Memorandum

Florida Department of
Environmental Protection

10/14/04

1050223-013-AC
190A

TO: Michael G. Cooke

THRU: Trina Vielhauer
Jim Pennington

FROM: Jonathan Holtom

DATE: October 13, 2004

SUBJECT: Final Construction Permit for Tiger Bay Cogeneration Facility

Attached for approval and signature is a Final construction permit for Progress Energy Florida's Tiger Bay Cogeneration Facility. This project is for the establishment of an allowable emissions limitation for emissions of nitrogen oxides (NO_X) during periods of start up and shut down of the combustion turbine, and to recognize excess emissions resulting from combustor tuning. The current permit allows emissions in excess of the permitted limit for up to 2 hours in any 24 hour period for occurrences of a unit start up, shut down or malfunction. However, due to the operational nature of the combined cycle combustion turbine, start up of the unit must be performed over as much as a five hour period to avoid heat stress damage to the steam turbine. As a result, emissions in excess of the emissions limit can sometimes occur for more than two hours during the start up and shut down periods.

The Public Notice requirements were met on September 30, 2004, by publishing in The Ledger (in Polk County) on September 16. No comments have been received from the public in response to this Public Notice, and no petitions were filed for an Administrative Hearing.

I recommend your approval and signature.

Attachments

/jh

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF FINAL PERMIT

In the Matter of an
Application for Permit by:

Roger B. Zirkle, Plant Manager
Progress Energy Florida
3219 State Road 630 West
Ft. Meade, Florida 33841

DEP File No. 1050223-013-AC
Tiger Bay Cogeneration Facility
Polk County

Enclosed is Final Permit Number 1050223-013-AC. This permit authorizes Florida Power Corporation to establish an allowable emissions limitation for emissions of nitrogen oxides (NO_X) during periods of start up and shut down of the combustion turbine, and to recognize excess emissions resulting from combustor tuning. The current permit allows emissions in excess of the permitted limit for up to 2 hours in any 24 hour period for occurrences of a unit start up, shut down or malfunction. However, due to the operational nature of the combined cycle combustion turbine, start up of the unit must be performed over as much as a five hour period to avoid heat stress damage to the steam turbine. As a result, emissions in excess of the emissions limit can sometimes occur for more than two hours during the start up and shut down periods. This permit is issued pursuant to Chapter 403, Florida Statutes.

Any party to this order has the right to seek judicial review of it under section 120.68 of the Florida Statutes, by filing a notice of appeal under rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, 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 must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

Trina L. Vielhauer, Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Notice of Final Permit (including the Final permit) was sent by certified mail (*) and copies were electronically mailed by Internet e-mail before the close of business on 10/14/04 to the person(s) listed:

Mr. Roger B. Zirkle, Plant Manager, PEF*
Mr. Scott Osbourn, P.E. (sosbourn@golder.com)
Mr. Jason Waters, DEP-SWD
Mr. Hamilton Oven, P.E., DEP-SCO

Clerk Stamp

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

(Clerk) 10/14/04 (Date)

FINAL DETERMINATION

Florida Power Corporation
Tiger Bay Cogeneration Facility
DEP File No. 1050223-013-AC

The Department distributed a public notice package on September 3, 2004, to establish an allowable emissions limitation for emissions of nitrogen oxides (NO_X) during periods of start up and shut down of the combustion turbine, and to recognize excess emissions resulting from combustor tuning at the Florida Power Corporation Tiger Bay Cogeneration Facility, located at 3219 State Road 630 East, Ft. Meade, Polk County. The current permit allows emissions in excess of the permitted limit for up to 2 hours in any 24 hour period for occurrences of a unit start up, shut down or malfunction. However, due to the operational nature of the combined cycle combustion turbine, start up of the unit must be performed over as much as a five hour period to avoid heat stress damage to the steam turbine. As a result, emissions in excess of the emissions limit can sometimes occur for more than two hours during the start up and shut down periods. The Public Notice of Intent to Issue was published in The Ledger (Polk County) on September 16, 2004.

COMMENTS/CHANGES

No comments were received by the Department in response to the Draft permit and Public Notice.

CONCLUSION

The final action of the Department is to issue the final permit as it was noticed.

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

PERMITTEE:

Progress Energy

Tiger Bay Cogeneration Facility
3219 State Road 630 West
Ft. Meade, Florida.

ARMS Permit No.	1050223-013-AC / PSD-FL-190A
Facility ID No.	1050223
SIC No.	4911
Expires:	March 15, 2005

Authorized Representative:
Roger B. Zirkle, Plant Manager

PROJECT AND LOCATION

This permitting action is being issued at the applicant's request to establish an allowable emissions limitation for emissions of nitrogen oxides (NO_X) during periods of start up and shut down of the combustion turbine, and to recognize excess emissions resulting from combustor tuning. The current permit allows emissions in excess of the permitted limit for up to 2 hours in any 24 hour period for occurrences of a unit start up, shut down or malfunction. However, due to the operational nature of the combined cycle combustion turbine, start up of the unit must be performed over as much as a five hour period to avoid heat stress damage to the steam turbine. As a result, emissions in excess of the emissions limit can sometimes occur for more than two hours during the start up and shut down periods.

The facility is located at 3219 State Road 630 West, Ft. Meade, Polk County.

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to make changes in accordance with the conditions of this permit.

APPENDICES

The following attached document is incorporated as part of this permit:

AC53-214903 / PSD-FL-190 Initial Air Construction Permit

Michael G. Cooke, Director
Division of Air Resource Management

FACILITY DESCRIPTION

The subject facility consists of a single combustion turbine (CT) that exhausts through a heat recovery steam generator (HRSG). The facility is permitted to combust natural gas as the primary fuel and distillate fuel oil as back-up fuel. However, the fuel oil capability has yet to be installed. The total combined capacity of the facility is 269.5 megawatts. A nominal 184 megawatts are provided by the combustion turbine. In addition, a nominal 85.5 megawatts are provided by a steam generator. Emissions unit -001 is regulated under Acid Rain Phase II.

REGULATORY CLASSIFICATION

Title V Major Source: This facility is a Title V major source of air pollution.

PSD Major Source: Each pollutant with potential emissions greater than the Significant Emissions Rates specified in Table 62-212.400-2, F.A.C. requires a PSD review and Best Available Control Technology (BACT) determination. This project will not result in a significant emissions increase of any pollutant, nor will it subject the emissions unit to any new BACT standards, provided that the Emissions Unit is operated as specified in this permit.

RELEVANT DOCUMENTS

The documents listed form the basis of the permit. They are specifically related to this permitting action. These documents are on file with the Department.

- AC53-214903 / PSD-FL-190 issued 5-17-93
- Electronic construction permit application received 7-9-04

1. All of the terms and conditions of the attached air construction permit, No. AC53-214903 / PSD-FL-190, dated May 17, 1993, are incorporated into this air construction permit and remain the same, except for the changes that follow in Specific Condition 2, below.

2. In order to establish an allowable emissions limitation for emissions of nitrogen oxides (NO_X) during periods of start up and shut down of the combustion turbine, Specific Condition 1. is changed:

From:

1. The maximum allowable emissions from this source shall not exceed the emission rates listed in Table 1.

To:

1. a. The maximum allowable emissions from this source shall not exceed the emission rates listed in Table 1.

   b. The maximum allowable emissions of nitrogen oxides resulting from a start up or shut down of the CT shall not exceed an average of 120 lbs/hour, based on a 24 hour period commencing with the beginning of a start up or a shut down of the unit. The 24-hour average shall be based on all available data excluding calibration data and periods of emissions due to malfunction during the start up period.

[BACT determination dated May 17, 1993; Rule 62-210.700(5), F.A.C.; and, applicant request]

3. In order to recognize excess emissions resulting from combustor tuning, Specific Condition 22. is changed:

From:

22. This source shall be in compliance with all applicable provisions of F.A.C. Rules 17-210.650: Circumvention' 17-210: Excess Emissions; 17-296.800: Standards of Performance for New Stationary Sources (NSPS); 17-297: Stationary Sources-Emissions Monitoring; and, 17-4.130: Plant Operation-Problems.

To:

22. a. This source shall be in compliance with all applicable provisions of F.A.C. Rules 62-210.650: Circumvention; 62-210.700: Excess Emissions; 62-296.800: Standards of Performance for New Stationary Sources (NSPS); 62-297: Stationary Sources-Emissions Monitoring; and, 62-4.130: Plant Operation-Problems.

   b. Excess emissions resulting from a combustor tuning session shall be permitted provided the tuning session is performed in accordance with the manufacturer's specifications and in no case shall exceed 72 hours in any calendar year. A "tuning session" would occur after a combustor change-out, a repair to a combustor, or as required to maintain compliance. Prior to performing any tuning session, the permittee shall provide the Compliance Authority with an advance notice that details the activity and proposed tuning schedule. The notice may be made by telephone, facsimile transmittal, or electronic mail.

[Rule 62-210.700(1) & (5), F.A.C.; and, applicant request]

1050223-NA-AC
PSD-FL-190

Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Virginia B. Wetherell, Secretary

PERMITTEE:
Central Florida Power, L.P.
2500 City West Blvd., Ste. 150
Houston, Texas 77042

Permit Number: AC53-214903
PSD-FL-190
Expiration Date: January 1, 1996
County: Polk
Latitude/Longitude: 27°44'46.7"N
81°51'0.3"W
Project: A 258 MW Cogeneration Facility

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-210, 212, 275, 296, 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 drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

Central Florida Power, Limited Partnership, proposes to operate a 258 MW cogeneration facility consisting of one combustion turbine generator, one steam turbine generator, one duct burner-fired heat recovery steam generator and ancillary equipment. This facility is located near Ft. Meade, Polk County, Florida. The UTM coordinates are Zone 17, 416.22 km East and 3069.22 km North.

The sources shall be constructed in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. Central Florida Power, Limited Partnership's (CFPLP) application received on June 15, 1992.
2. Department's letters dated July 14 and October 9, 1992.
3. CFPLP's letters received on August 26, October 9, and October 23, 1992.

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 acknowledgement 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 an 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 or 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 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 noncompliance, 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 for 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 Sections 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.

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.

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:

(x) Determination of Best Available Control Technology (BACT)
(x) Determination of Prevention of Significant Deterioration (PSD)
(x) 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 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;

GENERAL CONDITIONS:

- 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; and
- 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 that 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.

SPECIFIC CONDITIONS:

Emission Limits

1. The maximum allowable emissions from this source shall not exceed the emission rates listed in Table 1.

2. Visible emissions for full load operation shall not exceed 10% opacity when firing natural gas and 20% opacity when firing distillate fuel oil.

Operating Rates

3. This source is allowed to operate continuously (8,760 hours per year).

4. This source is allowed to use natural gas as the primary fuel for 8,760 hours per year and low sulfur distillate fuel oil (0.05% S) as the secondary fuel up to 3,742,327 gallons per calendar year.

5. The permitted materials and utilization rates for the combined cycle gas turbine system shall be as stated in the application. The operating parameters include, but are not limited to:

184 MW Combustion Turbine

a) The maximum heat input of 1,849.9 MMBtu/hr (LHV) at 27°F and at base load for distillate fuel oil.

b) The maximum heat input of 1,614.8 MMBtu/hr (LHV) at 27°F and at base load for natural gas.

SPECIFIC CONDITIONS:

Duct Burner

c) The maximum heat input of 100 MMBtu/hr (HHV) of natural gas.

6. Any change in the method of operation, equipment or operating hours pursuant to Rule 17-212.200, F.A.C., Definitions-Modifications, shall be submitted to DER's Bureau of Air Regulation and Southwest District offices.

7. Any other operating parameters established during compliance testing and/or inspection that will ensure the proper operation of this facility shall be included in the operating permit.

Compliance Determination

8. Compliance with the NO_x, SO_2, CO, PM, PM_{10}, and VOC standards shall be determined (while operating at 95-100% of the permitted maximum heat rate input corresponding to the particular ambient conditions) within 180 days of initial operation of the maximum capability of the unit and annually thereafter, by the following reference methods as described in 40 CFR 60, Appendix A (July, 1992 version) and adopted by reference in F.A.C. Rule 17-297.

- Method 1 Sample and Velocity Traverses for Stationary Sources
- Method 2 Determination of Stack Gas Velocity and Volumetric Flow Rate
- Method 3 Gas Analysis
- Method 5 or Method 17 Determination of Particulate Emissions from Stationary Sources / Determination of Particulate Emissions from Stationary Sources
- Method 18 Measurement of Gaseous Organic Compound Emissions by Gas Chromatography
- Method 9 Visual Determination of the Opacity of Emissions from Stationary Sources
- Method 8 Determination of Sulfuric Acid Mist and Sulfur Dioxide Emissions from Stationary Sources
- Method 10 Determination of Carbon Monoxide Emission from Stationary Sources
- Method 20 Determination of Nitrogen Oxides, Sulfur Dioxide, and Diluent Emissions from Stationary Gas Turbines
- Method 25A Determination of Total Gaseous Organic Concentrations Using a Flame Ionization Analyzer

SPECIFIC CONDITIONS:

- Method 201A and Method 202 Determination of PM_{10} Emissions from Stationary Sources
  Determination of Condensible Particulate Emissions from Stationary Sources

Other DER approved methods may be used for compliance testing after prior Departmental approval.

9. Method 5 or Method 17 or Method 201A and Method 202 must be performed to determine the initial compliance status of particulate matter emissions of the unit. Thereafter, the opacity emissions test, Method 9, may be used unless the applicable opacity is exceeded. Also, the ambient particulate matter entering the gas turbine can be subtracted from the total particulate matter emissions if that quantity can be measured at the inlet of the gas turbine.

10. Compliance with the SO_2 and sulfuric acid mist emission limit can also be determined by calculations based on fuel analysis using ASTM D4294 for the sulfur content of liquid fuels and ASTM D3246-81 for sulfur content of gaseous fuel.

11. Trace elements of Beryllium (Be) shall be tested during initial compliance test using EMTIC Interim Test Method. As an alternative, Method 104 may be used; or Be may be determined from fuel sample analysis using either Method 7090 or 7091, and sample extraction using Method 3040 as described in the EPA solid waste regulations SW 846.

12. Mercury (Hg) shall be tested during initial compliance test using EPA Method 101 (40 CFR 61, Appendix B) or fuel sampling analysis using methods acceptable to the Department.

13. During performance tests, to determine compliance with the NO_x standard, measured NO_x emissions at 15 percent oxygen will be adjusted to ISO ambient atmospheric conditions by the following correction factor:

$$NO_x = (NO_{x\ obs}) \left(\frac{P_{ref}}{P_{obs}}\right)^{0.5} e^{19\ (H_{obs} - 0.00633)} \left(\frac{288°K}{T_{AMB}}\right)^{1.53}$$

where:

SPECIFIC CONDITIONS:

NO_X = Emissions of NO_X at 15 percent oxygen and ISO standard ambient conditions.

$NO_{X\ obs}$ = Measured NO_X emission at 15 percent oxygen, ppmv.

P_{ref} = Reference combustor inlet absolute pressure at 101.3 kilopascals (1 atmosphere) ambient pressure.

P_{obs} = Measured combustor inlet absolute pressure at test ambient pressure.

H_{obs} = Specific humidity of ambient air at test.

e = Transcendental constant (2.718).

T_{AMB} = Temperature of ambient air at test.

14. Test results will be the average of 3 valid runs. The Southwest District office will be notified at least 30 days in writing in advance of the compliance test(s). The sources, combustion turbine and duct burner, shall operate between 95% and 100% of maximum capacity for the ambient conditions experienced during compliance test(s). The turbine manufacturer's capacity vs temperature (ambient) curve shall be included with the compliance test results. Compliance test results shall be submitted to the Southwest District office no later than 45 days after completion.

15. The permittee shall comply with the following by 12/31/97:

a) For this turbine, if the 15 (gas)/42 (oil) ppmvd, corrected to 15% O_2 emission rates cannot be met by 12/31/97, SCR or other control technology will be installed. Hence, the permittee shall install a duct module suitable for future installation of SCR equipment.

16. The permittee shall install, calibrate, maintain, and operate a continuous emission monitor in the stack to measure and record the nitrogen oxides emissions from this source. The continuous emission monitor must comply with 40 CFR 60, Appendix B, Performance Specification 2 (July 1, 1992).

17. A continuous monitoring system shall be installed to monitor and record the fuel consumption on the CT and duct burner. While water/steam injection is being utilized for NO_X control, the water/steam to fuel ratio at which compliance is achieved shall be incorporated into the permit and shall be continuously monitored. The system shall meet the requirements of 40 CFR Part 60, Subpart GG.

SPECIFIC CONDITIONS:

18. Sulfur and nitrogen content and lower heating value of the fuel being fired in the combustion turbines shall be determined as specified in 40 CFR 60.334(b). Any request for a future custom monitoring schedule shall be made in writing and directed to the Southwest District office. Any custom schedule approved by DER pursuant to 40 CFR 60.334(b) will be recognized as enforceable provisions of the permit, provided that the holder of this permit demonstrates that the provisions of the schedule will be adequate to assure continuous compliance. The records of distillate fuel oil usage shall be kept by the company for a two-year period for regulatory agency inspection purposes. For sulfur dioxide, periods of excess emissions shall be reported if the fuel being fired in the gas turbine exceeds 0.05 percent sulfur by weight.

Rule Requirements

19. This source shall comply with all applicable provisions of Chapter 403, Florida Statutes, Chapters 17-210, 212, 275, 296, 297 and 17-4, Florida Administrative Code and 40 CFR 60 (July, 1992 version).

20. The sources shall comply with all requirements of 40 CFR 60, Subpart GG and Subpart Dc, and F.A.C. Rule 17-296.800,(2)(a), Standards of Performance for Stationary Gas Turbines and Standards of Performance for Industrial, Commercial, and Institutional Steam Generating Units.

21. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements and regulations (F.A.C. Rule 17-210.300(1)).

22. This source shall be in compliance with all applicable provisions of F.A.C. Rules 17-210.650: Circumvention; 17-210.700: Excess Emissions; 17-296.800: Standards of Performance for New Stationary Sources (NSPS); 17-297: Stationary Sources-Emissions Monitoring; and, 17-4.130: Plant Operation-Problems.

23. If construction does not commence within 18 months of issuance of this permit, then the permittee shall obtain from the Department a review and, if necessary, a modification of the control technology and allowable emissions for the unit(s) on which contruction has not commenced (40 CFR 52.21(r)(2)).

24. Quarterly excess emission reports, in accordance with the July 1, 1992 version of 40 CFR 60.7 and 60.334 shall be submitted to the Department's Southwest District office.

SPECIFIC CONDITIONS:

25. Fugitive dust emissions, during the construction period, shall be minimized by covering or watering dust generation areas.

26. Pursuant to F.A.C. Rule 17-210.300(2), Air Operating Permits, the permittee is required to submit annual reports on the actual operating rates and emissions from this facility. These reports shall include, but are not limited to the following: sulfur content and the lower heating value of the fuel being fired, fuel usage, hours of operation, air emissions limits, etc. Annual reports shall be sent to the Department's Southwest District office by March 1 of each calendar year.

27. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit (F.A.C. Rule 17-4.090).

28. An application for an operation permit must be submitted to the Southwest District office at least 90 days prior to the expiration date of this construction permit. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rules 17-4.055 and 17-4.220).

Issued this 17th day
of May, 1993

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Virginia B. Wetherell

Virginia B. Wetherell
Secretary

CENTRAL FLORIDA POWER, L.P. - AC53-214903 (PSD-FL-190)
258 MW COMBINED CYCLE GAS TURBINE

Table 1 - Allowable Emission Rates

Pollutant	Fuel[A]	Allowable Emission[C] Standard/Limitation	Basis
NO_x (CT)	Gas	15 ppmvd @ 15% O_2 (97.2 lbs/hr; 425.7 TPY)[B]	BACT
	Gas	25 ppmvd @ 15% O_2 (161.9 lbs/hr; 709.1 TPY)	BACT
	Oil	42 ppmvd @ 15% O_2 (326 lbs/hr; 48.9 TPY)	BACT
NO_x (DB)	Gas	0.1 lbs/MMBtu (10 lbs/hr, 43.8 TPY)	BACT
CO (CT)	Gas	15 ppmvd (48.8 lbs/hr; 213.7 TPY)[D]	BACT
	Oil	30 ppmvd (98.4 lbs/hr; 14.8 TPY)	BACT
CO (DB)	Gas	10 lbs/hr; 43.8 TPY	BACT
VOC (CT)	Gas	2.8 lbs/hr; 12.3 TPY	BACT
	Oil	7.5 lbs/hr; 1.1 TPY	BACT
VOC (DB)	Gas	2.9 lbs/hr; 12.7 TPY	BACT
PM_{10} (CT)	Gas	9 lbs/hr; 39.4 TPY	BACT
	Oil	17 lbs/hr; 2.6 TPY	BACT
PM_{10} (DB)	Gas	0.0100 lbs/MMBtu	BACT
SO_2 (CT)	Gas	4.86 lbs/hr; 21.3 TPY	Appl.
	Oil	99.7 lbs/hr; 15.0 TPY	Appl.
SO_2 (DB)	Gas	0.3 lbs/hr; 1.32 TPY	Appl.
H_2SO_4 (CT)	Gas	5.95×10^{-1} lbs/hr; 2.6 TPY	Appl.
	Oil	1.22 lbs/hr; 0.183 TPY	Appl.
H_2SO_4 (DB)	Gas	3.7×10^{-2} lbs/hr; 1.61×10^{-1} TPY	Appl.
Opacity	Gas	10% opacity[D]	BACT
	Oil	20% opacity[D]	BACT
Hg	Oil	3.0×10^{-6} lbs/MMBtu (5.55×10^{-3} lbs/hr; 8.32×10^{-4} TPY)	Appl.
As	Oil	4.2×10^{-6} lbs/MMBtu (7.77×10^{-3} lbs/hr; 1.17×10^{-3} TPY)	BACT
Be	Oil	2.5×10^{-6} lbs/MMBtu (4.62×10^{-3} lbs/hr; 6.94×10^{-4} TPY)	BACT
Pb	Oil	8.9×10^{-6} lbs/MMBtu (1.65×10^{-2} lbs/hr; 2.47×10^{-3} TPY)	Appl.

A) Fuel: Natural Gas: Emissions are based on 8760 hours per year operating time.
Fuel: Distillate Fuel Oil (0.05% S): Emissions are based on fuel usage equivalent to 300 hours per year at maximum capacity (i.e., 3,742,327 gallons per year).

B) The NO_x maximum limit will be lowered to 97.2 (lbs/hr) equivalent to 15 ppmvd @ 15% O_2 not later than 12/31/97 using appropriate combustion technology improvements or SCR.

C) Emission rates are based on 27°F at base load.

D) At full load conditions.

Progress Energy

September 21, 2004

Mr. Jonathan Holtom
DEP/DARM
North Permitting Section
Division of Air Resource Management
2600 Blair Stone Road MS 5500
Tallahassee, Florida 32399-2400

Re: Tiger Bay Power Plant – Title V Permit - Affidavit of Publication

Dear Mr. Holtom:

In accordance with Ms. Trina Vielhauer's letter to Mr. Roger Zirkle dated September 2, 2004, we have published the public notice in The Ledger on September 16, 2004. Attached is the Affidavit of Publication.

If you have any questions, please contact me at (727) 826-4187. Thank you for processing the Title V application.

Best Regards,

Dave Meyer

Dave Meyer, P.E.
Senior Environmental Specialist

XC: Roger Zirkle

Attachment

AFFIDAVIT OF PUBLICATION

THE LEDGER

Lakeland, Polk County, Florida

Case No .....

STATE OF FLORIDA)
COUNTY OF POLK)

Before the undersigned authority personally appeared C. Morgan Miller, who on oath says that he is Display Advertising Manager of The Ledger, a daily newspaper published at Lakeland in Polk County, Florida; that the attached copy of advertisement, being an

Notice of Intent

.....

in the matter of **Issuance of An Air Construction Permit and Title V..**

.....

.....

Concerning **Tiger Bay Congeneration Facility in Polk County** .....

.....

was published in said newspaper in the issues of **9-16; 2004**.....

.....

Affiant further says that said The Ledger is a newspaper published at Lakeland, in said Polk County, Florida, and that the said newspaper has heretofore been continuously published in said Polk County, Florida, daily, and has been entered as second class matter at the post office in Lakeland, in said Polk County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Signed.....
C. Moran Miller
Display Advertising Manager
Who is personally known to me.

Sworn to and subscribed before me this 16TH
day of September A.D. 2004
Patricia Ann Rouse
Notary Public

PATRICIA ANN ROUSE
MY COMMISSION # CC 976018
EXPIRES: October 17, 2004

Attach Ad Here

PUBLIC NOTICE OF INTENT TO ISSUE AN AIR CONSTRUCTIC AND A TITLE V AIR OPERATION PERMIT

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Draft Air Construction Permit No.: 1050223-013-AC / PS DRAFT Title V Air Operation Permit No.: 1050223-01

Progress Energy - Tiger Bay Cogeneration Facility
Polk County

Applicant: The applicant for this project is Progress Energy, 3219 State Rc da 33841. The applicant's responsible official is Mr. Roger Zirkle, Plant Mana

Facility Location: The applicant operates a Cogeneration Facility, which is 630 West in Ft. Meade, Polk County, Florida.

Project: The applicant submitted an application for a Title V Air Operatic consists of a single combustion turbine (CT) that exhausts through a hec (HRSG). The facility is permitted to combust natural gas as the primary fuel up fuel. However, the fuel oil capability has yet to be installed. The total c cility is 269.5 megawatts. A nominal 184 megawatts are provided by the tion, a nominal 85.5 megawatts are provided by a steam generator. En under Acid Rain Phase II. This permit will be a renewal Title V air operatior

The applicant also submitted an application for an Air Construction Perm lawable emissions limitation for emissions of nitrogen oxides (NO_x) during down of the combustion turbine, and to recognize excess emissions resultir current permit allows emissions in excess of the permitted limit for up to 2 h occurrences of a unit start up, shut down or malfunction. However, due to combined cycle combustion turbine, start up of the unit must be performe period to avoid heat stress damage to the steam turbine. As a result, emiss limit can sometimes occur for more than two hours during the start up and mit will be a revision Air Construction permit No. AC53-214903 / PSD-FL-19

Permitting Authority: Applications for Air Construction Permits and for Title subject to review in accordance with the provisions of Chapter 403, Florid 62-4, 62-210, and 62-213 of the Florida Administrative Code (F.A.C.). The pr from air permitting requirements and an air permit is required to operate of Environmental Protection is the Permitting Authority responsible for mak garding this project. The Permitting Authority's physical address is: 111 Sou Tallahassee, Florida 32301. The Permitting Authority's mailing address is: Depa tection, 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 3 thority's telephone number is 850/488-0114.

Project File: A complete project file is available for public inspection during 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at for the Permitting Authority. The complete project file includes the Draft P the application, and the information submitted by the applicant, exc under Section 403.111, F.S. Interested persons may contact the Permitting gineer for additional information at the address and phone number liste email address: jonathan.holtom@dep.state.fl.us. A copy of the complete the Department of Environmental Protection's Southwest District Office Tampa, Florida 33619-8218 (Telephone: 813/744-6100).

Notice of Intent to Issue Air Permit: The Permitting Authority gives notice c struction Permit and a Title V Air Operation Permit to the applicant for the applicant has provided reasonable assurance that operation of the facili quality and that the project will comply with all appropriate provisions fo 62-212, 62-213, 62-256, 62-257, 62-281, 62-296, and 62-297, F.A.C. The Perm Air Construction Permit, a Proposed Title V Air Operation Permit and subse tan Permit in accordance with the conditions of the Draft Permits unless dance with the following procedures results in a different decision or a conditions.

Comments: The Permitting Authority will accept written comments conce tion Permit for a period of fourteen (14) days from the date of publicatio mitting Authority will accept written comments concerning the Draft Tit period of thirty (30) days from the date of publication of this Public Notic provided to the Permitting Authority at the above address. As part of his may also request that the Permitting Authority hold a public meeting on mitting Authority determines there is sufficient interest for a public meet time, date, and locatio on the Department's official **(http://thorad.dep.state.fl.us/onw/)** and in a newspaper of general circu the permitting action. For additional information, contact the Permitting or phone number. If written comments or comments received at a public change to the Draft Permits, the Permitting Authority shall revise the Dra cable; another Public Notice. All comments filed will be made available

Petitions: A person whose substantial interests are affected by the prop petition for an administrative hearing in accordance with Sections 120.5 must contain the information set forth below and must be filed with (re Agency Clerk in the Office of General Counsel of the Department of E Commonwealth Boulevard, Mail Station #35, Tallahassee, FL 32399-3000. other than those entitled to written notice under Section 120.60(3), F.S. mu days of publication of this Public Notice or receipt of a written notice, whic tion 120.60(3), F.S., however, any person who asked the Permitting Author may file a petition within fourteen (14) days of receipt of that notice, rega tion. A petitioner shall mail a copy of the petition to the applicant at the time of filing. The failure of any person to file a petition within the app stitute a waiver of that person's right to request an administrative deter tions 120.569 and 120.57, F.S., or to intervene in this proceeding and partic sequent intervention will be only at the approval of the presiding officer compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the permitting author tain the following information: (a) The name and address of each agency file or identification number, if known; (b) The name, address and telepr name address and telephone number of the petitioner's representative, dress for service purposes during the course of the proceeding; and (c substantial rights will be affected by the agency determination; (c) A sta petitioner received notice of the agency action or proposed action; (a) sues of material fact. If there are none, the petition must so state; (e) A mate facts alleged, as well as the rules and statutes which entitle petitio the specific rules or statues the petitioner contends require reversal or mo posed action; and, (g) A statement of the relief sought by the petitioner, s titioner, stating precisely the action petitioner wishes the agency to take proposed action.

Because the administrative hearing process is designed to formulate fina petition means that the Permitting Authority's final action may be differe in this notice of intent. Persons whose substantial interests will be affecte the permitting authority on the application have the right to petition t ceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available for this proceeding.

Progress Energy

July 8, 2004

Jonathan Holtom
Division of Air Resource Management
2600 Blair Stone Road MS 5500
Tallahassee, Florida 32399-2400

Re: Progress Energy – Revision to the Tiger Bay Application - Facility ID 1050223

Dear Jonathan Holtom:

During your review of the Title V air permit renewal for Tiger Bay you requested either a CAM plan or a commitment to use the existing CEMS system as a continuous compliance method for NOx.

We will use the existing CEMS system as the compliance method for NOx for the combustion turbine.

I, the undersigned, am the responsible official as defined in Chapter 62-210.200, F.A.C., of the Title V source for which this document is being submitted. I hereby certify, based on the information and belief formed after reasonable inquiry, that the statements made and data contained in this document are true, accurate, and complete.

If you have any questions, please contact Dave Meyer at (727) 826-4187.

Sincerely,

Roger Zirkle
Plant Manager

P.O. Box 14042, HE44 • St. Petersburg • Florida 33733-4042 • (727) 820-5151
A Progress Energy Company

values to vary between 8,000 and 17,500 Btu/lb.

Alkaline sludges, such as soda tar and neutralized sludge, are less troublesome to fire since they are less variable in character than acid sludge.

GASEOUS FUELS

Gaseous fuels, when available, are ideal for steam generation because of the ease of control, the presence of little or no solid residue, and the low excess-air requirement, which contributes to high efficiency.

Properties of fuel gas considered to be of prime importance are composition, heating value, and specific gravity.

ANALYSIS

The analysis of fuel gas is expressed in terms of volume percentages of the component gases. Determinations can be made by selective absorption in chemical solutions, by separation of components through distillation, by infrared or mass spectrometry, or by means of gas chromatography. Typical analyses of various gases are given under their specific headings.

HEATING VALUE

The heating value refers to the quantity of heat released during combustion of a unit amount of fuel gas. Determinations are made with a continuous flow (constant pressure) gas calorimeter. The heating value as determined in calorimeters is termed *high heating value* and is the quantity of heat evolved when the products of combustion are cooled to 60°F and the water vapor produced is completely condensed to a liquid at that temperature. The *low heating value* differs from the high heating value by the latent heat of evaporation of water

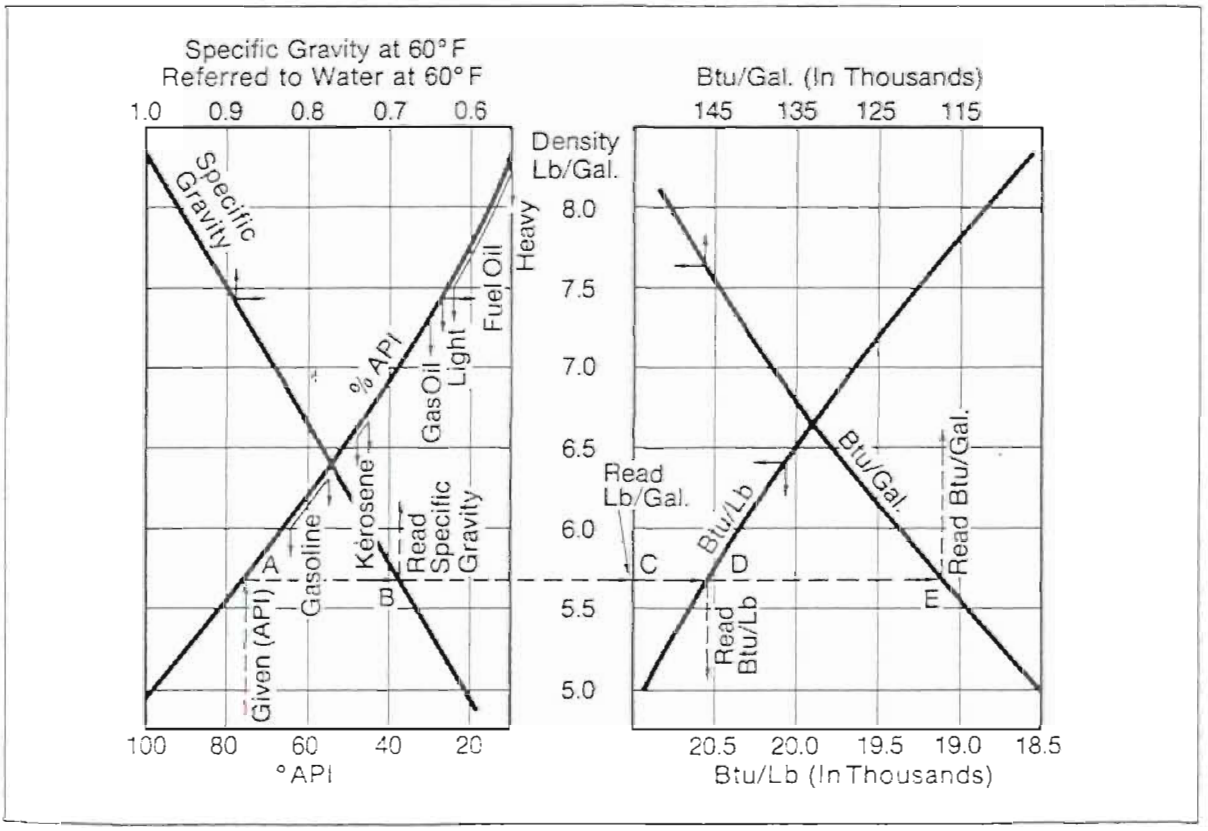


Fig. 10 Chart showing the relationships of important characteristics of liquid fuels

formed in the combustion process, as described on Page 2–12.

The heating value of manufactured gas is expressed as Btu per cu ft when measured at 60°F and 30 in. Hg, saturated with water vapor. The values for natural gas, however, are commonly reported at a pressure of 14.7 psia (pounds per square inch absolute) or 30 in. Hg, at a temperature of 80°F, and generally on a dry basis.

The heating value of gaseous fuels varies considerably, depending on the constituents present. When not obtainable by test, H_f can be calculated by summing up the heat evolved by the individual combustible fractions of the gas.

In Table XVII are shown the principal compo nents, together with their properties at 60° and 30 in. Hg, moisture-free. When present i different proportions, these make up variou fuel gases.

ANSI/ASTM Standards D 3588 gives method for calculating calorific value and spe cific gravity of gaseous fuels and includes method for determining the repeatability an reproducibility of the calculated values.

SPECIFIC GRAVITY

Various methods for determining the spe cific gravity of a fuel gas are available but three

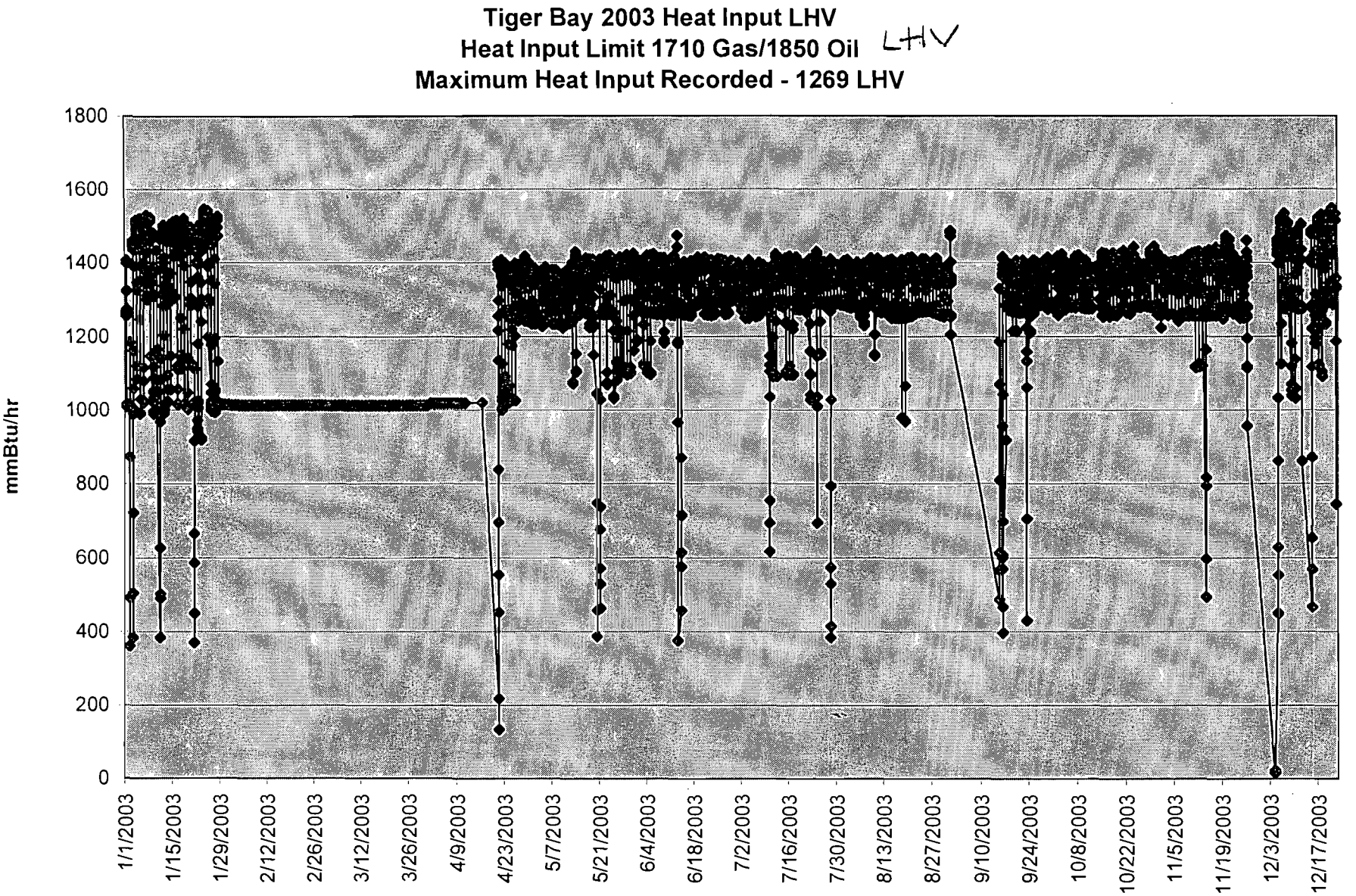
Table XVII. Combustion Constants of Dry Gases at 60°F and 30 In. Hg

	Chemical Formula	O_2 Reqd./ Cu Ft of Dry Gas, Cu Ft	CO_2 Formed/ Cu Ft of Dry Gas, Cu Ft	H_2O Formed/ Cu Ft of Dry Gas, Cu Ft	Density of Dry Gas, Lb/Cu Ft	HHV of Dry Gas Btu/Cu Ft*	HHV of Dry Gas Btu/Lb
Gas							
Oxygen	O_2	...	...	...	0.08461	...	...
Nitrogen (atmospheric)	N_2	...	...	...	0.07439	...	...
Air	...	...	...	...	0.07655	...	...
Carbon dioxide	CO_2	...	...	...	0.1170	...	...
Water vapor	H_2O	...	...	...	0.04758	...	...
Hydrogen	H_2	0.5	...	1.0	0.005327	325	60,991
Hydrogen sulfide	H_2S	1.5	1.0**	1.0	0.09109	647	7,100
Carbon monoxide	CO	0.5	1.0	...	0.07404	321	4,323
Saturated Hydrocarbons							
Methane	CH_4	2.0	1.0	2.0	0.04246	1014	23,896
Ethane	C_2H_6	3.5	2.0	3.0	0.08029	1789	22,282
Propane	C_3H_8	5.0	3.0	4.0	0.1196	2573	21,523
Butane	C_4H_{10}	6.5	4.0	5.0	0.1582	3392	21,441
Pentane	C_5H_{12}	8.0	5.0	6.0	0.1904	4200	22,058
Unsaturated Hydrocarbons or Illuminants							
Ethylene	C_2H_4	3.0	2.0	2.0	0.07421	1614	21,647
Propylene	C_3H_6	4.5	3.0	3.0	0.1110	2383	21,464
Butylene	C_4H_8	6.0	4.0	4.0	0.1480	3190	21,552
Pentylene	C_5H_{10}	7.5	5.0	5.0	0.1852	4000	21,600
Acetylene	C_2H_2	2.5	2.0	1.0	0.06971	1488	21,344
Benzene	C_6H_6	7.5	6.0	3.0	0.2060	3930	19,068
Toluene	C_7H_8	9.0	7.0	4.0	0.2431	4750	19,537

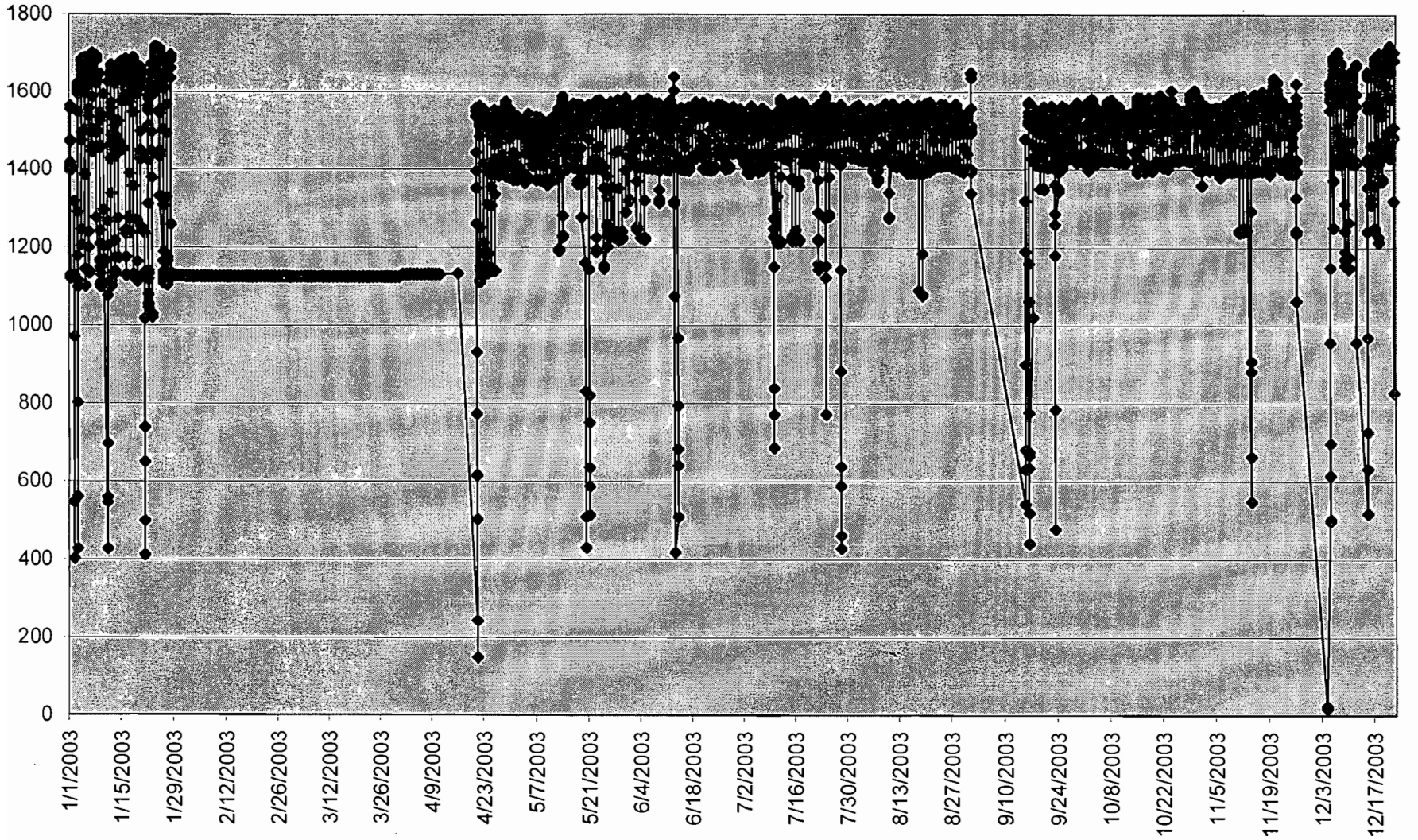
* If gas is saturated with moisture at 60°F and 30.0 in. Hg, reduce by 1.74%.
** SO_2 rather than CO_2

* Typical NG will also have a little of the higher weight hydrocarbons, so maybe values around 1000 make sense.

The LHV would therefore be roughly 910. It would take fair amount of higher weight HC's to raise that number to 1000+.


Tiger Bay 2003 Heat Input LHV
Heat Input Limit 1710 Gas/1850 Oil
Maximum Heat Input Recorded - 1269 LHV
LHV
mmBtu/hr
1800
1600
1400
1200
1000
800
600
400
200
0
1/1/2003
1/15/2003
1/29/2003
2/12/2003
2/26/2003
3/12/2003
3/26/2003
4/9/2003
4/23/2003
5/7/2003
5/21/2003
6/4/2003
6/18/2003
7/2/2003
7/16/2003
7/30/2003
8/13/2003
8/27/2003
9/10/2003
9/24/2003
10/8/2003
10/22/2003
11/5/2003
11/19/2003
12/3/2003
12/17/2003

Tiger Bay 2003 Heat Input
Heat Input Limit - 1710 Gas/ 1850 Oil- LHV
Maximum Heat Input Recorded - 1718



Florida Department of Environmental Protection

Southwest District • 3804 Coconut Palm Dr • Tampa Florida 33619

Lawton Chiles, Governor 813-744-6100 Virginia Wetherell, Secretary

PERMITTEE:
Central Florida Power Limited Partnership
2500 City West Boulevard, Suite 150
Houston, Texas 77042

PERMIT/PROJECT:
Permit No: AC53-230744
County: Polk
Expiration Date: 01/01/96
Project: Wastewater Treatment System Spray Dryer w/Baghouse

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-200 through 297, and Chapter 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:

For the construction of a natural gas fired spray dryer unit and baghouse associated with the wastewater treatment system for a cogeneration facility. This equipment is used to process the concentrated wastewater brine from two falling-film evaporator units. The effluent from the evaporators is pumped to the spray dryer module where it is atomized into a spray and contacted by heated air to evaporate the liquid, thus resulting in the formation of dry particles from the remaining solids. The exhaust gas stream from the spray dryer is sent through a baghouse dust collector where the particulate matter is removed with a removal efficiency of at least 99.9% (based on vendor's guarantee). Design gas flow rate to the baghouse is 5,050 acfm @ 340°F. The spray dryer air heater is fired with natural gas at a maximum heat input rate of 3.07 MMBtu/hr.

Location: Tiger Bay Cogeneration Facility
County 630 Road, 3 miles west of Ft. Meade

UTM: 17-416.3 E 3069.3 N **NEDS No:** 0223 **Point ID No:** 02

Replaces Permit No.: N/A

NOx 15 ppm, 97.2 lb/hr
425.7 TPY
CO 15 ppm, 48.8 lb/hr
213.7 TPY

Excess Emissions Due to SU/SD

On April 30, 2003, Progress Energy requested an increase in the allowable time provided for startup and shutdown at Tiger Bay. This request was made in accordance with a provision in the current TV permit for this facility. On April 26, 2004, the Department responded that the establishment of a SU/SD protocol was no longer the mechanism by which the Department would respond to the SU issues that have arisen on many combined cycle gas turbines. Instead, the Department has been addressing these situations by consideration and establishment of alternate emission limits, during periods of SU/SD, in power plant construction permits.

Therefore, this application for a construction permit and a TV revision will address the issue of excess emissions during SU/SD activities. This request for a permit modification was made separately from the TV renewal process, so as to not delay the processing of the renewal. If this issue can be resolved in a timely manner, it is requested that these revisions be included in the TV permit that is issued through the renewal process. The attachment to the renewal application that summarizes SU/SD procedures (Attachment TB-EU1-L6), was intended only as a placeholder, until such time as this separate permit modification application could be filed with respect to this issue.

Background

Tiger Bay has compiled operations and emissions data from several recent startups in order to document the allowable time and emissions levels required for a safe startup. Progress Energy Florida proposes to use this information in the consideration and establishment of alternate emission limits during periods of startup. This will better reflect actual unit operating characteristics and will reduce the immediate reporting burden of a startup event for both Tiger Bay and the DEP.

Attached is a spreadsheet summarizing the operating and emissions data from recent startup events. In the majority of cases, after a period of five hours, either the unit has achieved a load of >50% (i.e., in the normal operating range and the startup has been completed) or the unit has achieved compliance with the applicable permit limit. Therefore, for each of the startup events, the worst case hourly emissions value, for hours 1 through 5, was used in the establishment of a 24-hour rolling average. The permit limit for NOx is 97.2 lb/hr. The emissions data provided indicates a NOx range from a high of 357.6 lb/hr (worst case Hour 3) to a low of 128.3 lb/hr (worst case for Hour 1) during the typical 5 hour startup. As the calculated 24-hour average shows, potential emissions during startup could be as high as 124.6 lb/hr during the first hour of a 24-hour average during a startup event. Therefore, Progress Energy Florida is requesting an allowable NOx limit of 125 lb/hr. The requested permit language to implement this alternate limit is detailed below.

The applicant requests that the following changes be made to the current permit language:

Excess Emissions

{Permitting note: The Excess Emissions Rule at Rule 62-210.700, F.A.C., cannot vary any requirement of an NSPS or NESHAP provision.}

A.29.
Excess emissions resulting from startup, shutdown, fuel switching, or malfunction shall be permitted provided that best operational practices are adhered to and the duration of excess emissions shall be minimized. Excess emissions occurrences shall in no case exceed two hours in any 24-hour period, with the following exception: during any 24-hour period in which an hour of start-up or shutdown occurs, the following alternative emission limits shall apply on the basis of a 24-hour rolling average:

a) An alternative NO_X limit of 125 lb/hr shall apply if natural gas is the exclusively fired fuel;
b) An alternative NO_X limit (lb/hr) shall apply for fuel oil firing; the limit shall be determined once the facility has established an operating history on fuel oil.

Deleted: Excess emissions resulting from startup, shutdown, or malfunction of any emissions unit shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. See Appendix PSS-1, Protocol for Start-up and Shutdown.

- Are these all occurrences?
- Are shutdown the same magnitude?
- 3/27-28/02 abnormal?
- why pick a closer worst hour instead of using related data?
- 24 hr period, not any 24 with 1 hr. in it.
- Can the HRSG be bypassed? NO

In addition, excess emissions resulting from a combustor tuning session shall be permitted provided the tuning session is performed in accordance with the manufacturer's specifications and in no case shall exceed 72 hours in any calendar year. A "tuning session" would occur after a combustor change-out, a repair to a combustor, or as required to maintain compliance. Prior to performing any tuning session, the permittee shall provide the Compliance Authority with an advance notice that details the activity and proposed tuning schedule. The notice may be made by telephone, facsimile transmittal, or electronic mail.

The 24-hour averages shall be based on all available data excluding calibration data.
[Rule 62-210.700(1), F.A.C.]

Deleted: {Permitting Note: Once a written agreement between the Permittee and the Department's Southwest District has been acquired approving a "Protocol for Start-up and Shutdown", the protocol is automatically incorporated by reference and is a part of the permit. The protocol shall be used where applicable and where there is/are conflict(s) with the rule.}¶

Continuous Monitoring Requirements

A.37. The permittee shall have installed and shall calibrate, maintain, and operate a continuous emission monitor in the stack to measure and record the nitrogen oxide emissions from this source. The continuous emissions monitoring systems must comply with the certification and quality assurance, and other applicable requirements from 40 CFR 60, Appendix B, Performance Specification 2 (July 2, 1992) or 40 CFR 75, whichever is more stringent. Periods of startup, shutdown, malfunction, and fuel switching shall be monitored, recorded, and reported as excess emissions when emission levels exceed the standards in specific conditions **A.8. – A.11 and A.29** following the format of 40 CFR 60.7 (1997 version).
[AC53-214903; PSD-FL-190]

Deleted: .

Date	Hour	NOx (ppmvd @ 15% O2)	MW	NOx (lb/MMBtu)	Heat Input (MMBtu/hr)	NOx (lb/hr)	Hours Off	24 hr avg w/SU data
04/15/01	13	32.9	17.8	0.121	431.8	52.2	13.0	88.99311
04/15/01	14	48.6	16.1	0.179	580.6	103.9		
04/15/01	15	13.0	79.0	0.048	1,098.1	52.7		
04/15/01	16	7.1	115.1	0.026	1,348.1	35.1		
04/15/01	17	8.2	134.0	0.030	1,503.4	45.1		
05/10/01	12	67.9	5.1	0.250	431.3	107.8	59.0	101.4191
05/10/01	13	80.0	0.0	0.295	450.2	132.8		
05/10/01	14	70.6	7.3	0.260	499.5	129.9		
05/10/01	15	37.9	59.9	0.140	966.1	135.3		
05/10/01	16	14.7	133.7	0.054	1,509.0	81.5		
10/18/01	11	15.8	25.7	0.058	410.1	23.8	131.0	93.53845
10/18/01	12	63.2	4.8	0.233	547.2	127.5		
10/18/01	13	56.8	25.9	0.209	721.9	150.9		
10/18/01	14	10.4	72.7	0.038	1,106.9	42.1		
10/18/01	15	10.2	122.5	0.038	1,420.7	53.9		
01/08/02	21	18.2	25.3	0.067	425.1	28.5	32.0	97.5878
01/08/02	22	75.7	6.0	0.279	548.4	153.0		
01/08/02	23	66.6	21.4	0.245	652.5	159.9		
01/09/02	0	22.9	79.2	0.085	1,120.7	95.3		
01/09/02	1	11.3	120.8	0.042	1,396.7	58.7		
03/27/02	21	29.7	25.6	0.109	792.0	86.3	455.0	118.3315
03/27/02	22	63.8	5.8	0.235	1,268.1	298.0		
03/27/02	23	76.5	11.4	0.282	1,268.1	357.6		
03/28/02	0	50.7	43.3	0.187	1,121.5	209.7		
03/28/02	1	10.0	77.0	0.037	1,121.5	41.5		
01/03/03	2	47.9	25.3	0.177	426.9	75.6	18.0	94.17903
01/03/03	3	63.2	10.5	0.233	559.8	130.4		
01/03/03	4	46.7	37.6	0.172	801.5	137.9		
01/03/03	5	9.0	74.0	0.033	1,098.3	36.2		
01/03/03	6	8.1	76.8	0.030	1,114.6	33.4		
01/11/03	12	42.4	25.3	0.156	427.3	66.7	26.0	103.2096
01/11/03	13	80.1	11.5	0.295	558.3	164.7		
01/11/03	14	85.7	12.0	0.316	545.4	172.3		
01/11/03	15	63.6	29.1	0.234	696.7	163.0		
01/11/03	16	15.9	74.3	0.059	1,075.4	63.5		
01/21/03	16	58.1	25.7	0.214	411.4	88.0	14.0	102.7174
01/21/03	17	77.5	8.1	0.286	498.8	142.7		
01/21/03	18	48.3	22.9	0.178	650.1	115.7		
01/21/03	19	64.0	33.6	0.236	739.0	174.4		
01/21/03	20	26.1	66.7	0.096	1,016.4	97.6		
06/14/03	10	37.1	25.8	0.137	508.2	69.6	10.0	103.3305
06/14/03	11	57.1	9.7	0.210	639.5	134.3		
06/14/03	12	58.1	15.1	0.214	682.6	146.1		
06/14/03	13	45.8	29.2	0.169	794.3	134.2		
06/14/03	14	41.9	47.4	0.154	967.2	148.9		

Date	Hour	NOx	MW	NOx	Heat Input	NOx	Hours Off	24 hr avg w/SU data
09/16/03	2	41.4	23.5	0.153	518.2	79.3	8.0	96.72122
09/16/03	3	58.0	12.8	0.214	666.4	142.6		
09/16/03	4	31.9	23.4	0.117	775.4	90.7		
09/16/03	5	30.2	59.1	0.111	1,061.2	117.8		
09/16/03	6	7.5	129.3	0.028	1,573.0	44.1		
12/05/03	10	28.2	25.4	0.104	501.2	52.1	205.0	88.61208
12/05/03	11	38.8	8.9	0.143	614.3	87.8		
12/05/03	12	27.1	17.9	0.100	697.6	69.8		
12/05/03	13	12.7	49.6	0.047	956.6	45.0		
12/05/03	14	6.0	82.8	0.022	1,147.7	25.2		
12/15/03	8	3.4	25.3	0.139	517.6	71.9	68.0	88.47964
12/15/03	9	25.5	9.5	0.094	631.7	59.4		
12/15/03	10	26.5	19.3	0.098	726.4	71.2		
12/15/03	11	11.3	46.9	0.042	969.0	40.7		
12/15/03	12	7.3	94.5	0.027	1,240.9	33.5		
01/07/04	3	28.5	25.2	0.105	498.2	52.3	376.0	90.34842
01/07/04	4	42.4	4.1	0.156	563.2	87.9		
01/07/04	5	33.2	5.5	0.122	574.1	70.0		
01/07/04	6	31.6	13.1	0.116	640.1	74.3		
01/07/04	7	12.4	32.2	0.046	804.8	37.1		
03/29/04	7	72.0	9.9	0.265	484.3	128.3	151.0	104.1956
03/29/04	8	82.8	11.6	0.305	571.1	174.2		
03/29/04	9	75.9	16.8	0.280	619.3	173.4		
03/29/04	10	40.1	55.2	0.148	940.3	139.2		
03/29/04	11	8.6	92.5	0.032	1,213.6	38.8		
04/22/04	7	30.9	17.2	0.114	490.2	55.9	244.0	99.80259
04/22/04	8	64.4	6.9	0.237	544.1	129.0		
04/22/04	9	72.3	11.9	0.266	614.4	163.4		
04/22/04	10	48.8	42.9	0.180	888.3	159.9		
04/22/04	11	8.4	100.8	0.031	1,300.7	40.3		

High Hr 1	72.0	128.3
High Hr 2	82.8	298.0
High Hr 3	85.7	357.6
High Hr 4	64.0	209.7
High Hr 5	41.9	148.9

24- hour Avg.

1	72.0	128.3
2	82.8	298.0
3	85.7	357.6
4	64.0	209.7
5	41.9	148.9
6	15.0	97.2
7	15.0	97.2
8	15.0	97.2

Date	Hour	NOx		MW	NOx	Heat Input	NOx	Hours Off	24 hr avg w/SU data
9			15.0				97.2		
10			15.0				97.2		
11			15.0				97.2		
12			15.0				97.2		
13			15.0				97.2		
14			15.0				97.2		
15			15.0				97.2		
16			15.0				97.2		
17			15.0				97.2		
18			15.0				97.2		
19			15.0				97.2		
20			15.0				97.2		
21			15.0				97.2		
22			15.0				97.2		
23			15.0				97.2		
24			15.0	26.3			97.2	124.6	
1			15.0	23.9			97.2	123.3	
2			15.0	21.1			97.2	114.9	
3			15.0	18.2			97.2	104.0	
4			15.0	16.1			97.2	99.4	
5			15.0	15.0			97.2	97.2	
6			15.0	15.0			97.2	97.2	
7			15.0	15.0			97.2	97.2	
8			15.0	15.0			97.2	97.2	
9			15.0	15.0			97.2	97.2	
10			15.0	15.0			97.2	97.2	
11			15.0	15.0			97.2	97.2	
12			15.0	15.0			97.2	97.2	

Are these all startups?

Date	Hour	NOx (ppmvd @ 15% O2)	MW	NOx (lb/MMBtu)	Heat Input (MMBtu/hr)	NOx (lb/hr)	Hours Off
04/15/01	13	32.9	17.8	0.121	431.8	52.2	13.0
04/15/01	14	48.6	16.1	0.179	580.6	103.9	
04/15/01	15	13.0	79.0	0.048	1,098.1	52.7	
04/15/01	16	7.1	115.1	0.026	1,348.1	35.1	
04/15/01	17	8.2	134.0	0.030	1,503.4	45.1	
05/10/01	12	67.9	5.1	0.250	431.3	107.8	59.0
05/10/01	13	80.0	0.0	0.295	450.2	132.8	
05/10/01	14	70.6	7.3	0.260	499.5	129.9	
05/10/01	15	37.9	59.9	0.140	966.1	135.3	
05/10/01	16	14.7	133.7	0.054	1,509.0	81.5	
10/18/01	11	15.8	25.7	0.058	410.1	23.8	131.0
10/18/01	12	63.2	4.8	0.233	547.2	127.5	
10/18/01	13	56.8	25.9	0.209	721.9	150.9	
10/18/01	14	10.4	72.7	0.038	1,106.9	42.1	
10/18/01	15	10.2	122.5	0.038	1,420.7	53.9	
01/08/02	21	18.2	25.3	0.067	425.1	28.5	32.0
01/08/02	22	75.7	6.0	0.279	548.4	153.0	
01/08/02	23	66.6	21.4	0.245	652.5	159.9	
01/09/02	0	22.9	79.2	0.085	1,120.7	95.3	
01/09/02	1	11.3	120.8	0.042	1,396.7	58.7	
03/27/02	21	29.7	25.6	0.109	792.0	86.3	455.0
03/27/02	22	63.8	5.8	0.235	1,268.1	298.0	
03/27/02	23	76.5	11.4	0.282	1,268.1	357.6	
03/28/02	0	50.7	43.3	0.187	1,121.5	209.7	
03/28/02	1	10.0	77.0	0.037	1,121.5	41.5	
01/03/03	2	47.9	25.3	0.177	426.9	75.6	18.0
01/03/03	3	63.2	10.5	0.233	559.8	130.4	
01/03/03	4	46.7	37.6	0.172	801.5	137.9	
01/03/03	5	9.0	74.0	0.033	1,098.3	36.2	
01/03/03	6	8.1	76.8	0.030	1,114.6	33.4	
01/11/03	12	42.4	25.3	0.156	427.3	66.7	26.0
01/11/03	13	80.1	11.5	0.295	558.3	164.7	
01/11/03	14	85.7	12.0	0.316	545.4	172.3	
01/11/03	15	63.6	29.1	0.234	696.7	163.0	
01/11/03	16	15.9	74.3	0.059	1,075.4	63.5	
01/21/03	16	58.1	25.7	0.214	411.4	88.0	14.0
01/21/03	17	77.5	8.1	0.286	498.8	142.7	
01/21/03	18	48.3	22.9	0.178	650.1	115.7	
01/21/03	19	64.0	33.6	0.236	739.0	174.4	
01/21/03	20	26.1	66.7	0.096	1,016.4	97.6	
06/14/03	10	37.1	25.8	0.137	508.2	69.6	10.0
06/14/03	11	57.1	9.7	0.210	639.5	134.3	
06/14/03	12	58.1	15.1	0.214	682.6	146.1	
06/14/03	13	45.8	29.2	0.169	794.3	134.2	
06/14/03	14	41.9	47.4	0.154	967.2	148.9	
09/16/03	2	41.4	23.5	0.153	518.2	79.3	8.0

Date	Hour	NOx	MW	NOx	Heat Input	NOx	Hours Off
09/16/03	3	58.0	12.8	0.214	666.4	142.6	
09/16/03	4	31.9	23.4	0.117	775.4	90.7	
09/16/03	5	30.2	59.1	0.111	1,061.2	117.8	
09/16/03	6	7.5	129.3	0.028	1,573.0	44.1	
12/05/03	10	28.2	25.4	0.104	501.2	52.1	205.0
12/05/03	11	38.8	8.9	0.143	614.3	87.8	
12/05/03	12	27.1	17.9	0.100	697.6	69.8	
12/05/03	13	12.7	49.6	0.047	956.6	45.0	
12/05/03	14	6.0	82.8	0.022	1,147.7	25.2	
12/15/03	8	3.4	25.3	0.139	517.6	71.9	68.0
12/15/03	9	25.5	9.5	0.094	631.7	59.4	
12/15/03	10	26.5	19.3	0.098	726.4	71.2	
12/15/03	11	11.3	46.9	0.042	969.0	40.7	
12/15/03	12	7.3	94.5	0.027	1,240.9	33.5	
01/07/04	3	28.5	25.2	0.105	498.2	52.3	376.0
01/07/04	4	42.4	4.1	0.156	563.2	87.9	
01/07/04	5	33.2	5.5	0.122	574.1	70.0	
01/07/04	6	31.6	13.1	0.116	640.1	74.3	
01/07/04	7	12.4	32.2	0.046	804.8	37.1	
03/29/04	7	72.0	9.9	0.265	484.3	128.3	151.0
03/29/04	8	82.8	11.6	0.305	571.1	174.2	
03/29/04	9	75.9	16.8	0.280	619.3	173.4	
03/29/04	10	40.1	55.2	0.148	940.3	139.2	
03/29/04	11	8.6	92.5	0.032	1,213.6	38.8	
04/22/04	7	30.9	17.2	0.114	490.2	55.9	244.0
04/22/04	8	64.4	6.9	0.237	544.1	129.0	
04/22/04	9	72.3	11.9	0.266	614.4	163.4	
04/22/04	10	48.8	42.9	0.180	888.3	159.9	
04/22/04	11	8.4	100.8	0.031	1,300.7	40.3	

High Hr 1	72.0	128.3
High Hr 2	82.8	298.0
High Hr 3	85.7	357.6
High Hr 4	64.0	209.7
High Hr 5	41.9	148.9

24- hour Avg.

1	72.0	128.3
2	82.8	298.0
3	85.7	357.6
4	64.0	209.7
5	41.9	148.9
6	15.0	97.2
7	15.0	97.2
8	15.0	97.2
9	15.0	97.2
10	15.0	97.2
11	15.0	97.2
12	15.0	97.2

Date	Hour	NOx		MW	NOx	Heat Input	NOx	Hours Off
13			15.0				97.2	
14			15.0				97.2	
15			15.0				97.2	
16			15.0				97.2	
17			15.0				97.2	
18			15.0				97.2	
19			15.0				97.2	
20			15.0				97.2	
21			15.0				97.2	
22			15.0				97.2	
23			15.0				97.2	
24			15.0	26.3			97.2	124.6
1			15.0	23.9			97.2	123.3
2			15.0	21.1			97.2	114.9
3			15.0	18.2			97.2	104.0
4			15.0	16.1			97.2	99.4
5			15.0	15.0			97.2	97.2
6			15.0	15.0			97.2	97.2
7			15.0	15.0			97.2	97.2
8			15.0	15.0			97.2	97.2
9			15.0	15.0			97.2	97.2
10			15.0	15.0			97.2	97.2
11			15.0	15.0			97.2	97.2
12			15.0	15.0			97.2	97.2