 9 - 52.44"
4 - 18.01" 10 - 62.02"
5 - 23.94" 11 - 73.64"
6 - 30.10" 12 - 90.74"
ADD 13" PORT LENGTH TO POINTS
TECO
TAMPA ELECTRIC

FIGURE 1

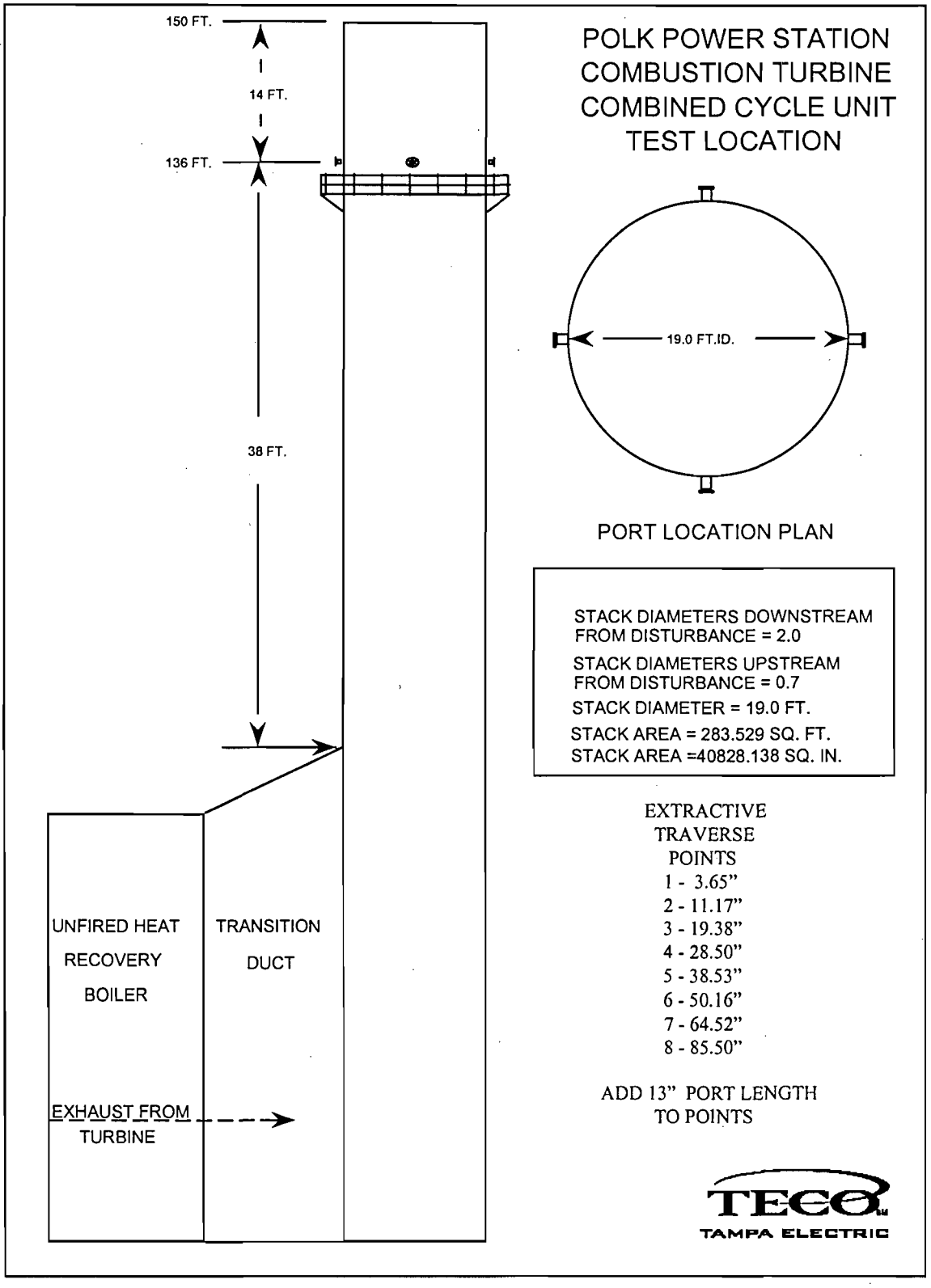
150 FT.
14 FT.
136 FT.
38 FT.
UNFIRED HEAT RECOVERY BOILER
TRANSITION DUCT
EXHAUST FROM TURBINE
POLK POWER STATION
COMBUSTION TURBINE
COMBINED CYCLE UNIT
TEST LOCATION
19.0 FT.ID.
PORT LOCATION PLAN
STACK DIAMETERS DOWNSTREAM FROM DISTURBANCE = 2.0
STACK DIAMETERS UPSTREAM FROM DISTURBANCE = 0.7
STACK DIAMETER = 19.0 FT.
STACK AREA = 283.529 SQ. FT.
STACK AREA =40828.138 SQ. IN.
EXTRACTIVE TRAVERSE POINTS
1 - 3.65"
2 - 11.17"
3 - 19.38"
4 - 28.50"
5 - 38.53"
6 - 50.16"
7 - 64.52"
8 - 85.50"
ADD 13" PORT LENGTH TO POINTS
TECO
TAMPA ELECTRIC

FIGURE 2

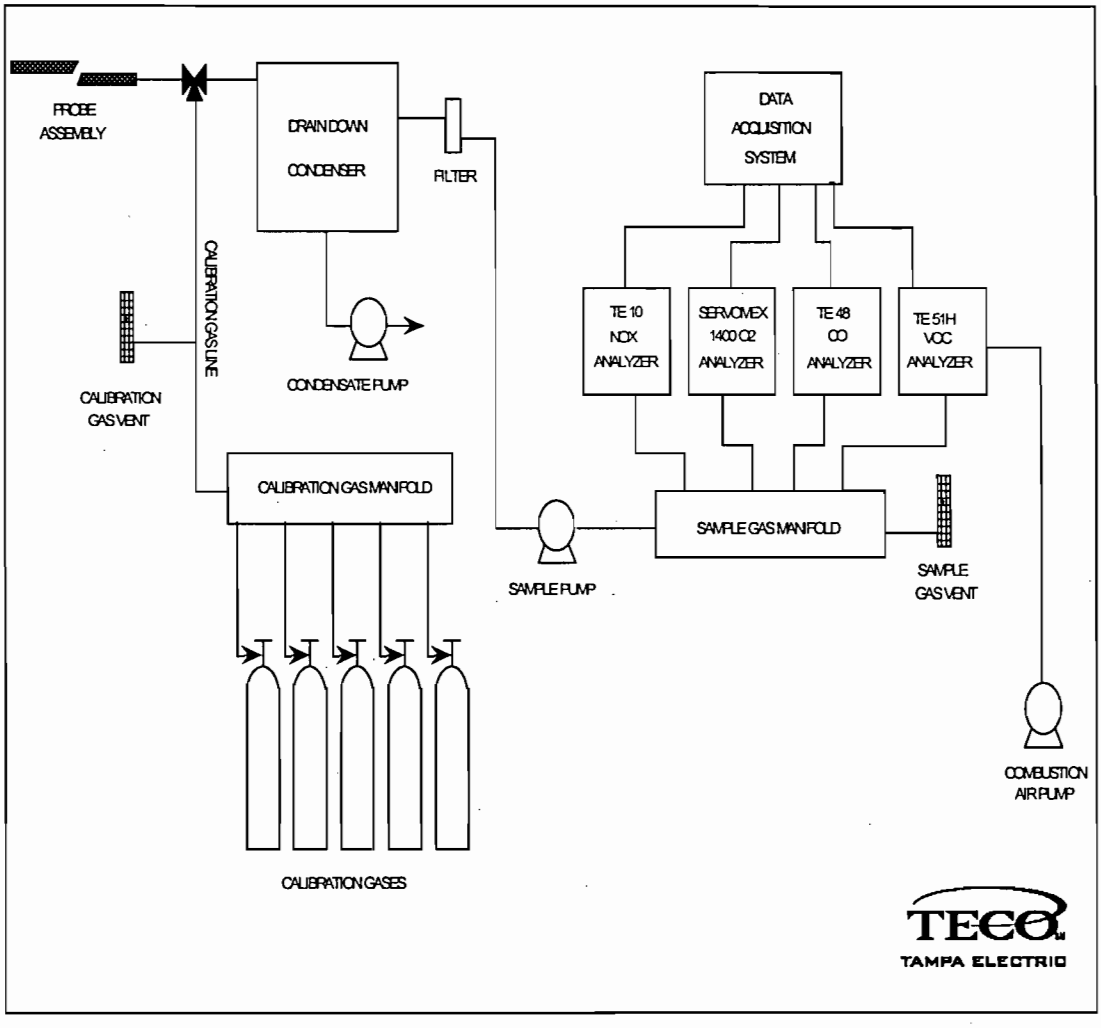

FIGURE 3
Extractive Method Sampling Trains
USEPA METHODS 3A, 10, 20, 25A

3.0 TEST RESULTS

POLK POWER ELECTRICAL GENERATING STATION
NITROGEN OXIDES BACT TESTING

IGCC COMBUSTION TURBINE UNIT 1
FEBRUARY 7, 2000

RUN NO.	TIME	O2%	ppm NOx Dry	CORRECTED 15% O2
1	1320 – 1420	11.9	29.0	19.0
2	1424 – 1524	11.7	30.0	19.2
3	1528 – 1628	11.8	29.0	18.8
	Average	11.8	29.3	19.0

Corrected NOx calculated as:

Concentration (ppm NOx) x (Cd / (20.9 - $\%O_2$))

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 STUDY

TEST DATE: 2/7/00

GAS VALUE	INITIAL CAL	FINAL CAL	MEAN CAL
0.0 ppm NOx	2.7	1.5	2.1
24.0 ppm NOx	25.7	24.1	24.9
0.00 % Oxygen	0.51	0.69	0.60
11.96 % Oxygen	12.04	12.21	12.12
$\bar{C}$(NOx) =	29.4	$\bar{C}$(O2) =	12.03

CORRECTED RESULTS

29 ppm NOx
11.9 % Oxygen
19.0 ppm NOx @15% O2

Corr. Conc. = $\bar{C}ma$(C - Co)/(Cm - Co) (for NOx)

Corr. Conc. = [(Cma - Coa)/(Cm - Co)](C - $\bar{C}m$) + Cma (for O2)

Where: $\bar{C}$ = mean reference measurement
Co = mean zero calibration response
Coa = actual low-level calibration gas concentration
Cm = mean mid or upscale calibration gas response
Cma = actual mid or upscale calibration gas concentration

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

8094
1.194E-07

CALCULATION OF AVERAGE NITROGEN OXIDES EMISSIONS

RUN: 2

SOURCE: POLK POWER STATION UNIT 1 BACT STUDY

TEST DATE: 2/7/00

GAS VALUE	INITIAL CAL	FINAL CAL	MEAN CAL
0.0 ppm NOx	1.5	3.4	2.4
24.0 ppm NOx	24.1	25.9	25.0
0.00 % Oxygen	0.69	0.66	0.67
11.96 % Oxygen	12.21	12.15	12.18

$\bar{C}$(NOx) = 30.6 $\bar{C}$(O2) = 11.96

CORRECTED RESULTS

30 ppm NOx
11.7 % Oxygen
19.2 ppm NOx @15% O2

Corr. Conc. = $\bar{C}$ma(C - Co)/(Cm - Co) (for NOx)

Corr. Conc. = [(Cma - Coa)/(Cm - Co)](C - $\bar{C}$m) + Cma (for O2)

Where: $\bar{C}$ = mean reference measurement
Co = mean zero calibration response
Coa = actual low-level calibration gas concentration
Cm = mean mid or upscale calibration gas response
Cma = actual mid or upscale calibration gas concentration

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

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1.194E-07

CALCULATION OF AVERAGE NITROGEN OXIDES EMISSIONS

RUN: 3

SOURCE: POLK POWER STATION UNIT 1 BACT STUDY

TEST DATE: 2/7/00

GAS VALUE	INITIAL CAL	FINAL CAL	MEAN CAL
0.0 ppm NOx	3.4	0.5	1.9
24.0 ppm NOx	25.9	23.0	24.5
0.00 % Oxygen	0.66	0.40	0.53
11.96 % Oxygen	12.15	12.24	12.19
$\bar{C}$(NOx) =	29.3	$\bar{C}$(O2) =	12.02

CORRECTED RESULTS

29 ppm NOx
11.8 % Oxygen
18.8 ppm NOx @15% O2

Corr. Conc. = $\bar{C}ma(C - Co)/(Cm - Co)$ (for NOx)

Corr. Conc. = $[(Cma - Coa)/(Cm - Co)](C - \bar{C}m) + Cma$ (for O2)

Where: $\bar{C}$ = mean reference measurement
Co = mean zero calibration response
Coa = actual low-level calibration gas concentration
Cm = mean mid or upscale calibration gas response
Cma = actual mid or upscale calibration gas concentration

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

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1.194E-07

APPENDIX A - 2

OXYGEN CALCULATIONS

CALCULATION OF AVERAGE OXYGEN CONCENTRATION

RUN: 1

SOURCE: POLK POWER STATION UNIT 1 BACT STUDY

TEST DATE: 2/7/00

GAS VALUE	INITIAL CAL	FINAL CAL	MEAN CAL
0.00 % Oxygen	0.51	0.69	0.60
11.96 % Oxygen	12.04	12.21	12.12

$\bar{C}$ = 12.03

CORRECTED RESULTS

11.9 % Oxygen

Corrected Conc. = Cma(C - $\bar{Co}$)/(Cm - Co)

Where: $\bar{C}$ = mean reference measurement
Co = mean zero calibration response
Cm = mean mid or upscale calibration gas response
Cma = actual mid or upscale calibration gas concentration

CALCULATION OF AVERAGE OXYGEN CONCENTRATION

RUN: 2

SOURCE: POLK POWER STATION UNIT 1 BACT STUDY

TEST DATE: 2/7/00

GAS VALUE	INITIAL CAL	FINAL CAL	MEAN CAL
0.00 % Oxygen	0.69	0.66	0.67
11.96 % Oxygen	12.21	12.15	12.18

$\bar{C}$ = 11.96

CORRECTED RESULTS

11.7 % Oxygen

Corrected Conc. = Cma(C - $\bar{C}$o)/(Cm - Co)

Where: $\bar{C}$ = mean reference measurement
Co = mean zero calibration response
Cm = mean mid or upscale calibration gas response
Cma = actual mid or upscale calibration gas concentration

CALCULATION OF AVERAGE OXYGEN CONCENTRATION

RUN: 3

SOURCE: POLK POWER STATION UNIT 1 BACT STUDY

TEST DATE: 2/7/00

GAS VALUE	INITIAL CAL	FINAL CAL	MEAN CAL
0.00 % Oxygen	0.66	0.40	0.53
11.96 % Oxygen	12.15	12.24	12.19

$\bar{C}$ = 12.02

CORRECTED RESULTS

11.8 % Oxygen

Corrected Conc. = Cma(C - $\bar{Co}$)/(Cm - Co)

Where: $\bar{C}$ = mean reference measurement
Co = mean zero calibration response
Cm = mean mid or upscale calibration gas response
Cma = actual mid or upscale calibration gas concentration

APPENDIX B

TURBINE DATA

All values are averages for time period given

			TEST PERIOD 1
		START TIME	36563.5
		END TIME	36563.708
1TSYFI910	GT SYNGAS MASS FLOW	LB/SEC	102.6405
1PWRJI900	GT GEN LOAD WATTS	MW	191.79012
1GMLJI962	GT GENERATOR WATTS	MW	192.71425
1TSYJYI910	GT SYNGAS LOWER HEATING VA	BTU/LB	245.93356
1NITFI920A	GT N2 FLOW	LB/SEC	117.20995
1TMSTI922M	GT CPRSR MAX INL FLANGE TE	F	70.717781
1TMSPI909	AMBIENT BAR PRESS	IN HGA	30.111511

1 MINUTE AVERAGES

TEST PERIOD 1
36563.5
36563.71

	GT SYNGAS 1TSYFI910	GT GEN LOAD 1PWRJI900	GT GENERATOR 1GMLJI962	GT SYNGAS LOWER I 1TSYJYI910	GT N2 FLOW 1NITFI920A	GT CPRSR MAX INL FLANGE 1TMSTI922M	AMBIENT BP 1TMSPI909
36563.5	102.2705	191.8515015	192.7159271	246.4013214	116.7663345	67.91618347	30.14540291
36563.5	102.71859	191.8538208	192.7186127	246.3991394	116.7692947	67.7119751	30.14517593
36563.5	102.331352	191.7322388	192.7212982	246.3969421	116.7722549	67.50776672	30.14495087
36563.5	102.670265	191.8231964	192.7239838	246.3947601	116.7752075	67.63648224	30.14472389
36563.5	102.08963	192.0078125	192.7266693	246.3925629	116.7781677	67.55435181	30.14449883
36563.5	102.524895	191.9920654	192.7293549	246.3903809	116.7811203	67.24636078	30.14427376
36563.5	102.303993	191.9763031	192.7320404	246.3881989	116.7840805	67.48679352	30.14404678
36563.5	102.404861	191.9605408	192.734726	246.3860016	116.7870407	67.80727386	30.14382172
36563.51	102.258034	191.5700836	192.7374115	246.3838196	116.7899933	67.90937805	30.14359474
36563.51	102.32106	191.5019836	192.740097	246.3816223	116.7929535	68.01148224	30.14336967
36563.51	102.429352	191.9842224	192.7427826	246.3794403	116.7959137	67.90853882	30.1431427
36563.51	102.482941	191.7832489	192.7454681	246.377243	116.7988663	67.97088623	30.14291763
36563.51	102.411415	191.7526703	192.7481537	246.375061	116.8018265	68.4291153	30.14269066
36563.51	102.511063	191.3941803	192.7508392	246.3728638	116.8047867	68.68877411	30.14246559
36563.51	102.759865	191.5247498	192.7535248	246.3706818	116.8077393	69.07376099	30.14223862
36563.51	102.677765	191.5456085	192.7562103	246.3684845	116.8106995	69.7091217	30.14201355
36563.51	102.491646	191.858963	192.7588959	246.3663025	116.8136597	69.91159821	30.14178658
36563.51	102.276306	191.8827972	192.7615814	246.3641205	116.8166122	70.11406708	30.14156151
36563.51	102.615974	192.0717621	192.764267	246.3619232	116.8195724	69.7359314	30.14133644
36563.51	102.194366	191.624176	192.7669525	246.3597412	116.8225327	69.5100708	30.14110947
36563.51	102.381531	191.6872101	192.7696381	246.3575439	116.8254852	69.94125366	30.1408844
36563.51	102.171432	191.7910767	192.7723236	246.3553619	116.8284454	70.10593414	30.14065742
36563.52	102.219154	191.59552	192.7750092	246.3531647	116.831398	70.24567413	30.14043236
36563.52	102.794052	191.6714478	192.7776947	246.3509827	116.8343582	70.55879211	30.14020538
36563.52	102.315369	191.6965179	192.7807007	246.3487854	116.8373184	70.68404388	30.13998032
36563.52	102.624031	191.9058838	192.783844	246.3466034	116.840271	71.46968842	30.13975334

36563.52	102.522942	191.7449341	192.7870026	246.3444061	116.8432312	71.31442261	30.13952827
36563.52	102.671288	191.8214722	192.7901459	246.3422241	116.8461914	71.67267609	30.1393013
36563.52	102.23243	192.459137	192.7932892	246.3400421	116.849144	71.14910126	30.13907623
36563.52	102.290451	191.6366425	192.7964478	246.3378448	116.8521042	70.93350983	30.13885117
36563.52	102.842339	191.6321411	192.7995911	246.3356628	116.8550644	71.49815369	30.13862419
36563.52	102.732475	192.3941803	192.8027496	246.3334656	116.858017	71.16938019	30.13839912
36563.52	102.537437	191.9763794	192.8058929	246.3312836	116.8609772	70.56922913	30.13817215
36563.52	102.2528	191.3397675	192.8090515	246.3290863	116.8639374	71.18503571	30.13794708
36563.52	102.161674	191.6069336	192.8121948	246.3269043	116.86689	71.49815369	30.13772011
36563.52	102.121033	191.8740845	192.8153534	246.324707	116.8698502	70.57418823	30.13749504
36563.53	102.320778	192.1412506	192.8184967	246.322525	116.8728104	70.85675812	30.13726807
36563.53	102.168472	191.8968964	192.8216553	246.320343	116.8757629	72.71502686	30.137043
36563.53	102.684715	191.6349945	192.8247986	246.3181458	116.8787231	72.39338684	30.13681602
36563.53	102.575272	191.9348755	192.8279572	246.3159637	116.8816833	72.07174683	30.13659096
36563.53	102.543106	191.8290863	192.8311005	246.3137665	116.8846359	71.75010681	30.13636398
36563.53	102.273628	191.6708527	192.8342438	246.3115845	116.8875961	71.29462433	30.13613892
36563.53	102.513611	191.512619	192.8374023	246.3093872	116.8905487	70.7507019	30.13591385
36563.53	102.428391	191.3415527	192.8405457	246.3072052	116.8935089	70.32266998	30.13568687
36563.53	102.798012	191.7629395	192.8437042	246.3050079	116.8964691	70.78465271	30.13546181
36563.53	102.348679	191.6603088	192.8468475	246.3028259	116.8994217	71.18503571	30.13523483
36563.53	102.611633	191.5576782	192.8500061	246.3006287	116.9023819	71.24663544	30.13500977
36563.53	102.224365	191.8050385	192.8296814	246.2984467	116.9053421	71.81127167	30.13478279
36563.53	102.768341	191.775177	192.7967224	246.2962646	116.9082947	71.81127167	30.13455772
36563.53	102.309334	192.1288147	192.7637634	246.2940674	116.9112549	72.1205368	30.13433075
36563.53	102.653664	192.0569458	192.7308044	246.2918854	116.9142151	72.04354095	30.13410568
36563.54	102.560844	191.6034851	192.6978455	246.2896881	116.9171677	71.9665451	30.13387871
36563.54	102.504189	191.4739685	192.6648712	246.2875061	116.9201279	71.88954926	30.13365364
36563.54	102.869171	191.8415527	192.6319122	246.2853088	116.9230881	71.81255341	30.13342667
36563.54	103.116852	191.7600555	192.5989532	246.2831268	116.9260406	71.29858398	30.1332016
36563.54	102.509842	191.6785583	192.5659943	246.2809296	116.9290009	71.09212494	30.13297653
36563.54	102.309029	191.7793732	192.5330353	246.2787476	116.9319611	70.88567352	30.13274956
36563.54	102.193726	191.7913818	192.5000763	246.2765503	116.9349136	70.55879211	30.13252449
36563.54	102.351601	191.6246338	192.606369	246.2743683	116.9378738	70.55879211	30.13229752
36563.54	102.47654	191.7261047	192.7876587	246.2721863	116.9408264	70.02865601	30.13207245
36563.54	102.405693	191.852005	192.8475342	246.269989	116.9437866	69.41696167	30.13184547
36563.54	102.394714	191.6486053	192.842041	246.267807	116.9467468	69.57167053	30.13162041
36563.54	102.481003	191.9000854	192.8365479	246.2656097	116.9496994	70.36365509	30.13139343

36563.54	102.400894	191.8619232	192.8310547	246.2634277	116.9526596	70.80004883	30.13116837
36563.54	102.532043	191.7769775	192.8255615	246.2612305	116.9556198	70.3917923	30.13094139
36563.55	102.498856	191.930069	192.8200684	246.2590485	116.9585724	70.32780457	30.13071632
36563.55	102.204887	191.8634033	192.8145752	246.2568512	116.9615326	69.36299133	30.13048935
36563.55	102.553337	192.2160187	192.809082	246.2546692	116.9644928	69.53787231	30.13026428
36563.55	102.581627	191.8408661	192.8035889	246.2524872	116.9674454	70.30356598	30.13003922
36563.55	102.7444	191.5736694	192.7980957	246.2502899	116.9704056	70.76300049	30.12981224
36563.55	102.386696	191.6304016	192.7926025	246.2481079	116.9733658	71.06931305	30.12958717
36563.55	102.543488	191.6871185	192.7870941	246.2459106	116.9763184	71.37562561	30.1293602
36563.55	102.708824	191.6888733	192.781601	246.2437286	116.9792786	71.46221924	30.12913513
36563.55	102.617729	191.5778046	192.7761078	246.2415314	116.9822388	71.92420197	30.12890816
36563.55	102.34481	192.0447388	192.7706146	246.2393494	116.9851913	72.58379364	30.12868309
36563.55	102.627037	192.0447388	192.7651215	246.2371521	116.9881516	72.73905945	30.12845612
36563.55	102.550484	191.6661987	192.7596283	246.2349701	116.9911118	72.31139374	30.12823105
36563.55	102.537918	192.0633545	192.7541351	246.2327728	116.9940643	72.30220032	30.12800407
36563.55	102.40789	191.8396606	192.748642	246.2305908	116.9970245	72.32672119	30.12777901
36563.55	102.71096	192.0053406	192.7431488	246.2284088	116.9999771	72.20648956	30.12755203
36563.56	102.480927	191.7666931	192.7376556	246.2262115	117.0029373	72.38893127	30.12732697
36563.56	102.513702	191.9074097	192.7321625	246.2240295	117.0058975	72.32615662	30.1271019
36563.56	102.413223	191.862381	192.7077942	246.2218323	117.0088501	71.89554596	30.12687492
36563.56	102.681366	191.7819366	192.6732635	246.2196503	117.0118103	71.4649353	30.12664986
36563.56	102.65786	191.8841248	192.6387329	246.217453	117.0147705	71.29462433	30.12642288
36563.56	102.473793	191.99263	192.6042175	246.215271	117.0177231	71.61621094	30.12619781
36563.56	102.461182	192.1011353	192.5696869	246.2130737	117.0206833	71.18503571	30.12597084
36563.56	102.488449	192.2096405	192.5351563	246.2108917	117.0236435	71.01050568	30.12574577
36563.56	102.209396	191.9303741	192.5006256	246.2086945	117.0265961	70.96944427	30.1255188
36563.56	102.71817	192.0474396	192.547699	246.2065125	117.0295563	71.81127167	30.12529373
36563.56	102.307716	191.4368134	192.6387177	246.2043304	117.0325165	71.81127167	30.12506676
36563.56	102.500809	191.7145386	192.7297516	246.2021332	117.0354691	71.81127167	30.12484169
36563.56	102.433189	192.1567078	192.8207703	246.1999512	117.0384293	71.55461884	30.12461472
36563.56	102.095413	191.5246735	192.8367767	246.1977539	117.0413895	71.72709656	30.12438965
36563.57	102.171799	191.8259277	192.8152924	246.1955719	117.044342	71.22206879	30.12416458
36563.57	102.11615	191.9840393	192.793808	246.1933746	117.0473022	70.71703339	30.12393761
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36563.57	102.189857	191.8421631	192.7508392	246.1889954	117.053215	70.35517883	30.12348557
36563.57	102.453903	191.6761475	192.7293549	246.1868134	117.0561752	70.45783997	30.1232605
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36563.57	102.452332	191.8445282	192.6635895	246.1780548	117.0680008	72.28292847	30.12235641
36563.57	102.400391	191.8175049	192.6723785	246.1758728	117.070961	72.77085876	30.12212944
36563.57	102.200943	191.7904968	192.6811676	246.1736755	117.0739212	70.8719101	30.12190437
36563.57	102.149544	192.0621338	192.6899567	246.1714935	117.0768738	70.8719101	30.1216774
36563.57	102.386444	191.5210724	192.6987457	246.1692963	117.079834	70.58984375	30.12145233
36563.57	102.458031	191.9688416	192.7075348	246.1671143	117.0827942	70.900383	30.12122726
36563.58	102.066849	191.5738678	192.7163239	246.164917	117.0857468	71.5135498	30.12100029
36563.58	102.205421	191.6060333	192.7251129	246.162735	117.088707	71.7599411	30.12077522
36563.58	102.107002	191.5761566	192.733902	246.160553	117.0916672	70.24567413	30.12054825
36563.58	102.425758	191.9453735	192.742691	246.1583557	117.0946198	70.24567413	30.12032318
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36563.58	102.56218	192.0429382	192.7602844	246.1539764	117.1005402	72.10385895	30.11987114
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36563.58	102.430283	191.8119507	192.7866516	246.1474152	117.1094055	73.02625275	30.11919212
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36563.58	102.208168	191.6010742	192.8130188	246.1408386	117.1182785	71.45709229	30.11851501
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36563.59	102.218185	191.8335571	192.848175	246.1320953	117.1301117	69.70513153	30.11761093
36563.59	102.261696	191.5286713	192.64505	246.1298981	117.1330719	69.3971405	30.11738586
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36563.59	102.568634	191.743515	192.56604	246.1233368	117.1419449	70.28694153	30.11670685
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36563.59	102.214058	191.953186	192.6430664	246.108017	117.1626434	71.02077484	30.11512566
36563.59	102.289497	191.8455658	192.654068	246.1058197	117.1656036	71.0284729	30.11490059
36563.59	102.568283	192.0526886	192.6611786	246.1036377	117.1685562	71.10998535	30.11467361

36563.6	102.116608	191.4011536	192.6663513	246.1014404	117.1715164	70.95471954	30.11444855
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36563.6	102.228767	191.7897339	192.6766968	246.0970612	117.1774292	71.53855133	30.11399651
36563.6	102.838364	191.6946106	192.6818695	246.0948792	117.1803894	72.2048111	30.11376953
36563.6	102.604584	191.9832001	192.6870422	246.0926971	117.1833496	72.92958069	30.11354446
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36563.6	103.068123	192.0834656	192.6973877	246.0883179	117.1892624	73.28786469	30.11309242
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36563.61	103.201546	191.7670746	192.7127228	246.0505829	117.2158813	71.88274384	30.11105919
36563.61	102.665985	191.8661346	192.7061005	246.0448151	117.2188339	71.67853546	30.11083221
36563.61	102.777199	191.8955383	192.6994934	246.0390625	117.2217941	71.55554199	30.11060715
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36563.61	102.37587	191.6977386	192.6730499	246.0160065	117.2336273	72.66132355	30.10970306
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36563.61	102.61834	192.0930634	192.9988098	245.9929657	117.2454529	73.95508575	30.10879898
36563.61	102.680641	191.9759216	192.9665833	245.9872131	117.2484131	74.05718994	30.10857391
36563.61	102.627037	191.7706451	192.9343567	245.9814453	117.2513733	73.6328125	30.10834694
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36563.62	102.729324	191.7033691	192.8376617	245.9641724	117.2602463	73.31969452	30.10766983
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36563.62	102.507935	191.7507935	192.7409821	245.9468842	117.2691193	73.37444305	30.10699272
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36563.62	102.287514	191.8383331	192.7866364	245.9296112	117.2779846	72.49839783	30.10631371

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36563.63	102.678719	192.0387878	192.7987366	245.8892822	117.2986908	74.00289917	30.10473251
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36563.63	102.526703	192.1448364	192.8987427	245.8374481	117.3253098	71.20339203	30.10269928
36563.63	102.424263	191.6129303	192.8265228	245.8316803	117.3282623	70.95860291	30.10247231
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36563.63	102.436142	191.6855927	192.7302399	245.8201599	117.3341827	70.67172241	30.10202026
36563.63	102.457657	191.7615204	192.7302399	245.8144073	117.3371353	70.65272522	30.1017952
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36563.64	102.488052	191.8388062	192.7285004	245.7913666	117.3489685	70.38181305	30.10089111
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36563.64	102.445755	191.9055328	192.7206573	245.7740784	117.3578415	71.7804718	30.100214
36563.64	102.882339	191.9730682	192.7180481	245.7683105	117.3608017	71.6264801	30.09998703
36563.64	102.256691	191.7366943	192.7154236	245.762558	117.3637543	71.54906464	30.09976196
36563.64	102.796104	191.7748718	192.7128143	245.7567902	117.3667145	71.85454559	30.09953499
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36563.64	102.845695	191.9608154	192.7049713	245.7395172	117.3755875	71.48532104	30.09885788
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36563.65	102.470245	191.7392731	192.6971283	245.722229	117.3844604	70.8719101	30.09818077
36563.65	102.777191	191.6654205	192.694519	245.7164764	117.387413	70.8719101	30.0979538

36563.65	103.139198	191.9546051	192.6919098	245.7107086	117.3903732	70.8719101	30.09772873
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36563.65	102.967743	191.4926605	192.686676	245.6991882	117.396286	70.7624054	30.09727669
36563.65	102.994759	192.0345306	192.6840668	245.6934357	117.3992462	70.86506653	30.09704971
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36563.65	103.103806	191.8328094	192.6736145	245.6703949	117.4110794	70.92108154	30.09614563
36563.65	102.986389	191.7247467	192.6710052	245.6646271	117.414032	70.61054993	30.09592056
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36563.66	103.139893	191.5982056	192.6579285	245.6358337	117.4288254	70.64605713	30.09479141
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36563.66	103.025299	191.8536987	192.6422577	245.6012726	117.4465637	71.24149323	30.09343529
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36563.66	102.865814	191.5158539	192.6344147	245.5839844	117.4554367	70.55879211	30.09275627
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36563.66	103.185783	191.5444794	192.6265717	245.5667114	117.4643097	70.32010651	30.09207916
36563.66	103.190102	191.7643738	192.6239624	245.5609436	117.4672699	70.47409821	30.0918541
36563.67	103.172089	191.656311	192.6213379	245.555191	117.4702301	70.6676178	30.09162712
36563.67	103.230904	191.548233	192.6187286	245.5494232	117.4731827	70.21363831	30.09140205
36563.67	103.087097	191.8031616	192.6161194	245.5436554	117.4761429	70.22264099	30.09117508
36563.67	103.128151	191.9351807	192.6134949	245.5379028	117.4791031	70.16255951	30.09095001
36563.67	103.083313	191.5796356	192.6108856	245.532135	117.4820557	70.10247803	30.09072304
36563.67	102.925537	191.8127747	192.6082764	245.5263824	117.4850159	70.04239655	30.09049797
36563.67	103.040558	191.6101532	192.6056671	245.5206146	117.4879761	69.98230743	30.090271
36563.67	103.125565	191.8551941	192.6030426	245.5148621	117.4909286	69.72206879	30.09004593
36563.67	102.784737	191.7465363	192.6004333	245.5090942	117.4938889	69.75675964	30.08981895
36563.67	102.889183	191.6378632	192.5978241	245.5033417	117.4968414	70.21073914	30.08959389

36563.67	103.048187	191.424469	192.5951996	245.4975739	117.4998016	70.7384491	30.08936882
36563.67	103.274689	191.6556091	192.5925903	245.4918213	117.5027618	71.50841522	30.08914185
36563.67	103.263657	191.8867493	192.5899811	245.4860535	117.5057144	71.86867523	30.08891678
36563.67	103.118332	192.0641174	192.5873718	245.4803009	117.5086746	71.86592865	30.0886898
36563.68	102.788712	191.6055756	192.5847473	245.4745331	117.5116348	72.19387817	30.08846474
36563.68	102.869728	191.9074097	192.5821381	245.4687805	117.5145874	72.5218277	30.08823776
36563.68	103.068527	191.9074097	192.5795288	245.4630127	117.5175476	72.5925293	30.0880127
36563.68	102.856514	191.9074097	192.5769043	245.4572601	117.5205078	70.83358765	30.08778572
36563.68	102.950172	191.8791809	192.574295	245.4514923	117.5234604	70.37374878	30.08756065
36563.68	102.918953	191.8662109	192.5716858	245.4457397	117.5264206	69.91390991	30.08733368
36563.68	103.267319	191.7671051	192.5690765	245.4399719	117.5293808	69.45407104	30.08710861
36563.68	103.161873	191.4768066	192.566452	245.4342194	117.5323334	68.68877411	30.08688164
36563.68	103.159126	191.6322937	192.5638428	245.4284515	117.5352936	68.68877411	30.08665657
36563.68	103.002335	191.9279633	192.5612335	245.422699	117.5382538	68.67604828	30.0864315
36563.68	102.656578	191.603775	192.558609	245.4169312	117.5412064	68.98152924	30.08620453
36563.68	102.684769	191.6710052	192.5559998	245.4111786	117.5441666	68.42698669	30.08597946
36563.68	102.908073	191.6755066	192.5533905	245.4054108	117.5471268	68.28205872	30.08575249
36563.68	103.015305	191.6800079	192.5507813	245.3996582	117.5500793	68.17995453	30.08552742
36563.68	102.962563	191.6845093	192.5481567	245.3938904	117.5530396	68.07784271	30.08530045
36563.69	102.865295	191.6849823	192.5455475	245.3881378	117.5559921	67.8007431	30.08507538
36563.69	102.837463	191.6759949	192.5429382	245.38237	117.5589523	68.26272583	30.0848484
36563.69	102.841728	191.6670227	192.540329	245.3766174	117.5619125	68.11993408	30.08462334
36563.69	103.21254	191.6580505	192.5377045	245.3708496	117.5648651	68.12926483	30.08439636
36563.69	103.116852	191.6490784	192.5616608	245.365097	117.5678253	67.8212738	30.0841713
36563.69	102.885643	192.0051117	192.5979156	245.3593292	117.5707855	67.83154297	30.08394623
36563.69	102.720657	191.7889862	192.6180878	245.3535767	117.5737381	67.9752655	30.08371925
36563.69	102.765045	191.6863251	192.6307983	245.3478088	117.5766983	67.8418045	30.08349419
36563.69	103.067719	192.0297241	192.6435242	245.3420563	117.5796585	67.95643616	30.08326721
36563.69	102.729958	191.7106323	192.65625	245.3362885	117.5826111	67.80117035	30.08304214
36563.69	103.235405	191.6782837	192.6689758	245.3305359	117.5855713	67.633255	30.08281517
36563.69	102.977798	191.7854767	192.6816864	245.3247681	117.5885315	67.55632019	30.0825901
36563.69	102.647179	191.8849945	192.6944122	245.3190002	117.5914841	67.93728638	30.08236313
36563.69	102.682266	191.7619171	192.7071381	245.3132477	117.5944443	67.83924103	30.08213806
36563.7	102.68235	191.6388397	192.7198639	245.3074799	117.5974045	67.99323273	30.08191109
36563.7	103.031708	191.5157623	192.7325745	245.3017273	117.6003571	67.9502182	30.08168602
36563.7	102.766914	191.6460114	192.7453003	245.2959595	117.6033173	67.74600983	30.08145905
36563.7	102.861641	191.7805328	192.7580261	245.2902069	117.6062698	67.54180145	30.08123398

36563.7	102.87545	191.9150696	192.770752	245.2844391	117.60923	67.58638763	30.08100891
36563.7	102.663658	192.0495911	192.7834625	245.2786865	117.6121902	67.89691162	30.08078194
36563.7	103.116852	191.8523254	192.7961884	245.2729187	117.6151428	67.74941254	30.08055687
36563.7	103.033188	191.957077	192.8089142	245.2671661	117.618103	67.43629456	30.0803299
36563.7	103.06485	191.6869202	192.82164	245.2613983	117.6210632	67.70835114	30.08010483
36563.7	102.833954	191.8935547	192.8343506	245.2556458	117.6240158	67.60569	30.07987785
36563.7	102.862335	191.7644653	192.8470764	245.2498779	117.626976	67.50302124	30.07965279
36563.7	102.726555	191.6353912	192.8098145	245.2441254	117.6299362	67.07141113	30.07942581
36563.7	102.731514	191.6487579	192.7493744	245.2383575	117.6328888	66.91614532	30.07920074
36563.7	103.184929	191.6130676	192.7247467	245.232605	117.635849	67.40566254	30.07897377
36563.7	102.584816	192.3697662	192.7166901	245.2268372	117.6388092	67.30355835	30.0787487
36563.71	102.936394	192.0062866	192.7086487	245.2210846	117.6417618	67.20145416	30.07852173
36563.71	103.197083	192.0203247	192.700592	245.2153168	117.644722	67.09934998	30.07829666
36563.71	102.59565	191.5947876	192.6925507	245.2095642	117.6476822	66.99724579	30.07807159
36563.71	102.612328	191.5973969	192.6845093	245.2037964	117.6501923	66.8951416	30.07784462
36563.71	102.892769	191.6291809	192.6764526	245.1980438	117.649353	66.83551025	30.07761955

RUN 1

Record#	DATE	TIME	PC1GEN11	PC1OPA12	PC1CO213	PC1NOX14	PC1PRS15	PC1TMP16
1	02/07/2000	132000	191.085	1.198	8.096	30.052	30.088	289.427
2	02/07/2000	132100	191.205	0.829	8.096	29.947	30.085	290.173
3	02/07/2000	132200	191.188	0.946	8.080	29.836	30.084	295.083
4	02/07/2000	132300	191.143	1.044	8.046	29.818	30.082	294.395
5	02/07/2000	132400	191.002	1.418	8.004	29.482	30.084	293.276
6	02/07/2000	132500	191.314	1.325	8.031	29.605	30.084	293.241
7	02/07/2000	132600	191.470	1.299	8.082	30.198	30.086	293.293
8	02/07/2000	132700	191.244	1.175	8.091	30.322	30.082	294.028
9	02/07/2000	132800	191.370	1.761	8.087	30.218	30.079	294.451
10	02/07/2000	132900	191.472	1.729	8.024	30.050	30.077	290.042
11	02/07/2000	133000	191.351	1.794	7.992	29.798	30.077	289.051
12	02/07/2000	133100	191.254	2.052	7.984	29.611	30.077	289.037
13	02/07/2000	133200	191.231	2.383	7.979	29.678	30.079	289.440
14	02/07/2000	133300	191.381	1.843	8.008	30.104	30.080	293.447
15	02/07/2000	133400	191.252	1.753	8.039	30.027	30.078	289.389
16	02/07/2000	133500	191.224	1.534	8.045	29.902	30.079	282.319
17	02/07/2000	133600	191.350	1.798	8.055	30.012	30.078	282.297
18	02/07/2000	133700	191.440	2.111	8.103	30.518	30.079	282.296
19	02/07/2000	133800	191.494	2.215	8.083	30.301	30.075	290.732
20	02/07/2000	133900	191.340	2.474	8.077	30.286	30.075	293.164
21	02/07/2000	134000	191.285	2.462	8.067	29.690	30.078	286.680
22	02/07/2000	134100	191.241	2.468	8.082	30.173	30.076	284.340
23	02/07/2000	134200	191.464	2.050	8.088	30.455	30.076	284.355
24	02/07/2000	134300	191.132	1.770	8.121	30.509	30.076	284.325
25	02/07/2000	134400	191.092	1.877	8.101	30.491	30.076	292.274
26	02/07/2000	134500	190.958	2.021	8.091	30.602	30.076	289.873
27	02/07/2000	134600	191.225	2.146	8.046	30.167	30.074	283.559
28	02/07/2000	134700	191.554	1.868	8.077	30.254	30.074	283.668
29	02/07/2000	134800	191.373	1.613	8.059	29.971	30.073	283.653
30	02/07/2000	134900	191.308	1.431	8.094	30.033	30.073	291.030
31	02/07/2000	135000	191.158	1.886	8.063	30.239	30.072	293.800
32	02/07/2000	135100	191.353	1.932	8.078	30.486	30.069	289.745
33	02/07/2000	135200	191.343	1.903	8.052	30.351	30.069	288.910
34	02/07/2000	135300	191.361	1.731	8.060	30.561	30.069	288.939
35	02/07/2000	135400	191.554	1.544	8.068	30.330	30.071	289.094
36	02/07/2000	135500	191.355	1.630	8.113	30.459	30.072	294.295
37	02/07/2000	135600	191.771	1.658	8.102	30.307	30.072	293.052
38	02/07/2000	135700	191.134	2.215	8.120	29.968	30.070	285.012
39	02/07/2000	135800	191.542	1.648	8.089	29.963	30.068	284.991
40	02/07/2000	135900	191.192	1.548	8.076	30.078	30.066	284.913
41	02/07/2000	140000	190.709	1.608	8.058	30.202	30.068	289.412
42	02/07/2000	140100	190.906	2.337	8.081	30.652	30.068	293.132
43	02/07/2000	140200	191.121	2.583	8.108	30.546	30.067	293.187
44	02/07/2000	140300	191.514	2.160	8.136	30.738	30.065	293.154
45	02/07/2000	140400	191.767	2.303	8.099	30.676	30.064	293.124
46	02/07/2000	140500	191.245	2.347	8.055	30.306	30.065	284.852
47	02/07/2000	140600	191.197	2.026	8.082	30.222	30.063	284.866
48	02/07/2000	140700	191.337	2.226	8.052	30.087	30.065	284.860
49	02/07/2000	140800	191.015	2.318	8.063	30.071	30.065	288.556
50	02/07/2000	140900	191.247	2.395	8.093	30.466	30.065	293.790
51	02/07/2000	141000	191.036	2.219	8.085	30.482	30.063	288.003
52	02/07/2000	141100	191.384	2.193	8.040	30.321	30.065	282.517
53	02/07/2000	141200	191.651	2.012	8.052	30.353	30.066	282.532
54	02/07/2000	141300	191.286	2.609	8.116	30.374	30.064	282.521
55	02/07/2000	141400	191.258	2.175	8.139	30.409	30.062	291.360
56	02/07/2000	141500	191.048	2.049	8.175	30.444	30.063	294.767
57	02/07/2000	141600	191.161	1.918	8.136	30.375	30.062	290.215
58	02/07/2000	141700	191.468	1.901	8.123	30.735	30.062	288.755

59	02/07/2000	141800	191.307	2.048	8.115	30.883	30.062	288.744
60	02/07/2000	141900	191.019	2.303	8.139	30.918	30.062	289.202
61	02/07/2000	142000	190.925	1.834	8.141	30.629	30.060	293.128
62	/ /							
63	/ /	AVE	191.276	1.896	8.078	30.242	30.072	289.111

Run 2

Record#	DATE	TIME	PC1GEN11	PC1OPA12	PC1CO213	PC1NOX14	PC1PRS15	PC1TMP16
1	02/07/2000	142500	191.013	2.025	8.051	30.165	30.058	289.065
2	02/07/2000	142600	191.123	2.283	8.064	30.045	30.059	289.877
3	02/07/2000	142700	191.068	2.285	8.078	30.223	30.059	292.845
4	02/07/2000	142800	190.900	1.967	8.062	30.373	30.058	294.060
5	02/07/2000	142900	190.826	2.105	8.024	30.292	30.055	294.080
6	02/07/2000	143000	190.867	2.302	7.982	30.058	30.055	293.970
7	02/07/2000	143100	191.282	2.229	7.997	30.233	30.053	293.193
8	02/07/2000	143200	191.249	2.706	7.929	29.916	30.054	292.050
9	02/07/2000	143300	191.508	2.999	7.955	29.747	30.056	287.924
10	02/07/2000	143400	191.341	2.630	7.974	29.971	30.054	287.868
11	02/07/2000	143500	191.289	3.037	7.989	30.027	30.056	287.892
12	02/07/2000	143600	191.129	2.540	8.065	30.478	30.055	289.986
13	02/07/2000	143700	191.049	2.347	8.066	30.317	30.057	292.416
14	02/07/2000	143800	190.796	2.388	8.073	30.398	30.057	291.355
15	02/07/2000	143900	191.313	2.278	8.092	30.333	30.058	290.176
16	02/07/2000	144000	190.964	2.397	8.111	30.663	30.057	290.273
17	02/07/2000	144100	191.321	2.406	8.101	30.366	30.057	290.271
18	02/07/2000	144200	191.156	2.272	8.163	30.432	30.057	289.679
19	02/07/2000	144300	191.350	2.192	8.247	30.600	30.057	288.706
20	02/07/2000	144400	191.184	2.098	8.231	30.594	30.057	281.084
21	02/07/2000	144500	191.332	2.217	8.215	30.275	30.058	281.065
22	02/07/2000	144600	191.127	2.219	8.205	30.367	30.054	281.067
23	02/07/2000	144700	191.335	2.188	8.189	30.292	30.056	284.245
24	02/07/2000	144800	191.115	2.181	8.172	30.187	30.056	290.274
25	02/07/2000	144900	191.345	2.336	8.165	30.373	30.055	288.888
26	02/07/2000	145000	191.136	2.309	8.144	30.340	30.056	285.944
27	02/07/2000	145100	191.311	2.298	8.132	30.276	30.054	285.906
28	02/07/2000	145200	191.133	2.265	8.085	30.235	30.054	285.871
29	02/07/2000	145300	191.486	2.054	8.053	30.007	30.050	288.538
30	02/07/2000	145400	191.673	1.921	8.056	29.817	30.054	289.950
31	02/07/2000	145500	191.211	1.996	8.054	29.928	30.053	287.825
32	02/07/2000	145600	191.319	1.914	8.119	30.153	30.055	287.318
33	02/07/2000	145700	191.011	1.817	8.118	30.013	30.055	287.386
34	02/07/2000	145800	191.174	1.996	8.052	30.102	30.054	287.461
35	02/07/2000	145900	191.151	2.057	8.064	29.963	30.055	291.017
36	02/07/2000	150000	191.613	2.217	8.089	29.916	30.055	289.495
37	02/07/2000	150100	191.329	2.320	8.092	29.642	30.054	284.988
38	02/07/2000	150200	191.290	2.446	8.092	29.689	30.053	285.002
39	02/07/2000	150300	191.506	2.569	8.108	29.781	30.054	285.014
40	02/07/2000	150400	191.420	2.503	8.091	29.850	30.053	284.965
41	02/07/2000	150500	191.481	2.311	8.123	29.941	30.053	284.984
42	02/07/2000	150600	191.310	2.460	8.146	29.909	30.052	286.456
43	02/07/2000	150700	191.184	2.342	8.132	29.927	30.049	289.876
44	02/07/2000	150800	191.121	2.281	8.085	29.793	30.047	289.877
45	02/07/2000	150900	191.328	2.386	8.030	29.577	30.048	289.843
46	02/07/2000	151000	191.475	2.958	8.031	29.922	30.048	289.932
47	02/07/2000	151100	191.452	3.174	8.052	30.187	30.050	289.815
48	02/07/2000	151200	191.555	2.973	8.074	30.083	30.049	283.675
49	02/07/2000	151300	191.383	2.964	8.090	29.899	30.050	283.693
50	02/07/2000	151400	191.062	2.993	8.095	29.945	30.050	283.706
51	02/07/2000	151500	191.014	2.690	8.113	30.187	30.052	288.506
52	02/07/2000	151600	191.305	2.538	8.114	30.352	30.050	292.242
53	02/07/2000	151700	191.358	2.262	8.146	30.499	30.050	288.608
54	02/07/2000	151800	191.194	2.734	8.152	30.650	30.050	285.358
55	02/07/2000	151900	191.675	3.021	8.183	30.600	30.050	285.339
56	02/07/2000	152000	191.318	2.792	8.131	30.576	30.050	285.344
57	02/07/2000	152100	191.130	2.450	8.122	30.151	30.049	288.422
58	02/07/2000	152200	191.189	2.181	8.110	30.216	30.046	289.359

59	02/07/2000	152300	191.122	2.050	8.109	30.232	30.048	285.950
60	02/07/2000	152400	191.189	1.922	8.115	30.071	30.046	285.943
61	/ /							
62	/ /	AVE	191.243	2.380	8.095	30.153	30.053	288.099

Run 3

Record#	DATE	TIME	PC1GEN11	PC1OPA12	PC1CO213	PC1NOX14	PC1PRS15	PC1TMP16
1	02/07/2000	152900	191.145	2.104	8.125	29.977	30.045	285.758
2	02/07/2000	153000	191.124	2.151	8.123	29.977	30.046	285.756
3	02/07/2000	153100	191.343	2.088	8.160	30.218	30.048	285.781
4	02/07/2000	153200	191.148	2.144	8.173	30.268	30.048	288.075
5	02/07/2000	153300	191.586	2.213	8.190	30.601	30.048	289.234
6	02/07/2000	153400	190.944	1.979	8.182	30.268	30.049	282.439
7	02/07/2000	153500	191.363	1.736	8.152	30.106	30.047	281.350
8	02/07/2000	153600	191.139	1.771	8.147	30.157	30.047	281.308
9	02/07/2000	153700	191.352	1.820	8.139	29.960	30.044	285.749
10	02/07/2000	153800	191.140	1.786	8.097	29.706	30.046	292.817
11	02/07/2000	153900	191.101	1.823	8.120	29.525	30.042	288.491
12	02/07/2000	154000	191.131	1.947	8.051	29.184	30.043	283.980
13	02/07/2000	154100	191.119	2.119	8.029	28.944	30.045	283.998
14	02/07/2000	154200	191.313	2.115	8.046	28.825	30.044	284.009
15	02/07/2000	154300	191.347	2.235	8.069	28.676	30.042	290.995
16	02/07/2000	154400	191.168	2.330	8.125	28.909	30.045	290.552
17	02/07/2000	154500	191.308	2.222	8.178	29.454	30.044	287.999
18	02/07/2000	154600	191.531	2.073	8.226	29.917	30.043	288.019
19	02/07/2000	154700	191.076	2.168	8.194	29.698	30.043	287.954
20	02/07/2000	154800	191.226	2.109	8.168	29.603	30.040	289.435
21	02/07/2000	154900	191.371	2.034	8.100	29.414	30.038	290.683
22	02/07/2000	155000	191.050	2.107	8.035	28.940	30.039	288.549
23	02/07/2000	155100	191.072	2.460	8.058	28.633	30.037	287.704
24	02/07/2000	155200	191.158	2.606	8.035	28.374	30.039	287.671
25	02/07/2000	155300	191.149	2.580	8.076	28.863	30.040	290.940
26	02/07/2000	155400	191.409	2.641	8.069	28.706	30.040	293.782
27	02/07/2000	155500	191.175	2.760	8.096	28.984	30.042	277.958
28	02/07/2000	155600	191.048	2.877	8.138	29.087	30.041	277.522
29	02/07/2000	155700	191.146	2.938	8.130	29.365	30.041	277.513
30	02/07/2000	155800	191.236	2.856	8.112	29.277	30.041	286.125
31	02/07/2000	155900	191.348	2.738	8.137	29.460	30.042	292.316
32	02/07/2000	160000	191.440	2.615	8.186	29.246	30.041	284.109
33	02/07/2000	160100	191.461	2.590	8.157	29.172	30.040	280.318
34	02/07/2000	160200	191.262	3.202	8.134	28.943	30.043	280.299
35	02/07/2000	160300	191.122	2.609	8.155	28.786	30.041	280.263
36	02/07/2000	160400	191.199	2.449	8.133	28.834	30.042	280.266
37	02/07/2000	160500	191.362	2.761	8.108	28.892	30.040	280.262
38	02/07/2000	160600	191.127	2.457	8.149	29.231	30.041	280.638
39	02/07/2000	160700	190.920	2.545	8.135	29.239	30.042	281.103
40	02/07/2000	160800	191.285	2.772	8.151	29.081	30.043	281.182
41	02/07/2000	160900	191.141	2.339	8.153	29.071	30.039	281.190
42	02/07/2000	161000	191.080	2.931	8.101	29.049	30.037	289.831
43	02/07/2000	161100	191.042	2.730	8.110	28.878	30.038	290.485
44	02/07/2000	161200	191.354	2.935	8.106	28.883	30.039	290.508
45	02/07/2000	161300	191.335	2.885	8.118	28.980	30.041	290.489
46	02/07/2000	161400	191.344	2.909	8.160	28.958	30.043	290.510
47	02/07/2000	161500	191.343	3.015	8.199	29.086	30.044	290.507
48	02/07/2000	161600	191.303	2.481	8.203	29.302	30.044	290.526
49	02/07/2000	161700	191.123	2.242	8.262	29.057	30.042	290.273
50	02/07/2000	161800	191.073	2.662	8.226	29.182	30.038	290.019
51	02/07/2000	161900	190.690	3.367	8.144	28.709	30.038	290.016
52	02/07/2000	162000	190.943	3.446	8.149	28.922	30.039	289.845
53	02/07/2000	162100	191.356	3.402	8.158	28.978	30.040	288.510
54	02/07/2000	162200	191.774	3.346	8.181	29.031	30.040	284.344
55	02/07/2000	162300	191.369	3.346	8.175	29.100	30.039	280.639
56	02/07/2000	162400	191.387	3.180	8.135	29.117	30.042	280.666
57	02/07/2000	162500	191.382	3.228	8.143	29.091	30.038	280.635
58	02/07/2000	162600	191.374	3.302	8.060	28.797	30.037	291.256

59	02/07/2000	162700	191.160	3.334	7.997	28.387	30.043	292.001
60	02/07/2000	162800	191.536	3.347	8.031	28.246	30.043	291.999
61	/ /							
62	/ /	AVE	191.234	2.566	8.130	29.222	30.042	286.286

APPENDIX C

FIELD DATA SHEETS

APPENDIX C - 1 UNCORRECTED REFERENCE METHOD DATA SHEETS

APPENDIX C - 1

UNCORRECTED REFERENCE METHOD DATA SHEETS

POLK POWER STATION UNIT 1 O2 TRAVERSE 02-07-2000

TIME	CHAN 5 STACK %O2
12:42	11.83
12:43	11.84
12:44	11.84
12:45	11.82
12:46	11.81
12:47	11.82
12:48	11.83
12:49	11.83
12:50	11.84
12:51	11.84
12:52	11.84
12:53	11.83

AVERAGE VALUES FOR THE LAST 12 MINUTES

12:53	11.83

COMMENTS: END WEST PORT

POLK POWER STATION UNIT 1 O2 TRAVERSE 02-07-2000

TIME	CHAN 5 STACK %O2
12:24	11.85
12:25	11.85
12:26	11.85
12:27	11.87
12:28	11.84
12:29	11.83
12:30	11.82
12:31	11.83
12:32	11.83
12:33	11.83
12:34	11.84
12:35	11.83

AVERAGE VALUES FOR THE LAST 12 MINUTES

12:35	11.84

End South Port DAS

O2 Traverse DB

~~CONVERTER EFFICIENCY TEST~~ 02-07-2000

TIME	CHAN 5 STACK %02
11:51	11.83
11:52	11.82
11:53	11.81
11:54	11.86
11:55	11.90
11:56	11.89
11:57	11.87
11:58	11.86
11:59	11.86
12:00	11.93
12:01	11.91
12:02	11.91

AVERAGE VALUES FOR THE LAST 12 MINUTES

12:02	11.87

COMMENTS: O2 TRAVERSE
EAST PORT

POLK POWER STATION UNIT 1 O2 TRAVERSE 02-07-2000

TIME	CHAN 5 STACK %O2
12:07	11.85
12:08	11.85
12:09	11.85
12:10	11.85
12:11	11.85
12:12	11.83
12:13	11.83
12:14	11.84
12:15	11.84
12:16	11.84
12:17	11.83
12:18	11.82

AVERAGE VALUES FOR THE LAST 12 MINUTES

12:18	11.84

COMMENTS: END NORTH PORT TRAVERSE

Test Run 1 STRATA Version 1.2.1

	O2 %	NOx ppm
Begin calculating run averages		
02-07-2000 13:20:59	12.017	28.97
02-07-2000 13:21:58	12.027	28.93
02-07-2000 13:22:59	12.019	29.02
02-07-2000 13:23:59	12.001	29.33
02-07-2000 13:24:58	11.982	29.45
02-07-2000 13:25:59	11.975	29.30
02-07-2000 13:26:59	11.982	29.24
02-07-2000 13:27:58	12.060	28.90
02-07-2000 13:28:59	12.040	28.90
02-07-2000 13:29:59	12.041	28.81
02-07-2000 13:30:58	12.040	28.97
02-07-2000 13:31:59	12.050	28.98
02-07-2000 13:32:58	12.042	29.00
02-07-2000 13:33:59	12.057	29.03
02-07-2000 13:34:59	12.053	29.09
02-07-2000 13:35:58	12.055	29.24
02-07-2000 13:36:59	12.054	29.26
02-07-2000 13:37:59	12.042	28.93
02-07-2000 13:38:58	12.023	29.00
02-07-2000 13:39:58	12.033	29.26
02-07-2000 13:40:59	12.040	29.44
02-07-2000 13:41:58	12.032	29.30
02-07-2000 13:42:59	12.035	29.41
02-07-2000 13:43:59	12.022	29.28
02-07-2000 13:44:58	12.020	29.18
02-07-2000 13:45:59	12.031	29.10
02-07-2000 13:46:59	12.016	29.16
02-07-2000 13:47:58	12.037	29.17
02-07-2000 13:48:59	12.036	29.46
02-07-2000 13:49:59	12.038	29.61
02-07-2000 13:50:58	12.043	29.72
02-07-2000 13:51:59	12.038	29.67
02-07-2000 13:52:59	12.046	29.49
02-07-2000 13:53:58	12.030	29.43
02-07-2000 13:54:59	12.020	29.15
02-07-2000 13:55:59	12.021	29.10
02-07-2000 13:56:58	12.019	29.31
02-07-2000 13:57:59	12.021	29.49
02-07-2000 13:58:58	12.032	29.70
02-07-2000 13:59:59	12.049	30.01
02-07-2000 14:00:59	12.041	29.83
02-07-2000 14:01:58	12.033	29.80
02-07-2000 14:02:59	12.036	29.77
02-07-2000 14:03:59	12.016	29.87
02-07-2000 14:04:59	12.013	29.65
02-07-2000 14:05:59	12.004	29.45
02-07-2000 14:06:59	12.007	29.71
02-07-2000 14:07:59	12.014	29.88
02-07-2000 14:08:58	12.009	29.99
02-07-2000 14:09:59	12.027	30.07
02-07-2000 14:10:59	12.015	29.87
02-07-2000 14:11:59	12.009	29.58

Test Run 1 STRATA Version 1.2.1

	O2	NOx
	%	ppm
02-07-2000 14:12:58	12.006	29.60
02-07-2000 14:13:58	12.007	29.75
02-07-2000 14:14:59	12.011	29.81
02-07-2000 14:15:59	12.036	30.24
02-07-2000 14:16:59	12.041	30.28
02-07-2000 14:17:58	12.017	29.92
02-07-2000 14:18:59	12.006	29.80
02-07-2000 14:19:59	12.019	29.67

Run Averages	O2	NOx
	%	ppm
02-07-2000 14:19:59	12.026	29.44

Operator: DAVID SMITH
Plant Name: POLK POWER STATION
Location: UNIT 1 HRSG
Test Run 1 End

Test Run 2 STRATA Version 1.2.1

	O2 %	NOx ppm
Begin calculating run averages		
02-07-2000 14:25:01	9.217	19.48
02-07-2000 14:26:01	11.996	29.58
02-07-2000 14:27:01	11.998	29.81
02-07-2000 14:28:01	12.019	29.97
02-07-2000 14:29:01	12.017	30.24
02-07-2000 14:30:00	12.016	30.22
02-07-2000 14:31:01	12.016	30.20
02-07-2000 14:32:01	12.024	30.21
02-07-2000 14:33:01	12.054	30.20
02-07-2000 14:34:01	12.003	30.26
02-07-2000 14:35:01	12.008	30.29
02-07-2000 14:36:01	12.012	30.24
02-07-2000 14:37:01	12.022	30.28
02-07-2000 14:38:01	12.011	30.26
02-07-2000 14:39:01	12.007	30.46
02-07-2000 14:40:01	12.010	30.56
02-07-2000 14:41:01	12.000	30.39
02-07-2000 14:42:00	11.996	30.32
02-07-2000 14:43:01	12.000	30.36
02-07-2000 14:44:01	12.002	30.25
02-07-2000 14:45:01	11.998	30.32
02-07-2000 14:46:01	11.998	30.32
02-07-2000 14:47:01	12.007	30.47
02-07-2000 14:48:01	12.007	30.50
02-07-2000 14:49:01	12.006	30.59
02-07-2000 14:50:01	12.008	30.58
02-07-2000 14:51:01	12.008	30.61
02-07-2000 14:52:01	12.004	30.61
02-07-2000 14:53:01	12.008	30.62
02-07-2000 14:54:01	12.005	30.57
02-07-2000 14:55:01	12.002	30.59
02-07-2000 14:56:01	12.001	30.72
02-07-2000 14:57:01	12.004	30.68
02-07-2000 14:58:01	12.008	30.69
02-07-2000 14:59:01	12.005	30.82
02-07-2000 15:00:01	11.992	30.77
02-07-2000 15:01:01	11.993	30.69
02-07-2000 15:02:01	12.008	30.64
02-07-2000 15:03:01	11.999	30.78
02-07-2000 15:04:01	11.996	30.86
02-07-2000 15:05:01	11.985	30.79
02-07-2000 15:06:01	11.986	30.78
02-07-2000 15:07:00	11.988	31.16
02-07-2000 15:08:01	11.993	31.22
02-07-2000 15:09:01	11.999	31.41
02-07-2000 15:10:01	12.000	31.32
02-07-2000 15:11:01	11.987	31.07
02-07-2000 15:12:01	11.985	30.97
02-07-2000 15:13:01	11.984	31.24
02-07-2000 15:14:01	11.998	31.40
02-07-2000 15:15:01	11.992	31.46
02-07-2000 15:16:01	11.990	31.71

Test Run 2 STRATA Version 1.2.1

	O2	NOx
	%	ppm
02-07-2000 15:17:01	11.998	31.72
02-07-2000 15:18:01	11.998	31.86
02-07-2000 15:19:01	12.002	31.83
02-07-2000 15:20:01	11.997	31.72
02-07-2000 15:21:01	12.001	31.81
02-07-2000 15:22:01	12.000	31.77
02-07-2000 15:23:01	11.991	31.66
02-07-2000 15:24:01	12.259	29.86
Run Averages	O2	NOx
	%	ppm
02-07-2000 15:24:01	11.961	30.55

Operator: DAVID SMITH
Plant Name: POLK POWER STATION
Location: UNIT 1 HRSG
Test Run 2 End

Test Run 3 STRATA Version 1.2.1

	O2 %	NOx ppm
Begin calculating run averages		
02-07-2000 15:29:01	14.472	17.79
02-07-2000 15:30:01	11.990	31.41
02-07-2000 15:31:01	11.981	31.51
02-07-2000 15:32:02	11.979	31.45
02-07-2000 15:33:02	11.971	31.35
02-07-2000 15:34:01	11.968	31.38
02-07-2000 15:35:01	11.970	31.44
02-07-2000 15:36:01	11.973	31.41
02-07-2000 15:37:01	11.983	31.38
02-07-2000 15:38:01	11.980	31.29
02-07-2000 15:39:01	11.968	31.04
02-07-2000 15:40:01	11.961	30.96
02-07-2000 15:41:01	11.957	30.86
02-07-2000 15:42:02	11.949	30.66
02-07-2000 15:43:01	11.967	30.80
02-07-2000 15:44:01	11.962	31.15
02-07-2000 15:45:02	11.964	31.20
02-07-2000 15:46:01	11.966	31.13
02-07-2000 15:47:01	11.961	31.20
02-07-2000 15:48:01	11.967	31.17
02-07-2000 15:49:02	11.967	30.82
02-07-2000 15:50:01	11.939	30.45
02-07-2000 15:51:01	11.934	30.59
02-07-2000 15:52:01	11.950	30.75
02-07-2000 15:53:02	11.957	30.72
02-07-2000 15:54:01	11.958	30.68
02-07-2000 15:55:01	11.973	30.89
02-07-2000 15:56:02	11.984	30.74
02-07-2000 15:57:02	11.968	30.76
02-07-2000 15:58:01	11.963	30.41
02-07-2000 15:59:01	11.960	30.16
02-07-2000 16:00:01	11.947	29.87
02-07-2000 16:01:01	11.944	29.63
02-07-2000 16:02:01	11.959	29.45
02-07-2000 16:03:02	11.972	29.44
02-07-2000 16:04:01	11.950	29.54
02-07-2000 16:05:01	11.957	29.35
02-07-2000 16:06:01	11.944	29.10
02-07-2000 16:07:02	11.948	28.82
02-07-2000 16:08:01	12.005	28.61
02-07-2000 16:09:01	12.017	28.59
02-07-2000 16:10:02	12.021	28.30
02-07-2000 16:11:01	12.026	28.15
02-07-2000 16:12:01	12.018	27.99
02-07-2000 16:13:01	12.010	27.75
02-07-2000 16:14:01	12.005	27.67
02-07-2000 16:15:01	11.998	27.37
02-07-2000 16:16:01	11.997	27.21
02-07-2000 16:17:01	12.002	27.21
02-07-2000 16:18:02	12.009	27.08
02-07-2000 16:19:01	12.005	27.17
02-07-2000 16:20:01	12.008	27.09

Test Run 3 STRATA Version 1.2.1

	O2	NOx
	%	ppm
02-07-2000 16:21:01	12.001	26.95
02-07-2000 16:22:01	11.998	26.98
02-07-2000 16:23:01	11.991	26.94
02-07-2000 16:24:01	11.986	26.90
02-07-2000 16:25:01	11.996	27.00
02-07-2000 16:26:02	11.992	26.85
02-07-2000 16:27:01	11.992	26.84
02-07-2000 16:28:01	12.101	23.64

Run Averages	O2	NOx
	%	ppm
02-07-2000 16:28:01	12.019	29.26

Operator: DAVID SMITH
Plant Name: POLK POWER STATION
Location: UNIT 1 HRSG
Test Run 3 End

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

Calibration Error Test, Run 1 STRATA Version 1.2.1

	O2 %	NOx ppm
02-07-2000 11:24:59	18.134	9.17
02-07-2000 11:25:59	22.653	0.96
02-07-2000 11:26:59	23.106	0.74
02-07-2000 11:27:59	17.601	0.74
02-07-2000 11:28:59	12.392	0.74
02-07-2000 11:29:59	12.185	0.76
02-07-2000 11:30:59	5.599	43.84
02-07-2000 11:31:59	0.470	71.25
02-07-2000 11:32:59	0.407	87.29
02-07-2000 11:33:59	0.374	81.64
02-07-2000 11:34:59	0.360	56.35
02-07-2000 11:35:59	0.354	47.24
02-07-2000 11:36:59	0.358	25.74
02-07-2000 11:38:17	0.350	25.67

Calibration Error Test at Run 1
Operator: DAVID SMITH
Plant Name: POLK POWER STATION
Location: UNIT 1 HRSG

	Reference Cylinder Numbers			
	Zero	Low-range	Mid-range	High-range
O2	ALM017445		ALM020393	AAL15873
NOx		ALM0245301	ALM017813	ALM019127

Date/Time 02-07-2000 11:38:19 PASSED

Analyte	O2	NOx
Units	%	ppm
Zero Ref Cyl	0.000	0.00
Zero Avg	0.374	0.74
Zero Error%	1.5%	0.7%
Low Ref Cyl		24.00
Low Avg		25.68
Low Error%		1.7%
Mid Ref Cyl	11.960	48.56
Mid Avg	12.187	49.35
Mid Error%	0.9%	0.8%
High Ref Cyl	23.100	81.13
High Avg	23.078	81.12
High Error%	0.1%	0.0%

Calibration Error Test End

APPENDIX D-2

DRIFT ASSESSMENT CALS

Initial System Bias Check, Run 1 STRATA Version 1.2.1

	O2	NOx
	%	ppm
02-07-2000 12:56:15	15.656	7.19
02-07-2000 12:57:15	12.042	3.60
02-07-2000 12:58:15	12.041	2.28
02-07-2000 12:59:15	2.069	22.98

Initial System Bias Check for Run 1
Operator: DAVID SMITH
Plant Name: POLK POWER STATION
Location: UNIT 1 HRSG

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM017445	ALM020393
NOx		ALM0245301

Date/Time 02-07-2000 12:59:59 PASSED

Analyte	O2	NOx
Units	%	ppm
Zero Ref Cyl	0.000	0.00
Zero Cal	0.374	0.74
Zero Avg	0.507	2.66
Zero Bias%	0.5%	1.9%
Zero Drift%		
Span Ref Cyl	11.960	24.00
Span Cal	12.187	25.68
Span Avg	12.040	25.41
Span Bias%	0.6%	0.3%
Span Drift%		

System Bias Check End

Initial System Bias Check, Run 1 STRATA Version 1.2.1

	O2	NOx
	%	ppm
02-07-2000 11:39:49	4.979	14.90
02-07-2000 11:40:49	11.775	2.02
02-07-2000 11:41:49	10.100	5.66
02-07-2000 11:43:19	0.128	24.58

Initial System Bias Check for Run 1
Operator: DAVID SMITH
Plant Name: POLK POWER STATION
Location: UNIT 1 HRSG

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM017445	ALM020393
NOx		ALM0245301

Date/Time 02-07-2000 11:43:20 PASSED

Analyte	O2	NOx
Units	%	ppm
Zero Ref Cyl	0.000	0.00
Zero Cal	0.374	0.74
Zero Avg	0.173	1.24
Zero Bias%	0.8%	0.5%
Zero Drift%		
Span Ref Cyl	11.960	24.00
Span Cal	12.187	25.68
Span Avg	11.805	24.56
Span Bias%	1.5%	1.1%
Span Drift%		

System Bias Check End

SYSTEM CALIBRATION BIAS AND DRIFT CALCULATIONS

SOURCE: POLK POWER STATION UNIT 1 BACT STUDY

TEST DATE: 2/7/00

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	0.7	2.7	1.92	1.5	0.76	-1.16
NOx UP-SCALE	25.7	25.7	0.00	24.1	-1.60	-1.60
O2 LOW GAS	0.37	0.51	0.53	0.69	1.26	0.73
O2 UP-SCALE	12.19	12.04	-0.59	12.21	0.08	0.67

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

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

SYSTEM CALIBRATION BIAS AND DRIFT CALCULATIONS

SOURCE: POLK POWER STATION UNIT 1 BACT STUDY

TEST DATE: 2/7/00

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	0.51	0.51	0.00	0.69	0.72	0.72
O2 UP-SCALE	12.04	12.04	0.00	12.21	0.67	0.67

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

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

Final System Bias Check, Run 1 STRATA Version 1.2.1

	O2	NOx
	%	ppm
02-07-2000 14:21:00	12.462	17.25
02-07-2000 14:22:00	12.164	1.42
02-07-2000 14:23:00	4.510	17.33

Final System Bias Check for Run 1
Operator: DAVID SMITH
Plant Name: POLK POWER STATION
Location: UNIT 1 HRSG

Reference Cylinder Numbers

	Zero	Span
O2	ALM017445	ALM020393
NOx		ALM0245301

Date/Time 02-07-2000 14:23:55 PASSED

Analyte	O2	NOx
Units	%	ppm
Zero Ref Cyl	0.000	0.00
Zero Cal	0.374	0.74
Zero Avg	0.689	1.50
Zero Bias%	1.3%	0.8%
Zero Drift%	0.7%	-1.2%
Span Ref Cyl	11.960	24.00
Span Cal	12.187	25.68
Span Avg	12.208	24.08
Span Bias%	0.1%	1.6%
Span Drift%	0.7%	-1.3%
Ini Zero Avg	0.507	2.66
Ini Span Avg	12.040	25.41
Run Avg	12.026	29.44
Co	0.598	2.08
Cm	12.124	24.75
Correct Avg	11.858	28.97

System Bias Check End

SYSTEM CALIBRATION BIAS AND DRIFT CALCULATIONS

SOURCE: POLK POWER STATION UNIT 1 BACT STUDY

TEST DATE: 2/7/00

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	0.7	1.5	0.76	3.4	2.63	1.87
NOx UP-SCALE	25.7	24.1	-1.60	25.9	0.22	1.82
O2 LOW GAS	0.37	0.69	1.26	0.66	1.12	-0.14
O2 UP-SCALE	12.19	12.21	0.08	12.15	-0.15	-0.23

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

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

SYSTEM CALIBRATION BIAS AND DRIFT CALCULATIONS

SOURCE: POLK POWER STATION UNIT 1 BACT STUDY

TEST DATE: 2/7/00

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	0.51	0.69	0.72	0.66	0.58	-0.14
O2 UP-SCALE	12.04	12.21	0.67	12.15	0.44	-0.23

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

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

Final System Bias Check, Run 2 STRATA Version 1.2.1

	O2	NOx
	%	ppm
02-07-2000 15:25:03	11.483	5.39
02-07-2000 15:26:02	10.994	6.32
02-07-2000 15:27:31	0.419	26.22

Final System Bias Check for Run 2
Operator: DAVID SMITH
Plant Name: POLK POWER STATION
Location: UNIT 1 HRSG

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM017445	ALM020393
NOx		ALM0245301

Date/Time 02-07-2000 15:27:31 PASSED

Analyte	O2	NOx
Units	%	ppm
Zero Ref Cyl	0.000	0.00
Zero Cal	0.374	0.74
Zero Avg	0.655	3.37
Zero Bias%	1.1%	2.6%
Zero Drift%	-0.1%	1.9%
Span Ref Cyl	11.960	24.00
Span Cal	12.187	25.68
Span Avg	12.150	25.90
Span Bias%	0.1%	0.2%
Span Drift%	-0.2%	1.8%
Ini Zero Avg	0.689	1.50
Ini Span Avg	12.208	24.08
Run Avg	11.961	30.55
Co	0.672	2.43
Cm	12.179	24.99
Correct Avg	11.733	29.91

System Bias Check End

SYSTEM CALIBRATION BIAS AND DRIFT CALCULATIONS

SOURCE: POLK POWER STATION UNIT 1 BACT STUDY

TEST DATE: 2/7/00

RUN NUMBER: 3

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	0.7	3.4	2.63	0.5	-0.23	-2.86
NOx UP-SCALE	25.7	25.9	0.22	23.0	-2.68	-2.90
O2 LOW GAS	0.37	0.66	1.12	0.40	0.09	-1.03
O2 UP-SCALE	12.19	12.15	-0.15	12.24	0.20	0.34

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

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

SYSTEM CALIBRATION BIAS AND DRIFT CALCULATIONS

SOURCE: POLK POWER STATION UNIT 1 BACT STUDY

TEST DATE: 2/7/00

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	0.51	0.66	0.58	0.40	-0.45	-1.03
O2 UP-SCALE	12.04	12.15	0.44	12.24	0.78	0.34

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

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

Final System Bias Check, Run 3 STRATA Version 1.2.1

	O2	NOx
	%	ppm
02-07-2000 16:29:02	12.146	-0.27
02-07-2000 16:30:02	4.365	15.85
02-07-2000 16:31:02	0.419	22.28
02-07-2000 16:32:02	0.397	23.03

Final System Bias Check for Run 3
Operator: DAVID SMITH
Plant Name: POLK POWER STATION
Location: UNIT 1 HRSG

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM017445	ALM020393
NOx		ALM0245301

Date/Time 02-07-2000 16:32:43 PASSED

Analyte	O2	NOx
Units	%	ppm
Zero Ref Cyl	0.000	0.00
Zero Cal	0.374	0.74
Zero Avg	0.397	0.51
Zero Bias%	0.1%	0.2%
Zero Drift%	-1.0%	-2.9%
Span Ref Cyl	11.960	24.00
Span Cal	12.187	25.68
Span Avg	12.236	23.00
Span Bias%	0.2%	2.7%
Span Drift%	0.3%	-2.9%
Ini Zero Avg	0.655	3.37
Ini Span Avg	12.150	25.90
Run Avg	12.019	29.26
Co	0.526	1.94
Cm	12.193	24.45
Correct Avg	11.782	29.13

System Bias Check End

APPENDIX D-3

CYLINDER GAS CERTIFICATION

RATA CLASS

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: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1750 EAST CLUB BLVD
DURHAM,NC 27704

P.O. No.: N31923
Project No.: 12-33126-001

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: ALM020393 **Certification Date:** 3/11/99 **Exp. Date:** 3/11/2002
Cylinder Pressure*:** 2015 PSIG

COMPONENT	CERTIFIED CONCENTRATION	ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	11.96 %	+/- 1%	NIST
NITROGEN	BALANCE		

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

** Analytical accuracy is inclusive of usual known error sources which at least include precision of the measurement processes. Product certified as +/- 1% analytical accuracy is directly traceable to NIST standards.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2658	1/02/01	ALM031884	9.680 %	OXYGEN

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
VARIAN/3400/16804-02	02/22/99	GC / TCD

ANALYZER READINGS

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

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

OXYGEN

Date: 03/11/99	Response Unit: AREA	
Z1 = 0.0000	R1 = 247696	T1 = 306452
R2 = 248148	Z2 = 0.0000	T2 = 306564
Z3 = 0.0000	T3 = 306567	R3 = 248251
Avg. Concentration:	11.96	%

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 0.99999

Constants:	A = 0.00
B = 1.00	C = 0.00
D = 0.00	E = 0.00

Special Notes:

APPROVED BY: B. M. Becton
B.M. BECTON

COMPLIANCE CLASS

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: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1750 EAST CLUB BLVD
DURHAM,NC 27704

P.O. No.: EN31293
Project No.: 12-32820-001

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: AAL15873 **Certification Date:** 2/23/99 **Exp. Date:** 2/22/2002
Cylinder Pressure*:** 2000 PSIG

COMPONENT	CERTIFIED CONCENTRATION		ANALYTICAL ACCURACY**	TRACEABILITY
OXYGEN	23.1	%	+/- 2%	NIST
NITROGEN		BALANCE		

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

** Analytical accuracy is inclusive of usual known error sources which at least include precision of the measurement processes.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2659	1/02/01	ALM031720	20.72 %	OXYGEN

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
VARIAN/3400/16804-02	02/22/99	GC / TCD

Dil #2

Special Notes:

APPROVED BY: B. M. Becton
B.M. BECTON

RATA CLASS

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: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1750 EAST CLUB BLVD
DURHAM,NC 27704

P.O. No.: E-N31293
Project No.: 12-32332-014

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: ALM045301 Certification Date: 2/08/99 Exp. Date: 2/07/2001
Cylinder Pressure***: 1940 PSIG

COMPONENT	CERTIFIED CONCENTRATION		ANALYTICAL ACCURACY**	TRACEABILITY
NITRIC OXIDE	24.0	PPM	+/- 1%	NIST
NITROGEN - OXYGEN FREE		BALANCE		
NOX	24.9	BALANCE		Reference Value Only

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

** Analytical accuracy is inclusive of usual known error sources which at least include precision of the measurement processes. Product certified as +/- 1% analytical accuracy is directly traceable to NIST standards.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2629	4/09/99	ALM067006	21.48 PPM	NITRIC OXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
HORIBA/CLA53A/850658093	02/08/99	CHEMILUMINESCENT

ANALYZER READINGS

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

NITRIC OXIDE

First Triad Analysis

Date: 02/01/99	Response Unit: PPM	
Z1 = 0.0500	R1 = 21.580	T1 = 24.100
R2 = 21.510	Z2 = 0.0300	T2 = 23.990
Z3 = 0.0300	T3 = 24.010	R3 = 21.520
Avg. Concentration:	23.97	PPM

Second Triad Analysis

Date: 02/08/99	Response Unit: PPM	
Z1 = 0.1900	R1 = 21.400	T1 = 24.050
R2 = 21.410	Z2 = 0.1600	T2 = 24.040
Z3 = 0.1600	T3 = 24.010	R3 = 21.410
Avg. Concentration:	24.09	PPM

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4	
r = 0.999990	
Constants:	A = 0.000000
B = 1.000000	C = 0.000000
D = 0.000000	E = 0.000000

Special Notes:

APPROVED BY: Greg T Bartlett
G BARTNETT

RATA CLASS

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™ 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%	Direct NIST and NMi
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 Protocal 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	10/22/99	Scott Enhanced FTIR

ANALYZER READINGS

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

NITRIC OXIDE

First Triad Analysis

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

Second Triad Analysis

Date: 10/29/99	Response Unit: PPM	
Z1 = 0.14850	R1 = 49.06593	T1 = 48.55658
R2 = 48.76309	Z2 = 0.12020	T2 = 48.59997
Z3 = 0.04920	T3 = 48.54071	R3 = 48.87097
Avg. Concentration:	48.57	PPM

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4	
r = 0.999990	
Constants:	A = 0.000000
B = 1.000000	C = 0.000000
D = 0.000000	E = 0.000000

APPROVED BY: _____
B.M. Becton

RATA CLASS CES-HARO-3

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™ 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

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL 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 Protocal 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

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

Second Triad Analysis

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

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4	
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

Shipped From: 6141 EASTON ROAD PLUMSTEADVILLE PA 18949-0310
Phone: 215-766-8861 PO BOX 310 Fax: 215-766-2070

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

TAMPA ELECTRIC CO

5010 CAUSEWAY BLVD

TAMPA FL 33619

PROJECT #: 01-06886-003
PO#: N31923
ITEM #: 0101818 AL
DATE: 8/04/98

CYLINDER #: ALM017445
FILL PRESSURE: 2000 PSIG

PURE MATERIAL: NITROGEN CAS# 7727-37-9

GRADE: V O C FREE

PURITY: 99.999%

IMPURITY	MAXIMUM CONCENTRATIONS
THC	0.05 PPM
CO	0.10 PPM
CO2	0.3 PPM
H2O	2 PPM
O2	2 PPM

ANALYST: COLIN MCCARTY

QC BATCH : S06532

APPENDIX D-4

CONVERTER EFFICIENCY RESULTS

CONVERTER EFFICIENCY TEST 02-07-2000

TIME	CHAN 3 STACK ppmNOX
10:39	26.1
10:40	26.1
10:41	26.1
10:42	26.1
10:43	26.1
10:44	26.1
10:45	26.1
10:46	26.1
10:47	26.1
10:48	26.1
10:49	26.0
10:50	26.0
10:51	26.0
10:52	26.0
10:53	26.0
10:54	26.0
10:55	25.9
10:56	26.0
10:57	25.9
10:58	25.9
10:59	25.9
11:00	25.9
11:01	25.9
11:02	25.9
11:03	25.8
11:04	25.8
11:05	25.9
11:06	25.8
11:07	25.8
11:08	25.8

AVERAGE VALUES FOR THE LAST 30 MINUTES

11:08	26.0

COMMENTS: END TEST

APPENDIX E

PROJECT PARTICIPANTS

TEST PARTICIPANTS

Corporate Environmental Services

Craig Coronado	Technician
David Smith	Senior Environmental Technician

Polk Power Station

David Knapp	Environmental and Safety Engineer

TECO
TAMPA ELECTRIC

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

RECEIVED
NOV 17 2000
BUREAU OF AIR REGULATION

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 [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 [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 [signature]

Coordinator
Air Services
Environmental Affairs
Tampa Electric Company

TABLE OF CONTENTS

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 NOx 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_x) 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_x 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_2 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/NOx Analyzer

The Thermo Environmental Instruments model 10A/R NO/NOx analyzer automatically and continuously determines the concentration of nitric oxide (NO) and/or oxides of nitrogen (NO_x) 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_3) 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_3 reaction, producing an interference free signal. The output from the photomultiplier is linearly proportional to the NO concentration.

To measure NO_x concentrations (i.e., NO plus NO_2), the sample gas flow is diverted through an NO_2-to-NO converter. The chemiluminescent action in the reaction chamber to the converter effluent is linearly proportional to the NO_x 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.

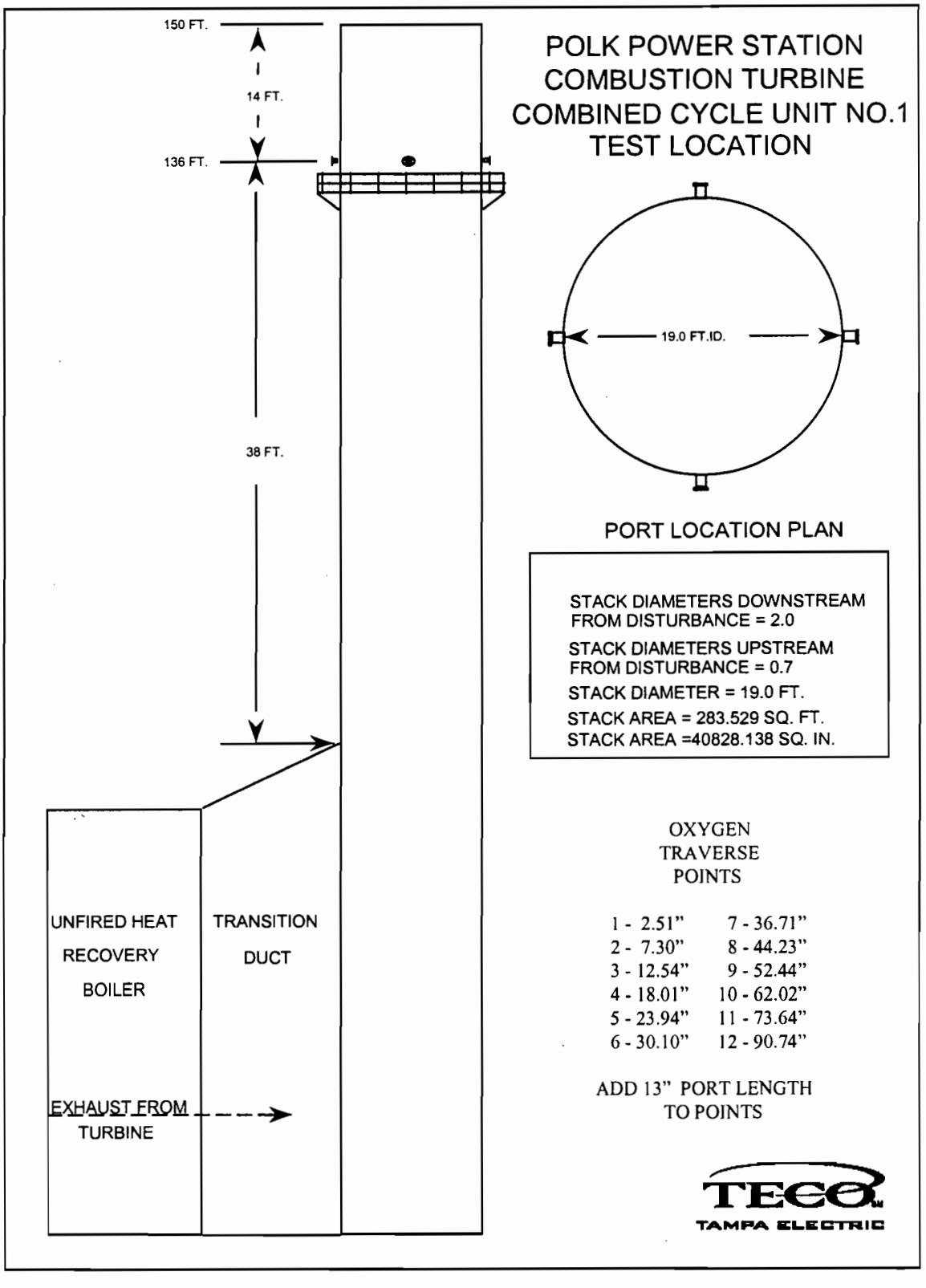
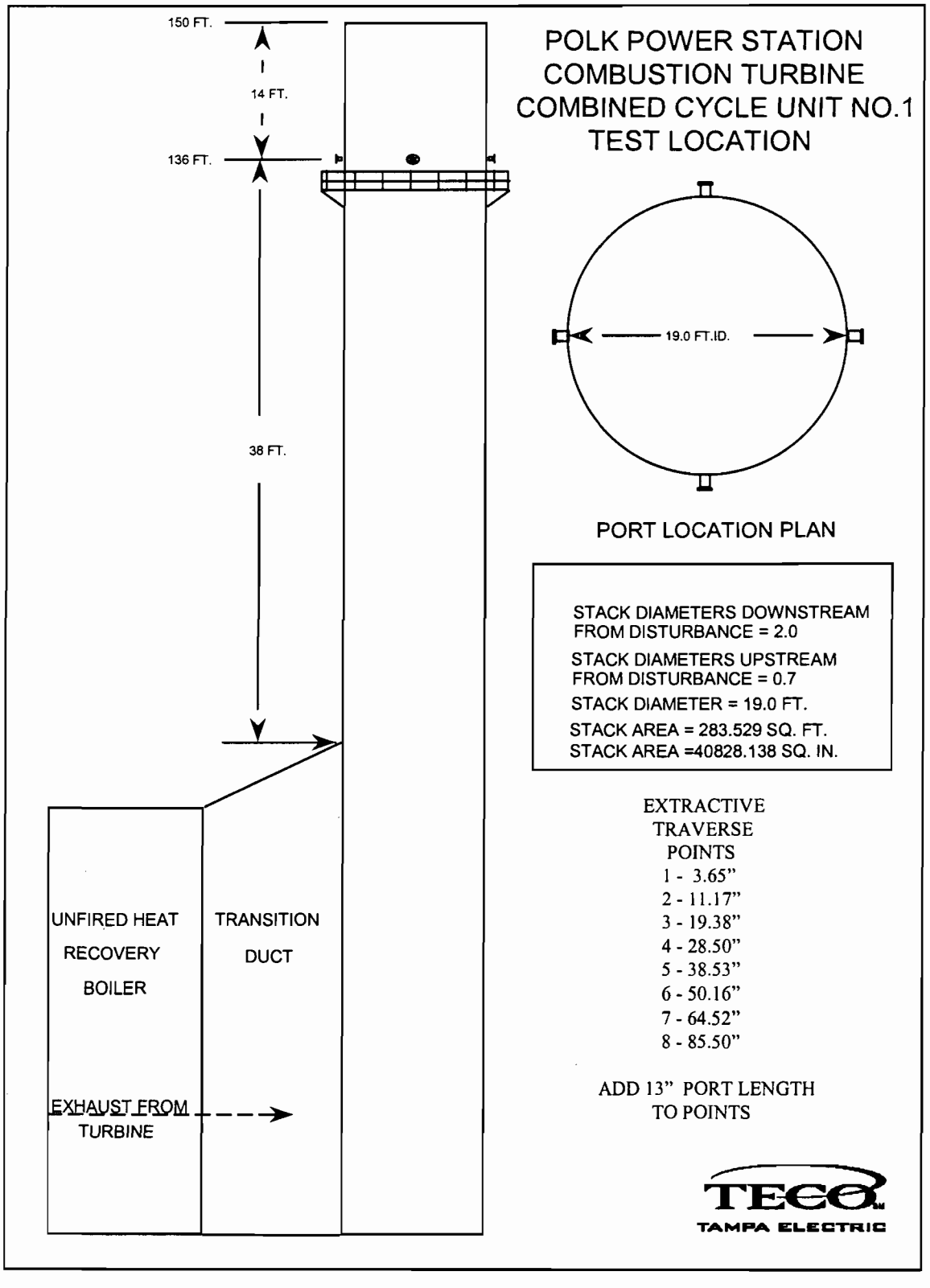

150 FT.
14 FT.
136 FT.
38 FT.
UNFIRED HEAT RECOVERY BOILER
TRANSITION DUCT
EXHAUST FROM TURBINE
POLK POWER STATION
COMBUSTION TURBINE
COMBINED CYCLE UNIT NO.1
TEST LOCATION
19.0 FT.ID.
PORT LOCATION PLAN
STACK DIAMETERS DOWNSTREAM FROM DISTURBANCE = 2.0
STACK DIAMETERS UPSTREAM FROM DISTURBANCE = 0.7
STACK DIAMETER = 19.0 FT.
STACK AREA = 283.529 SQ. FT.
STACK AREA =40828.138 SQ. IN.
OXYGEN TRAVERSE POINTS
1 - 2.51" 7 - 36.71"
2 - 7.30" 8 - 44.23"
3 - 12.54" 9 - 52.44"
4 - 18.01" 10 - 62.02"
5 - 23.94" 11 - 73.64"
6 - 30.10" 12 - 90.74"
ADD 13" PORT LENGTH TO POINTS
TECO
TAMPA ELECTRIC

FIGURE 1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TEST LOCATION
19.0 FT.ID.
PORT LOCATION PLAN
STACK DIAMETERS DOWNSTREAM FROM DISTURBANCE = 2.0
STACK DIAMETERS UPSTREAM FROM DISTURBANCE = 0.7
STACK DIAMETER = 19.0 FT.
STACK AREA = 283.529 SQ. FT.
STACK AREA =40828.138 SQ. IN.
EXTRACTIVE TRAVERSE POINTS
1 - 3.65"
2 - 11.17"
3 - 19.38"
4 - 28.50"
5 - 38.53"
6 - 50.16"
7 - 64.52"
8 - 85.50"
ADD 13" PORT LENGTH TO POINTS
TECO
TAMPA ELECTRIC

FIGURE 2

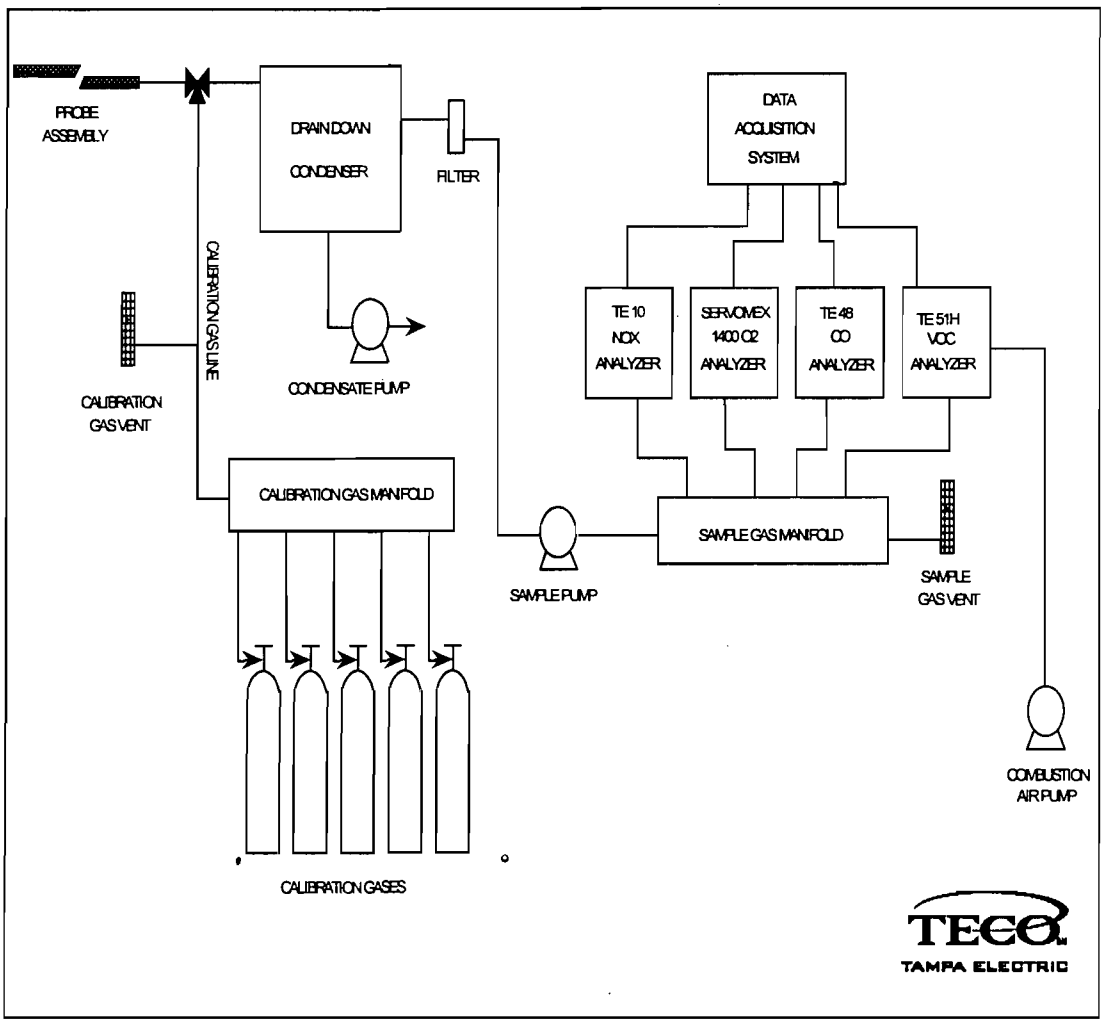

FIGURE 3
Extractive Method Sampling Trains
USEPA METHODS 3A, 10, 20, 25A

3.0 TEST RESULTS

POLK POWER STATION
NITROGEN OXIDES BACT TESTING

IGCC COMBUSTION TURBINE UNIT 1
OCTOBER 17, 2000

RUN NO.	TIME	O2%	ppm NOx Dry	CORRECTED 15% O2
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
	Average	12.0	34.0	22.5

Corrected NOx calculated as:

Concentration (ppm NOx) x (Cd / (20.9 - $\%O_2$))

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

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

CORRECTED RESULTS

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

Corr. Conc. = $\bar{C}$ma(C - Co)/(Cm - Co) (for NOx)

Corr. Conc. = [(Cma - Coa)/(Cm - Co)](C - $\bar{C}$m) + Cma (for O2)

Where: $\bar{C}$ = mean reference measurement
Co = mean zero calibration response
Coa = actual low-level calibration gas concentration
Cm = mean mid or upscale calibration gas response
Cma = 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: 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

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

CORRECTED RESULTS

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

Corr. Conc. = $\bar{C}ma$(C - Co)/(Cm - Co) (for NOx)

Corr. Conc. = [(Cma - Coa)/(Cm - Co)](C - $\bar{C}m$) + Cma (for O2)

Where: $\bar{C}$ = mean reference measurement
Co = mean zero calibration response
Coa = actual low-level calibration gas concentration
Cm = mean mid or upscale calibration gas response
Cma = 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

$\bar{C}$(NOx) = 36.5 $\bar{C}$(O2) = 11.96

CORRECTED RESULTS

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

Corr. Conc. = $\bar{C}ma$(C - Co)/(Cm - Co) (for NOx)

Corr. Conc. = [(Cma - Coa)/(Cm - Co)](C - $\bar{C}m$) + Cma (for O2)

Where: $\bar{C}$ = mean reference measurement
Co = mean zero calibration response
Coa = actual low-level calibration gas concentration
Cm = mean mid or upscale calibration gas response
Cma = 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

Corrected Conc. = Cma(C - $\bar{Co}$)/(Cm - Co)

Where: $\bar{C}$ = mean reference measurement
Co = mean zero calibration response
Cm = mean mid or upscale calibration gas response
Cma = 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

Corrected Conc. = Cma(C - $\bar{Co}$)/(Cm - Co)

Where: $\bar{C}$ = mean reference measurement
Co = mean zero calibration response
Cm = mean mid or upscale calibration gas response
Cma = 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

Corrected Conc. = Cma(C - $\bar{Co}$)/(Cm - Co)

Where: $\bar{C}$ = mean reference measurement
Co = mean zero calibration response
Cm = mean mid or upscale calibration gas response
Cma = actual mid or upscale calibration gas concentration

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

TIME	CHAN 3 STACK %O2	CHAN 6 STACK ppmNOX	STACK 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 %02	CHAN 6 STACK ppmNOX	STACK ppmNOX @15%02
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: 02 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 10/18/2000 Date:Time		Gas Flow lb/sec 1TSYFI910	Load Watts 1PWRJI900	Gen Watts 1GMLJI962	Heating Content, BTU/IB 1TSYJYI910	N2 Flow 1NITFI920A	Inlet Temp, Deg,F 1TMSTI922M	Bar, Press 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

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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

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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

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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

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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

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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
Total Average	**100.39**	**191.78**	**192.31**	**174.95**	**112.58**	**76.60**	**29.83**

Run 1
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

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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
Blct 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

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

TIME	CHAN 3 STACK %02	CHAN 6 STACK ppmNOX	STACK ppmNOX @15%02
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	36.1	

COMMENTS: END RUN ONE

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

TIME	CHAN 3 STACK %O2	CHAN 6 STACK ppmNOX	STACK 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
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

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

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

TIME	CHAN 3 STACK %02	CHAN 6 STACK ppmNOX	STACK ppmNOX @15%02
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

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

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

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

CALIBRATION SUMMARY

SOURCE: ~~HANDEE POWER STATION UNIT 2B RATA~~ Polk Power Station Unit 1 BACT # 7

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	%02	0.00	0.08
3	STACK	%02	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	%02	0.00	0.05
3	STACK	%02	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

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

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

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

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

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

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	%02	0.00	0.03
3	STACK	%02	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

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

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

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

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

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

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	%02	0.00	-0.01
3	STACK	%02	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——		
	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	2.7	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

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

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

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

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

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

APPENDIX D-3

CYLINDER GAS CERTIFICATION

TAYLOR

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.: 01-43154-003

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
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 Protocal 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 + Cx2 + Dx3 + Ex4	
r = 0.99999	2350
Constants:	A = -8.2194E-02
B = 2.4983E + 01	C =
D =	E =

APPROVED BY:

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

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
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

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

INSTRUMENTATION

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

ANALYZER READINGS

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

First Triad Analysis

NITRIC OXIDE

Date:10/02/00	Response Unit:VOLTS	
Z1 = 0.00370	R1 = 3.16600	T1 = 1.64250
R2 = 3.16650	Z2 = 0.00600	T2 = 1.64290
Z3 = 0.00540	T3 = 1.63900	R3 = 3.17540
Avg. Concentration:	25.36	PPM

Second Triad Analysis

Date: 10/09/00	Response Unit: VOLTS	
Z1 = 0.00520	R1 = 3.17810	T1 = 1.64090
R2 = 3.18080	Z2 = 0.00540	T2 = 1.64220
Z3 = 0.00650	T3 = 1.64010	R3 = 3.18910
Avg. Concentration:	25.28	PPM

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4	
r = 0.99999	1683
Constants:	A = 0.058937
B = 15.458178	C =
D =	E =

APPROVED BY: _____
COLIN MCCARTY

RATA CLASS

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™ 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%	Direct NIST and NMi
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 Protocal 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	10/22/99	Scott Enhanced FTIR

ANALYZER READINGS

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

NITRIC OXIDE

First Triad Analysis

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

Second Triad Analysis

Date: 10/29/99	Response Unit: PPM.	
Z1 = 0.14850	R1 = 49.06693	T1 = 48.55658
R2 = 48.76309	Z2 = 0.12020	T2 = 48.59997
Z3 = 0.04920	T3 = 48.54071	R3 = 48.87097
Avg. Concentration:	48.57	PPM

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4	
r = 0.999990	
Constants:	A = 0.000000
B = 1.000000	C = 0.000000
D = 0.000000	E = 0.000000

APPROVED BY: _____
B.M. Becton

RATA CLASS CES-HARD-3

Scott Specialty Gases

Dual-Analyzed Calibration Standard

1750 EAST CLUB BLVD,DURHAM,NC 27704 Phone: 919-220-0603 Fax: 919 220-0808

CERTIFICATE OF ACCURACY: Interference Free™ 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

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL 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 Protocal 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

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

Second Triad Analysis

Date: 07/19/99	Response Unit: PPM	
Z1 = 0.2336	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

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4	
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

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

TIME	CHAN 3 STACK %O2	CHAN 6 STACK ppmNOX	STACK ppmNOX @15%O2
08:58	21.28	24.4	-376.[illegible]
08:59	21.28	24.4	-375.9
09:00	21.28	24.5	-376.[illegible]
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.[illegible]
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.[illegible]
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	-366.6
09:23	21.29	24.4	-366.0
09:24	21.29	24.4	-367.[illegible]
09:25	21.29	24.4	-367.4
09:26	21.29	24.4	-368.[illegible]
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