



TAMPA ELECTRIC

October 21, 2005

Mr. Jeff Koerner  
Florida Department of Environmental Protection  
Division of Air Resource Management  
111 South Magnolia Drive, Suite 4  
Tallahassee, Florida 32301

Mr. Hamilton S. Oven, Administrator  
Siting Coordination Office  
Florida Department of Environmental Protection  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

**Re: Tampa Electric Company  
Polk Power Station  
Polk Unit 4 & 5  
Construction Permit Application & Request of Modification – Draft Permit  
PPSA No. PA 92-32**

Dear Mr. Koerner and Oven:

As a follow up to the telephone conversation on October 18, 2005 with Mr. Jeff Koerner, Tampa Electric Company (TEC) is providing copies of APPENDIX D: PROPOSED AIR CONSTRUCTION PERMIT, which was not included in the air construction permit application for the two new GE 7F simple cycle combustion turbines, Polk Units 4 and 5. On October 17, 2005, TEC submitted to Mr. Koerner four (4) signed and sealed copies of TEC's permit application, as well as the Electronic Submission of Application (ELSA), for the construction of these two new simple-cycle combustion turbines at the Polk Power Station. One (1) signed and sealed copy of TEC's permit application and the ELSA was also sent to Mr. Oven, along with a check made payable to the Florida Department of Environmental Protection Agency in the amount of \$10,000 dollars to cover the modification fee per 62-17.293(c), F.A.C.

Enclosed with this letter to Mr. Koerner are four (4) copies of the addendum and one (1) copy to Mr. Oven. The addendum is a proposed air construction permit for Units 4 and 5. The Prevention of Significant Deterioration of Air Quality (PSD Permit) of Polk Units 2 and 3, PSD-FL-263 (PA92-32), was used as basis of the proposed air construction permit for Polk Units 4 and 5 because of their similarities. All four units are dual fuel fired GE 7F turbines operated in simple cycle mode.

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BUREAU OF AIR REGULATION

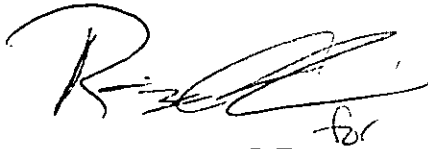
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Via Fed Ex  
Airbill No. 7906 8699 0995

Mr. Jeff Koerner  
Mr. Hamilton S. Oven  
October 21, 2005  
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TEC appreciates the Departments approval to submit the addendum enclosed as part of the air construction permit application previously submitted. If you should have any questions, please feel free to call Raiza Calderon or me at (813) 228-4369.

Sincerely,

A handwritten signature in black ink, appearing to read 'Byron T. Burrows', with a small 'br' written below the signature.

Byron T. Burrows, P.E.  
Manager - Air Programs  
Environmental, Health & Safety

EA/rlk/RC207

Enclosures

**APPENDIX D**

**PROPOSED AIR CONSTRUCTION PERMIT**



# Department of Environmental Protection

Jeb Bush  
Governor

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

David B. Struhs  
Secretary

## PERMITTEE:

Tampa Electric Company (TEC)  
6944 U.S. Highway 41 North  
Apollo Beach, Florida 33572-9200

### *Authorized Representative.*

Gregory M. Nelson, Manager, ~~Environmental Planning~~ Environmental, Health, Safety

## PROJECT AND LOCATION:

Permit pursuant to the requirements for the Prevention of Significant Deterioration of Air Quality (PSD Permit) for the construction of: two dual-fuel nominal 165 megawatt (MW) General Electric PG7241FA combustion turbine-electrical generators and two 114-foot stacks. The units will operate in simple cycle mode and intermittent duty. The units will be equipped with Dry Low NO<sub>x</sub> (DLN-2.6) combustors and wet injection capability. They are designated by TEC as CTGs Nos. 24 and 35 and by the Department as ARMS Emissions Unit 009 011 and 040 012.

The project will be located at the existing Polk Power Station, 9995 State Route 37 South, Mulberry, Polk County. UTM coordinates are: Zone 17; 402.45 km E; 3067.35 km N.

## STATEMENT OF BASIS:

This PSD 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.) and 40CFR52.21. The above named permittee is authorized to modify the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

Attached Appendices and Tables made a part of this permit:

Appendix BD  
Appendix GC

BACT Determination  
Construction Permit General Conditions

**Howard If Rhodes, Director  
Division of Air Resources  
Management**

**PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-263**  
**SECTION I - FACILITY INFORMATION**

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**FACILITY DESCRIPTION**

This facility presently generates electric power from a 260 megawatt (MW) integrated coal gasification and combined cycle turbine unit. The primary mover is a General Electric MS 7001F combustion turbine capable of firing syngas or No.2 fuel oil. Associated support facilities include: a solid fuel gasification system; a hydrogen sulfide to sulfur dioxide converter; a sulfuric acid plant; solid fuel handling and storage; and fuel oil handling and storage.

This permitting action is to install two dual-fuel nominal 165 megawatt (MW) General Electric PG7241FA combustion turbine-electrical generators with two 114-foot stacks. The project will utilize existing infrastructure including oil storage and auxiliary equipment.

Emissions from the new units will be controlled by Dry Low NO<sub>x</sub> (DLN-2.6) combustors when operating on natural gas and wet injection when firing fuel oil. Inherently clean fuels and good combustion practices will be employed to control all pollutants.

**EMISSION UNITS**

This permit addresses the following emission units:

ARMS EMISSIONS UNIT	SYSTEM	EMISSION UNIT DESCRIPTION
009_011 (CTG-24)	Power Generation	One nominal 165 Megawatt Gas Simple Cycle Gas Combustion Turbine-Electrical Generator
010_012 (CTG-35)	Power Generation	One nominal 165 Megawatt Simple Cycle Gas Combustion Turbine-Electrical Generator

**REGULATORY CLASSIFICATION**

The facility is classified as a Major or Title V Source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), or volatile organic compounds (VOC) exceeds 100 tons per year (TPY).

This facility is within an industry included in the list of the 28 Major Facility Categories per Table 212.400-1, F.A.C. Because emissions are greater than 100 TPY for at least one criteria pollutant, the facility is also a Major Facility with respect to Rule 62-212.400, Prevention of Significant Deterioration (PSD). Pursuant to Table 62-212.400-2, modifications at this facility resulting in emissions increases greater than any of the following values require review per the PSD rules as well as a determination of Best Available Control Technology (BACT): 40 TPY of NO<sub>x</sub>, SO<sub>2</sub>, or VOC; 25/15 TPY of PM/PM<sub>10</sub>; 100 TPY of CO; or 7 TPY of sulfuric acid mist (SAM).

This project is subject to certain requirements of Chapter 403, Part II, F.S., Electric Power Plant and Transmission Line Siting, including a modification of the Conditions of Certification (reference Site Certification P A92-32).

**PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-263**  
**SECTION I - FACILITY INFORMATION**

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This facility and the project are also subject to applicable provisions of Title IV, Acid Rain, of the Clean Air Act.

**PERMIT SCHEDULE**

- xx/xx/99 Modification of Conditions of Certification Approved.
- 07/10/99 Notice of Intent to Issue PSD Permit published in the Lakeland Ledger.
- 06/30/99 Distributed Intent to Issue Permit.
- 06/10/99 Application deemed complete for PSD review.
- 02/08/99 Received revised PSD Application.

**RELEVANT DOCUMENTS:**

The documents listed below are the basis of the permit. They are specifically related to this permitting action, but not all are incorporated into this permit. These documents are on file with the Department.

- Application received on February 8, 1999
- Department/ Siting Coordination Office incompleteness letter dated February 11, 1999.
- Department/BAR memo to Siting Coordination Office dated March 9, 1999
- Comments and letter from the U. S. Fish and Wildlife Service dated March 19, 1999
- Site Certification and Revised PSD Application received May 10, 1999
- Department/BAR comments on Modeling dated May 20, 1999
- Comments from Hillsborough County EPC dated June 7, 1999
- Response from TEC/ECT received June 10, 1999
- Department's Intent to Issue PSD Permit and Public Notice Package dated June 30, 1999
- Department's Final Determination and Best Available Control Technology Determination issued concurrently with this Final Permit.
- Comments from TEC dated August 9, September 10, and 14, 1999.

**PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-263**  
**SECTION II – ADMINISTRATIVE REQUIREMENTS**

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**GENERAL AND ADMINSTRATIVE REQUIREMENTS**

1. **Regulating Agencies:** All documents related to applications for permits to construct, operate or modify an emissions unit should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (FDEP), at 2600 Blairstone Road, Tallahassee, Florida 32399-2400 and phone number (850)488-0114. All documents related to reports, tests, and notifications should be submitted to the DEP Southwest District, 3804 Coconut Palm Drive, Tampa, F133619-8218 and phone number 813/744-6100.
2. **General Conditions:** The owner and operator is subject to and shall operate under the attached General Permit Conditions G.1 through G.15 listed in Appendix GC of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [Rule 62-4.160, F.A.C.]
3. **Terminology:** The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code.
4. **Forms and Application Procedures:** The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. [Rule 62210.900, F.A.C.]
5. **Modifications:** The permittee shall give written notification to the Department when there is any modification to this facility. This notice shall be submitted sufficiently in advance of any critical date involved to allow sufficient time for review, discussion, and revision of plans, if necessary. Such notice shall include, but not be limited to, information describing the precise nature of the change; modifications to any emission control system; production capacity of the facility before and after the change; and the anticipated completion date of the change. [Chapters 62-210 and 62-212, F.A.C.]
6. **Expiration:** Approval to construct shall become invalid if construction is not commenced within 18 months after receipt of such approval, or if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. The Department may extend the 18-month period upon a satisfactory showing that an extension is justified. [40 CFR 52.21 (r)(2)]
7. **BACT Determination:** In conjunction with extension of the 18 month periods to commence or continue construction, or extension of the December 31, 2002 permit expiration date, the permittee may be required to demonstrate the adequacy of any previous determination of best available control technology for the source. In accordance with paragraph (4) of 40 CFR 52.210) the Best Available Control Technology (BACT) determination shall be reviewed and modified as appropriate in the event of a plant conversion. This paragraph states: "For phased construction project, the determination of best available control technology shall be reviewed and modified as appropriate at the latest reasonable time which occurs no later than 18 months prior to commencement of construction of each independent phase of the project. At such time, the owner or operator of the applicable stationary source may be required to demonstrate

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**SECTION II – ADMINISTRATIVE REQUIREMENTS**

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the adequacy of any previous determination of best available control technology for the source." [40 CFR 52.210)(4), Rule 62-4.070 F.A.C.]

8. Permit Extension: The permittee, for good cause, may request that this PSD 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 (Rule 62-4.080, F.A.C.).
9. Application for Title IV Permit: An application for a Title IV Acid Rain Permit, must be submitted to the U.S. Environmental Protection Agency Region IV office in Atlanta, Georgia and a copy to the DEP's Bureau of Air Regulation in Tallahassee 24 months before the date on which a new unit begins serving an electrical generator greater than 25 MW. [40 CFR 72]
10. Application for Title V Permit: An application for a Title V operating permit, pursuant to Chapter 62-213, F.A.C., must be submitted to the DEP's Bureau of Air Regulation, and a copy to the Department's Southwest District. [Chapter 62-213, F.A.C.]
11. New or Additional Conditions: Pursuant to Rule 62-4.080, F.A.C., for good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
12. Annual Reports: Pursuant to Rule 62-210.370(2), F.A.C., Annual Operation Reports, the permittee is required to submit annual reports on the actual operating rates and emissions from this facility. Annual operating reports shall be sent to the DEP's Southwest District by March 1st of each year.
13. Stack Testing Facilities: Stack sampling facilities shall be installed in accordance with Rule 62-297.310(6), F.A.C.
14. Quarterly Reports: Quarterly excess emission reports, in accordance with 40 CFR 60.7 (a)(7) (c) (1998 version), shall be submitted to the DEP's Southwest District.



**PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-263  
SECTION III – EMISSIONS UNIT(S) SPECIFIC CONDITIONS**

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**APPLICABLE STANDARDS AND REGULATIONS:**

1. Unless otherwise indicated in this permit, the construction and operation of the subject emission unit(s) shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of Chapter 403, F.S. and Florida Administrative Code Chapters 62-4, 62-17, 62-204, 62-210, 62-212, 62-213, 62-214, 62-296, and 62-297; and the applicable requirements of the Code of Federal Regulations Section 40, Parts 52, 60, 72, 73, and 75.
2. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements or regulations. [Rule 62-210.300, F.A.C.]
3. These emission units shall comply with all applicable requirements of 40CFR60, Subpart A, General Provisions including:
  - 40CFR60.7, Notification and Recordkeeping
  - 40CFR60.8, Performance Tests
  - 40CFR60.11, Compliance with Standards and Maintenance Requirements
  - 40CFR60.12, Circumvention
  - 40CFR60.13, Monitoring Requirements
  - 40CFR60.19, General Notification and Reporting requirements
4. ARMS Emissions Unit ~~009\_011~~. Direct Power Generation, consisting of a nominal 165 megawatt simple cycle combustion turbine-electrical generator, shall comply with all applicable provisions of 40CFR60, Subpart GG, Standards of Performance for Stationary Gas Turbines, adopted by reference in Rule 62-204.800(7)(b), F.A.C. The Subpart GG requirement to correct test data to ISO conditions applies. However, such correction is not used for compliance determinations with the BACT standard(s).
5. ARMS Emissions Unit ~~010\_012~~. Direct Power Generation, consisting of a nominal 165 megawatt simple cycle combustion turbine-electrical generator, shall comply with all applicable provisions of 40CFR60, Subpart GG, Standards of Performance for Stationary Gas Turbines, adopted by reference in Rule 62-204.800(7)(b), F.A.C. The Subpart GG requirement to correct test data to ISO conditions applies. However, such correction is not used for compliance determinations with the BACT standard(s).
6. All notifications and reports required by the above specific conditions shall be submitted to the DEP's Southwest District.

**GENERAL OPERATION REQUIREMENTS**

7. Fuels: Only pipeline natural gas or maximum 0.05 percent sulfur fuel oil No.2 or superior grade of distillate fuel oil shall be fired in this unit. [Applicant Request, Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)] {Note: The limitation of this specific condition is more stringent than the NSPS sulfur dioxide limitation and thus assures compliance with 40 CFR 60.333 and 60.334}

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8. Combustion Turbine Capacity: The maximum heat input rates, based on the ~~lower~~ higher heating value (~~LHV~~ HHV) of each fuel to each unit at ambient conditions of 59°F temperature, 60% relative humidity, 100% load, and 14.7 psi pressure shall not exceed ~~1,600~~ 1,834 million Btu per hour (mmBtu/hr) when firing natural gas, nor ~~1,800~~ 2,015 mmBtu/hr when firing No.2 or superior grade of distillate fuel oil. These maximum heat input rates will vary depending upon ambient conditions and the combustion turbine characteristics. Manufacturer's curves corrected for site conditions or equations for correction to other ambient conditions shall be provided to the Department of Environmental Protection (DEP) within 45 days of completing the initial compliance testing. [Design, Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]
9. Unconfined Particulate Emissions: During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering and/or application of water or chemicals to the affected areas, as necessary.
10. Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the owner or operator shall notify the DEP Southwest District as soon as possible, but at least within (1) working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; the steps being taken to correct the problem and prevent future recurrence; and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit and the regulations. [Rule 62-4.130, F.A.C.]
11. Operating Procedures: Operating procedures shall include good operating practices and proper training of all operators and supervisors. The good operating practices shall meet the guidelines and procedures as established by the equipment manufacturers. All operators (including supervisors) of air pollution control devices shall be properly trained in plant specific equipment. [Rule 62-4.070(3), F.A.C.]
12. Circumvention: The owner or operator shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rules 62-210.650, F.A.C.]
13. Maximum allowable hours of operation for each unit are equivalent to 4,380 hours per year at the maximum firing rate for a compressor inlet air temperature of 59° on natural gas and equivalent to 750 hours per year at the maximum firing rate for a compressor inlet air temperature of 59° on fuel oil. [Rule 62-210.200, F.A.C., (Definitions - Potential Emissions), 62-212.400, F.A.C., (BACT Determination)]

**CONTROL TECHNOLOGY**

14. Dry Low NO<sub>x</sub> (DLN) combustors shall be installed on the stationary combustion turbine to comply with the NO<sub>x</sub> emissions limits while firing natural gas. [Design, Rules 62-4.070 and 62-212.400, F.A.C. (BACT Determination)]
15. A water injection system shall be installed for use when firing No.2 or superior grade distillate fuel oil for control of NO<sub>x</sub> emissions. [Design, Rules 62-4.070 and 62-212.400, F.A.C.]

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16. The permittee shall design these units to accommodate adequate testing and sampling locations for compliance with the applicable emission limits (per each unit) listed in Specific Conditions No. 19 through 24. [Rule 62-4.070, Rule 62-204.800, F.A.C., and 40 CFR60.40a(b)]
17. The permittee shall provide manufacturer's emissions performance versus load diagrams for the DLN and wet injection systems prior to their installation. DLN systems shall each be tuned upon initial operation to optimize emissions reductions consistent with normal operation and maintenance practices and shall be maintained to minimize NO<sub>x</sub> emissions and CO emissions, consistent with normal operation and maintenance practices. Operation of the DLN systems in the diffusion-firing mode shall be minimized when firing natural gas. [Rule 62- 4.070, and 62-210.650, F.A.C.]

**EMISSION LIMITS AND STANDARDS**

18. Following is a summary of the emission limits and required technology. Values for NO<sub>x</sub> are corrected to 15 % O<sub>2</sub> on a dry basis. These limits or their equivalent in terms of lb/hr or NSPS units, as well as the applicable averaging times, are followed by the applicable specific conditions [Rules 62-212.400, 62-204.800(7)(b) (Subpart GO), 62-210.200 (Definitions-Potential Emissions) F.A.C.]

POLLUTANT	CONTROL TECHNOLOGY	EMISSION LIMIT
PM/PM <sub>10</sub> , VE	Pipeline Natural Gas Good Combustion	10 Percent Opacity (gas or oil)
VOG	As Above	4.4 ppmvw (Gas) 3.5 ppmvw (FO)
CO	Pipeline Natural Gas Good Combustion	12.9 ppmvd (Gas) 20 ppmvd (FO)
SO <sub>2</sub> and Sulfuric Acid Mist	Pipeline Natural Gas Low Sulfur Oil	2 gr S/100 ft <sup>3</sup> 0.05% S Fuel Oil
NO <sub>x</sub>	DLN, WI for F.O., limited fuel oil usage	10.5 ppmvd (DLN) 42 ppmvd (FO)

19. Nitrogen Oxides (NO<sub>x</sub>) Emissions:

- While firing Natural Gas: The emission rate of NO<sub>x</sub> in the exhaust gas shall not exceed 10.5 ppm @15% O<sub>2</sub> on a 24 hr block average as measured by the continuous emission monitoring system (CEMS). In addition, NO<sub>x</sub> emissions calculated as NO<sub>2</sub> shall not exceed ~~59~~ 68.8 pounds per hour (at ISO conditions) ~~and 9 ppmvd @15% O<sub>2</sub> to be demonstrated by the initial "new and clean" GE performance stack test and 10.5 ppmvd @15% O<sub>2</sub> to be demonstrated by stack test.~~ [Rule 62-212.400, F.A.C.]

~~Notwithstanding the applicable NO<sub>x</sub> limit during normal operation, reasonable measures shall be implemented to maintain the concentration of NO<sub>x</sub> in the exhaust gas at 9 ppmvd at 15% O<sub>2</sub> or lower. Any tuning of the combustors for Dry Low NO<sub>x</sub> operation while firing gas shall result in initial subsequent NO<sub>x</sub> concentrations of 9 ppmvd @15% O<sub>2</sub> or lower. [Rules 62-212.400 and 62-4.070, F.A.C.]~~

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- While firing Fuel oil: The concentration of NO<sub>x</sub> in the exhaust gas shall not exceed 42 ppmvd at 15% O<sub>2</sub> on the basis of a ~~3-hr~~ 24-hr block average as measured by the continuous emission monitoring system (CEMS). In addition, NO<sub>x</sub> emissions calculated as NO<sub>2</sub> shall not exceed 319 lb/hr (at ISO conditions) and 42 ppmvd @15% O<sub>2</sub> to be demonstrated by stack test. [Rule 62-212.400, F.A.C.]

The permittee shall develop a NO<sub>x</sub> reduction plan when the hours of oil firing reach the allowable limit of 750 equivalent hours per year. This plan shall include a testing protocol designed to establish the maximum water injection rate and the lowest NO<sub>x</sub> emissions possible without affecting the actual performance of the gas turbine. The testing protocol shall set a range of water injection rates and attempt to quantify the corresponding NO<sub>x</sub> emissions for each rate and noting any problems with performance. Based on the test results, the plan shall recommend a new NO<sub>x</sub> emissions limiting standard and shall be submitted to the Department's Bureau of Air Regulation and Compliance Authority for review. If the Department determines that a lower NO<sub>x</sub> emissions standard is warranted for oil firing, this permit shall be revised. (BACT Determination).

20. Carbon Monoxide (CO) Emissions: During the first 12 months after initial start up, the concentration of CO in the stack exhaust gas shall exceed neither 15 ppmvd nor 48lb/hr (at ISO conditions) while firing gas and neither 33 ppmvd nor 106lb/hr (at ISO conditions) while firing oil based on stack test. Thereafter, these limits will be revised and lowered to ~~12.9~~ 9 ppmvd and ~~38.36~~ 36 lb/hr (at ISO conditions) while firing gas and 20 ppmvd and ~~65.92.2~~ 92.2 lb/hr (at ISO conditions). The permittee shall demonstrate compliance with these limits by stack test using EPA Method 10. [Rule 62-212.400, F.A.C.]
- ~~21. Volatile Organic Compounds (VOC) Emissions: The concentration of VOC in the stack exhaust gas with the combustion turbine operating on natural gas shall exceed neither 1.4 ppmvw nor 2.8 lb/hr (ISO conditions) and neither 3.5 ppmvw nor 7lb/hr (ISO conditions) while operating on oil to be demonstrated by initial stack test using EP A Method 18, 25 or 25A. [Applicant Request]~~
22. Sulfur Dioxide (SO<sub>2</sub>) emissions: SO<sub>2</sub> emissions shall be limited by firing pipeline natural gas (sulfur content less than 2 grains per 100 standard cubic foot) or by firing No.2 or superior grade distillate fuel oil with a maximum 0.05 percent sulfur for 750 equivalent hours per year per unit. Emissions of SO<sub>2</sub> (at ISO conditions) shall not exceed 9.21b/hr (natural gas) and 98.11b/hr (fuel oil) as measured by applicable compliance methods described below. [40CFR60 Subpart GG and Rules 62-4.070, 62-212.400, and 62-204.800(7), F.A.C.]
23. Visible Emissions (VE): VE emissions shall serve as a surrogate for PM/PM<sub>10</sub> emissions and shall not exceed 10 opacity. Rules 62-4.070, 62-212.400, and 62-204.800(7), F.A.C.]

**EXCESS EMISSIONS**

- ~~24. Excess emissions resulting from startup, shutdown, or malfunction shall be permitted provided that best operational practices are adhered to and the duration of excess emissions~~

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**SECTION III – EMISSIONS UNIT(S) SPECIFIC CONDITIONS**

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~~shall be minimized. Excess emissions occurrences shall in no case exceed two hours in any 24 hour~~

Excess emissions resulting from startup, shutdown and malfunction of any emissions unit shall be permitted providing: (1) best operational practices to minimize emissions are adhered to, and (2) the duration of excess emissions shall be minimized but in no case exceed 120 minutes in any 24 hour period with one unit cycle and 60 minutes for each additional startup within the same 24 hour period.

In other words, excess emissions shall be limited to 120 minutes in any 24 hour period in which the unit cycles once, 180 minutes in which the unit cycles twice, and 240 minutes in any 24 hour period in which the unit cycles three times. The duration of excess emissions shall be minimized but in no case exceed these durations unless specifically authorized by the Department. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited.

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period for other reasons unless specifically authorized by DEP for longer duration. Operation below 50% output shall be limited to 2 hours per unit cycle (breaker closed to breaker open).

25. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction, shall be prohibited pursuant to Rule 62-210.700, F.A.C. These emissions shall be included in the 24-hr average for NO<sub>x</sub>.
26. Excess Emissions Report: If excess emissions occur due to malfunction (for greater than 2 hours in a 24-hr period), the owner or operator shall notify DEP's Southwest District within (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may request a written summary report of the incident. Following the NSPS format, 40 CFR 60.7 Subpart A, periods of startup, shutdown, malfunction, shall be monitored, recorded, and reported as excess emissions when emission levels exceed the permitted standards listed in Specific Condition No. 18 and 19. [Rules 62-4.130, 62-204.800, 62-210.700(6), F.A.C., and 40 CFR 60.7 (1998 version)].

**COMPLIANCE DETERMINATION**

27. Compliance with the allowable emission limiting standards shall be determined within 60 days after achieving the maximum production rate, but not later than 180 days of initial operation of the unit, and annually thereafter as indicated in this permit, by using the following reference methods as described in 40 CFR 60, Appendix A (1998 version), and adopted by reference in Chapter 62-204.800, F.A.C.
28. Initial (I) performance tests (for both fuels) shall be performed on each unit while firing natural gas as well as while firing oil. ~~Initial tests shall also be conducted after any modifications (and shake down period not to exceed 100 days after re-starting the CT) of air pollution control equipment such as change or tuning of combustors.~~ Annual (A) compliance tests shall be performed during every federal fiscal year (October 1 - September 30) pursuant to Rule 62-297.310(7), F.A.C., on each unit as indicated. The following reference methods shall be used. No other test methods may be used for compliance testing unless prior DEP approval is received in writing.
- EPA Reference Method 9, "Visual Determination of the Opacity of Emissions from Stationary Sources" (I, A).
  - EPA Reference Method 10, "Determination of Carbon Monoxide Emissions from Stationary Sources" (I, A).
  - EPA Reference Method 20, "Determination of Oxides of Nitrogen Oxide, Sulfur Dioxide and Diluent Emissions from Stationary Gas Turbines." Initial test only for compliance with 40CFR60 Subpart GG and (I, A) short-term NO<sub>x</sub> BACT limits (EPA reference Method 7E, "Determination of Nitrogen Oxides Emission from Stationary Sources" or RATA test data may be used to demonstrate compliance for annual test requirements).

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- ~~EPA Reference Method 18, 25 and/or 25A, "Determination of Volatile Organic Concentrations." Initial test only.~~

29. Continuous compliance with the NO<sub>x</sub> emission limits: Continuous compliance with the NO<sub>x</sub> emission limits shall be demonstrated with the CEM system based on the applicable averaging time of 24-hr block average (DLN). Based on CEMS data, a separate compliance determination is conducted at the end of each operating day and a new average emission rate is calculated from the arithmetic average of all valid hourly emission rates from the previous operating day. A valid hourly emission rate shall be calculated for each hour in which at least two NO<sub>x</sub> concentrations are obtained at least 15 minutes apart. Valid hourly emission rates shall not include periods of start up, shutdown, or malfunction unless prohibited by 62-210.700 F.A.C. These excess emissions periods shall be reported as required in Conditions 25 and 26. [Rules 62-4.070 F .A.C., 62-210.700, F.A.C., 40 CFR 75 and BACT]

- All continuous monitoring systems (CEMS) shall be in continuous operation except for breakdowns, repairs, calibration checks, and zero and span adjustments. These CEMS shall meet minimum frequency of operation requirements: one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. Data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data average. [40CFR60.13]

30. Compliance with the SO<sub>2</sub> and PM/PM<sub>10</sub> emission limits: Notwithstanding the requirements of Rule 62-297.340, F .A.C., the use of pipeline natural gas, is the method for determining compliance for SO<sub>2</sub> and PM<sub>10</sub>. For the purposes of demonstrating compliance with the 40 CFR 60.333 SO<sub>2</sub> standard, ASTM methods D4084-82 or D3246-81 (or equivalent) for sulfur content of gaseous fuel shall be utilized in accordance with the EPA-approved custom fuel monitoring schedule or natural gas supplier data may be submitted or the natural gas sulfur content referenced in 40 CFR 75 Appendix D may be utilized. However, the applicant is responsible for ensuring that the procedures in 40 CFR60.335 or 40 CFR75 are used when determination of fuel sulfur content is made. Analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency pursuant to 40 CFR 60.335(e) (1998 version).

31. Compliance with CO emission limit: An initial test for CO shall be conducted concurrently with the initial NO<sub>x</sub> test, as required. The initial NO<sub>x</sub> and CO test results shall be the average of three valid one-hour runs. Annual compliance testing for CO may be conducted at less than capacity when compliance testing is conducted concurrent with the annual RATA testing for the NO<sub>x</sub> CEMS required pursuant to 40 CFR 75

32. ~~Compliance with the VOC emission limit: An initial test is required to demonstrate compliance with the VOC emission limit. Thereafter, the CO emission limit and periodic tuning data will be employed as surrogate and no annual testing is required.~~

33. Testing procedures: Testing of emissions shall be conducted with the combustion turbine operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum

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heat input rate allowed by the permit, corrected for the average ambient air temperature during the test (with 100 percent represented by a curve depicting heat input vs. ambient temperature). If it is impracticable to test at permitted capacity, the source may be tested at less than permitted capacity. In this case, subsequent operation is limited by adjusting the entire heat input vs. ambient temperature curve downward by an increment equal to the difference between the maximum permitted heat input (corrected for ambient temperature) and 110 percent of the value reached during the test until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the permitted capacity. Procedures for these tests shall meet all applicable requirements (i.e., testing time frequency, minimum compliance duration, etc.) of Chapters 62-204 and 62-297, F.A.C.

34. Test Notification: The DEP's Southwest District shall be notified, in writing, at least 30 days prior to the initial performance tests and at least 15 days before annual compliance tests).
35. Special Compliance Tests: The DEP may request a special compliance test pursuant to Rule 62-297.310(7), F.A.C., when, after investigation (such as complaints, increased visible emissions, or questionable maintenance of control equipment), there is reason to believe that any applicable emission standard is being violated.
36. Test Results: Compliance test results shall be submitted to the DEP's Southwest District no later than 45 days after completion of the last test run. [Rule 62-297.310(8), F.A.C.].

**NOTIFICATION, REPORTING, AND RECORDKEEPING**

37. Records: All measurements, records, and other data required to be maintained by TEC shall be recorded in a permanent form and retained for at least five (5) years following the date on which such measurements, records, or data are recorded. These records shall be made available to DEP representatives upon request.
38. Compliance Test Reports: A test report indicating the results of the required compliance tests shall be filed as per Condition No.36 above. The test report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Department to determine if the test was properly conducted and if the test results were properly computed. At a minimum, the test report shall provide the applicable information listed in Rule 62-297.310(8), F.A.C.

**MONITORING REQUIREMENTS**

39. Continuous Monitoring System: The permittee shall install, calibrate, maintain, and operate a continuous emission monitor in the stack to measure and record the nitrogen oxides emissions from these units. Upon request from EPA or DEP, the CEMS emission rates for NO<sub>x</sub> on these Units shall be corrected to ISO conditions to demonstrate compliance with the NO<sub>x</sub> standard established in 40 CFR 60.332. [Rules 62-204.800, 62-210.700, 62-4.130, 62-4.160(8), F.A.C, 40 CFR 75 and 40 CFR 60.7 (1998 version)].
40. CEMS for reporting excess emissions: Excess Emissions and Monitoring System Performance Reports shall be submitted as specified in 40 CFR 60.7(c). CEM monitor downtime shall be



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calculated and reported according to the requirements of 40 CFR 60.7(c)(3) and 40CFR 60.7(d)(2). Periods when NO<sub>x</sub> emissions (ppmvd @ 15% oxygen) are above the BACT standards, listed in Specific Conditions No 18 and 19, shall be reported to the DEP Southwest District within one working day (verbally) followed up by a written explanation not later than three (3) working days (alternatively by facsimile within one working day).

41. CEMS in lieu of Water to Fuel Ratio: The NO<sub>x</sub> CEMS shall be used in lieu of the water/fuel monitoring system for reporting excess emissions in accordance with 40 CFR 60.334(c)(1), Subpart GG (1998 version). The calibration of the water/fuel monitoring device required in 40 CFR 60.335 (c)(2) (1998 version) will be replaced by the 40 CFR 75 certification tests of the NO<sub>x</sub> CEMS.
42. Continuous Monitoring Certification and Quality Assurance Requirements: The monitoring devices shall comply with the certification and quality assurance, and any other applicable requirements of Rule 62-297.520, F.A.C., 40 CFR 60.13, including certification of each device in accordance with 40 CFR 60, Appendix B, Performance Specifications and 40 CFR 60.7(a)(5) or 40 CFR Part 75. Quality assurance procedures must conform to all applicable sections of 40 CFR 60, Appendix For 40CFR75. The monitoring plan, consisting of data on CEM equipment specifications, manufacturer, type, calibration and maintenance needs, and its proposed location shall be provided to the DEP Emissions Monitoring Section Administrator and EPA for review no later than 45 days prior to the first scheduled certification test pursuant to 40 CFR 75.62.
43. Natural Gas Monitoring Schedule: A custom fuel monitoring schedule pursuant to 40 CFR 75 Appendix D for natural gas may be used in lieu of the daily sampling requirements of 40 CFR 60.334 (b )(2) provided the following requirements are met:
- The permittee shall apply for an Acid Rain permit within the deadlines specified in 40 CFR 72.30.
  - The permittee shall submit a monitoring plan, certified by signature of the Designated Representative, that commits to using a primary fuel of pipeline supplied natural gas (sulfur content less than 20 gr/100 scf pursuant to 40 CFR 75.11 (d)(2)).
  - Each unit shall be monitored for SO<sub>2</sub> emissions using methods consistent with the requirements of 40 CFR 75 and certified by the USEPA.

This custom fuel monitoring schedule will only be valid when pipeline natural gas is used as a primary fuel. If the primary fuel for these units is changed to a higher sulfur fuel, SO<sub>2</sub> emissions must be accounted for as required pursuant to 40 CFR 75.11(d).

44. Fuel Oil Monitoring Schedule: One or more of the following monitoring schedules for No.2 or superior grade fuel oil shall be followed: For all bulk shipments of No. 2 fuel oil received at this facility:
- (1) An analysis which reports the sulfur content and nitrogen content of the fuel shall be provided by the fuel vendor. The analysis shall also specify the methods by which the analyses were conducted and shall comply with the requirements of 40 CFR 60.335(d).

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- (2) A monthly fuel oil composite sample shall be prepared from daily fuel oil samples obtained in the storage tank, when the unit(s) is firing oil. Compliance shall be demonstrated through an analysis which reports the sulfur content of the monthly fuel oil composite sample. Testing for fuel oil heating value shall also be conducted on the same schedule. The analysis shall also specify the methods by which the analyses were conducted and shall comply with the requirements of 40 CFR 60.335(d).
- (3) The NO<sub>x</sub> CEMS shall be used in lieu of testing the nitrogen content of the fuel. See specific condition 41.

**45. Determination of Process Variables:**

- The permittee shall operate and maintain equipment and/or instruments necessary to determine process variables, such as process weight input or heat input, when such data is needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
- Equipment and/or instruments used to directly or indirectly determine such process variables, including devices such as belt scales, weigh hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value [Rule 62-297.310(5), F.A.C]