Tropicana

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AUG 29 2002
BUREAU OF AIR REGULATION

CERTIFIED MAIL-RETURN RECEIPT REQUESTED
August 27, 2002

Mr. C. H. Fancy, P.E., Chief
Bureau of Air Regulation
Florida Department of Environmental Protection
Twin Towers Office Building
Mail Station #5505
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Attn: Mr. Ed Svec, P.E.

RE: Application for Air Permit for Replacement of Gas Turbine
Facility ID #0810007, Emissions Unit ID #016

Dear Mr. Fancy:

Enclosed please find four copies of our Application for an Air Permit for the replacement of the existing natural gas fired General Electric (GE) LM 5000 gas turbine with a natural gas fired GE LM 6000 gas turbine.

Please call me at 941-742-2748 if there are any questions.

Sincerely,

Douglas Foster jlb

Douglas Foster
Director, Corporate Environmental & Safety

D543/jb

cc: (letter only)
Ken Kosky, P.E., Golder Associates
Scott Sheplak, FDEP, Tallahassee
Michael Haycock, TPI

Tropicana

DESIGNATION OF DOCUMENT SIGNATORY

I, James E. Dwyer, Jr., hereby certify that I am the President and Chief Executive Officer of Tropicana Products, Inc., ("Tropicana") and as such I am authorized to designate employees to prepare and sign documents and to certify on behalf of said company the accuracy and completeness of information in such documents.

Pursuant to the power vested in me, I hereby designate the person listed below to prepare and sign reports to the United States Environmental Protection Agency, the United Stated Department of Labor, Occupational Safety and Health, the Florida Department of Environmental Protection, the Southwest Florida Water Management District, and the County of Manatee, State of Florida, pertinent to the operation of the Tropicana plant located in Bradenton, Florida.

This designation is effective until revoked in writing.

Designated Signatory

Michael W. Haycock
Vice President, Engineering
& Bradenton Manufacturing
1001 13th Avenue East
Bradenton, FL 34208

James E. Dwyer, Jr.
President and CEO

Dated: 7/23/02

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APPLICATION FOR AIR PERMIT
REPLACEMENT OF GAS TURBINE
FOR TROPICANA PRODUCTS, INC.
BRADENTON CITRUS PROCESSING FACILITY

Prepared For:

Tropicana Products, Inc.
Bradenton Citrus Processing Plant
1001 13th Avenue, East
Bradenton, Florida 34208

Prepared By:

Golder Associates Inc.
6241 NW 23rd Street, Suite 500
Gainesville, Florida 32653-1500

July 2002
0237563

DISTRIBUTION:
4 Copies - FDEP
2 Copies - Tropicana Products, Inc.
1 Copy - Golder Associates Inc.

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LIST OF ATTACHMENTS

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PART I

APPLICATION FOR AIR PERMIT
LONG FORM

Department of Environmental Protection

Division of Air Resources Management

RECEIVED
AUG 29 2002
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APPLICATION FOR AIR PERMIT - TITLE V SOURCE

See Instructions for Form No. 62-210.900(1)

I. APPLICATION INFORMATION

Identification of Facility

1. Facility Owner/Company Name: **Tropicana Products, Inc.**	
2. Site Name: **Bradenton Citrus Processing Facility**	
3. Facility Identification Number: **0810007** [ ] Unknown	
4. Facility Location: Street Address or Other Locator: **1001 13th Avenue** City: **Bradenton** County: **Manatee** Zip Code: **34208**	
5. Relocatable Facility? [ ] Yes [X] No	6. Existing Permitted Facility? [X] Yes [ ] No

Application Contact

1. Name and Title of Application Contact: **Douglas E. Foster, Director, Corporate Environmental & Safety**
2. Application Contact Mailing Address: Organization/Firm: **Tropicana Products, Inc.** Street Address: **P.O. Box 338** City: **Bradenton** State: **FL** Zip Code: **34206**
3. Application Contact Telephone Numbers: Telephone: **(941) 742 - 2748** Fax: **(941) 742 - 3768**

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	4-29-02
2. Permit Number:	0810007-011-AC
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

Purpose of Application

Air Operation Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

[ ] Initial Title V air operation permit for an existing facility which is classified as a Title V source.

[ ] Initial Title V air operation permit for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number:_____

[ ] Title V air operation permit revision to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number:_____

Operation permit number to be revised:_____

[ ] Title V air operation permit revision or administrative correction to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. (Also check Air Construction Permit Application below.)

Operation permit number to be revised/corrected:_____

[ ] Title V air operation permit revision for reasons other than construction or modification of an emissions unit. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit number to be revised:_____

Reason for revision:_____

Air Construction Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

[X] Air construction permit to construct or modify one or more emissions units.

[ ] Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.

[ ] Air construction permit for one or more existing, but unpermitted, emissions units.

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official:
   Michael Haycock, Vice President, Manufacturing
2. Owner/Authorized Representative or Responsible Official Mailing Address:
   Organization/Firm: **Tropicana Products, Inc.**
   Street Address: **P.O. Box 338**
   City: **Bradenton** State: **FL** Zip Code: **34206**
3. Owner/Authorized Representative or Responsible Official Telephone Numbers:
   Telephone: **(941) 742 - 3349** Fax: **(941) 749 - 2049**
4. Owner/Authorized Representative or Responsible Official Statement:

   I, the undersigned, am the owner or authorized representative(check here [X], if so) or the responsible official (check here [ ], if so) of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.*

   Signature Date 8/24/02

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: **Kennard F. Kosky**
   Registration Number: **14996**
2. Professional Engineer Mailing Address:
   Organization/Firm: **Golder Associates Inc.***
   Street Address: **6241 NW 23rd Street, Suite 500**
   City: **Gainesville** State: **FL** Zip Code: **32653-1500**
3. Professional Engineer Telephone Numbers:
   Telephone: **(352) 336 - 5600** Fax: **(352) 336 - 6603**

*** Board of Professional Engineers Certificate of Authorization # 00001670**

4. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain a Title V source air operation permit (check here [ ], if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [X], if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [ ], if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Kenneth F. Kahn — Signature

8/23/02 — Date

(seal) 159

* Attach any exception to certification statement.

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type	Processing Fee
016	Gas Turbine with HRSG and Duct Burners	AC1D	NA

Application Processing Fee

Check one: [ ] Attached - Amount: $: _____ [X] Not Applicable

Construction/Modification Information

1. Description of Proposed Project or Alterations:

   Replacement of the existing natural gas fired, General Electric (GE) LM 5000 gas turbine (GT) with a natural gas fired, GE LM 6000 GT. The GT will also comply with 403.08725 F.S.

2. Projected or Actual Date of Commencement of Construction: **1 Sept 2002**

3. Projected Date of Completion of Construction: **1 Mar 2003**

Application Comment

The replacement unit is addressed as EU16 and includes the following changes:

1) **The replacement of the LM5000 GT with an LM6000 GT.**

2) **Modifying heat input, fuel usage, and emission rates that will comply with 403.08725 F.S.**

3) **There will be no change in the duct burner system installed in the heat recovery steam generator.**

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: **17** East (km): **561.4** North (km): **3056.5**			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): **27 / 37 / 52** Longitude (DD/MM/SS): **80 / 22 / 33**			
3. Governmental Facility Code: **0**	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **20**	6. Facility SIC(s): **2037, 2653, 3221**
7. Facility Comment (limit to 500 characters): **See Attachment Part II.**			

Facility Contact

1. Name and Title of Facility Contact: **Mr. George Cassady, Manager, Environmental Operations**
2. Facility Contact Mailing Address: Organization/Firm: **Tropicana Products, Inc.** Street Address: **P.O. Box 338** City: **Bradenton** State: **FL** Zip Code: **34206**
3. Facility Contact Telephone Numbers: Telephone: (**941**) **742 - 2677** Fax: (**941**) **742 - 2698**

Facility Regulatory Classifications

Check all that apply:

1. [ ] Small Business Stationary Source?	[ ] Unknown
2. [X] Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?	
3. [ ] Synthetic Minor Source of Pollutants Other than HAPs?	
4. [X] Major Source of Hazardous Air Pollutants (HAPs)?	
5. [ ] Synthetic Minor Source of HAPs?	
6. [X] One or More Emissions Units Subject to NSPS?	
7. [ ] One or More Emission Units Subject to NESHAP?	
8. [ ] Title V Source by EPA Designation?	
9. Facility Regulatory Classifications Comment (limit to 200 characters): **NSPS Subpart GG does not apply to the gas turbine since it is not an electric utility stationary gas turbine. Subpart Db applies to the HRSG duct burners.**	

List of Applicable Regulations

This application will not change any applicable regulations for the facility.

B. FACILITY POLLUTANTS

List of Pollutants Emitted

1. Pollutant Emitted	2. Pollutant Classif.	3. Requested Emissions Cap lb/hour	tons/year	4. Basis for Emissions Cap	5. Pollutant Comment

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Area Map Showing Facility Location: [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
2. Facility Plot Plan: [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
3. Process Flow Diagram(s): [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
5. Fugitive Emissions Identification: [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
6. Supplemental Information for Construction Permit Application: [X] Attached, Document ID **Part II** [ ] Not Applicable
7. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

8. List of Proposed Insignificant Activities:
   [ ] Attached, Document ID:_____ [X] Not Applicable

9. List of Equipment/Activities Regulated under Title VI:
   [ ] Attached, Document ID:_____
   [ ] Equipment/Activities On site but Not Required to be Individually Listed
   [X] Not Applicable

10. Alternative Methods of Operation:
   [ ] Attached, Document ID:_____ [X] Not Applicable

11. Alternative Modes of Operation (Emissions Trading):
   [ ] Attached, Document ID:_____ [X] Not Applicable

12. Identification of Additional Applicable Requirements:
   [ ] Attached, Document ID:_____ [X] Not Applicable

13. Risk Management Plan Verification:
   [ ] Plan previously submitted to Chemical Emergency Preparedness and Prevention Office (CEPPO). Verification of submittal attached (Document ID:_____) or previously submitted to DEP (Date and DEP Office:_____)
   [ ] Plan to be submitted to CEPPO (Date required:_____)
   [X] Not Applicable

14. Compliance Report and Plan:
   [ ] Attached, Document ID:_____ [X] Not Applicable

15. Compliance Certification (Hard-copy Required):
   [ ] Attached, Document ID:_____ [X] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in This Section: (Check one)

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Regulated or Unregulated Emissions Unit? (Check one)

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):

Gas turbine with heat recovery steam generator (HRSG) and duct burners (cogeneration unit)

4. Emissions Unit Identification Number: [ ] No ID [ ] ID Unknown
ID: **016**

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A		**49**	[ ]

9. Emissions Unit Comment: (Limit to 500 Characters)

The cogeneration units consists of a natural gas turbine with a maximum design heat input capacity of 434 MMBtu per hour, and a natural gas-fired duct burner with a maximum design heat input capacity of 104 MMBtu per hour. The cogeneration facility will have an electric generation capacity of 49.9 MW. The HRSG duct burner is subject to Federal NSPS (40 CFR 60 Subpart Db).

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

   Low NO_X Burner – Gas

2. Control Device or Method Code(s): **25**

Emissions Unit Details

1. Package Unit:
   Manufacturer: **General Electric** Model Number: **LM6000**
2. Generator Nameplate Rating: **49.9** MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:			**456**	mmBtu/hr
2. Maximum Incineration Rate:	lb/hr			tons/day
3. Maximum Process or Throughput Rate:				
4. Maximum Production Rate:				
5. Requested Maximum Operating Schedule:				
	24	hours/day	**7**	days/week
	52	weeks/year	**8,760**	hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):				

Maximum heat input rate based on 52°F, baseload, and HHV. The capacity will be limited to 49.9 MW.

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

Proposed LM6000 does not change applicable regulations in Title V Permit.	

D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram?	2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **Gases from the CT/HRSG exhaust through a single stack.**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **Emission Unit 016**		
5. Discharge Type Code: V	6. Stack Height: 67 feet	7. Exit Diameter: 12 feet
8. Exit Temperature: 268 °F	9. Actual Volumetric Flow Rate: 343,880 acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates: Zone: East (km): North (km):		
14. Emission Point Comment (limit to 200 characters): **Based on exhaust from GT/HRSG at 49.9 MW.**		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Internal Combustion Engines – Commercial / Institutional – Natural Gas - Turbine**		
2. Source Classification Code (SCC): **2-03-002-02**	3. SCC Units: **Million Cubic Feet Burned**	
4. Maximum Hourly Rate: **0.432**	5. Maximum Annual Rate: **3,580**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **1,054.5**
10. Segment Comment (limit to 200 characters): **Maximum hourly rate based on 434 MMBtu/hr maximum heat input rate (HHV) at 49.9 MW baseload, and minimum fuel heat content. Maximum annual rate based on 8,760 hours per year at 70°F.**		

Segment Description and Rate: Segment ____ of ____

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			EL
SO_2			EL
NO_x	025		EL
CO			EL
PM_{10}			EL
VOC			EL

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **3** lb/hour **13.1** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **3 lb/hr** Reference: **GE, 2002.**	7. Emissions Method Code: **2**
8. Calculation of Emissions (limit to 600 characters): **See Part II, Appendix A.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **3 lb/hr**	4. Equivalent Allowable Emissions: **3** lb/hour **13.1** tons/year
5. Method of Compliance (limit to 60 characters): **None required**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **See Part II.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **SO_2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **1.3** lb/hour **5.2** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **1 grain S/100 cf** Reference: **Permit Limit***	7. Emissions Method Code: **2**
8. Calculation of Emissions (limit to 600 characters): **See Part II, Appendix A.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): ***AC41-157745/PSD-FL-136/0810007-003-AV. The use of natural gas not limited pursuant to 403.08725 F.S.**	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **1 grain S/100cf**	4. Equivalent Allowable Emissions: **1.3** lb/hour **5.2** tons/year
5. Method of Compliance (limit to 60 characters): **Pipeline Natural gas**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **See Part II.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **NO_X**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **39.7** lb/hour **164.6** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **25 ppmvd @ 15% O_2** Reference: **GE, 2002.**	7. Emissions Method Code: **2**
8. Calculation of Emissions (limit to 600 characters): **See Part II, Appendix A.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **25 ppmvd @ 15% O_2**	4. Equivalent Allowable Emissions: **39.7** lb/hour **164.6** tons/year
5. Method of Compliance (limit to 60 characters): **Annual compliance test, EPA Method 7E**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **See Part II.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **28.5** lb/hour **119.2** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **30 ppmvd @ 15% O_2** Reference: **GE, 2002**	7. Emissions Method Code: **2**
8. Calculation of Emissions (limit to 600 characters): **See Part II, Appendix A.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **30 ppmvd @ 15% O_2**	4. Equivalent Allowable Emissions: **28.5** lb/hour **119.2** tons/year
5. Method of Compliance (limit to 60 characters): **None Required**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **See Part II.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM_{10}**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **3** lb/hour **13.1** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **3 lb/hr** Reference: **GE, 2002.**	7. Emissions Method Code: **2**
8. Calculation of Emissions (limit to 600 characters): **See Part II, Appendix A.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **3 lb/hr**	4. Equivalent Allowable Emissions: **3** lb/hour **13.1** tons/year
5. Method of Compliance (limit to 60 characters): **None Required**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **See Part II.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **3.1** lb/hour **12.9** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **5 ppmvw** Reference: **GE, 2002.**	7. Emissions Method Code: **0**
8. Calculation of Emissions (limit to 600 characters): **See Part II, Appendix A.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **5 ppmvw**	4. Equivalent Allowable Emissions: **3.1** lb/hour **12.9** tons/year
5. Method of Compliance (limit to 60 characters): **None Required**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **See Part II.**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: **VE10**	2. Basis for Allowable Opacity: [X] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **10** % Exceptional Conditions: **100** % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **Annual VE Test EPA Method 9**	
5. Visible Emissions Comment (limit to 200 characters): **VE of 10% proposed for gas firing.** **Excess opacity based on Rule 62-210.700(1) for startup/shutdown/malfunction for 2 hrs/24 hrs.** **VE limit complies with 403.08725 F.S.**	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters):	

J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements

1. Process Flow Diagram [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [X] Attached, Document ID: **Part II** [ ] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID: _____ [ ] Previously submitted, Date: _____ [X] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application [X] Attached, Document ID: **Part II** [ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID: _____ [X] Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[ ] Attached, Document ID:_____ [X] Not Applicable

12. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [X] Not Applicable

13. Identification of Additional Applicable Requirements
[ ] Attached, Document ID:_____ [X] Not Applicable

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [X] Not Applicable

15. Acid Rain Part Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID:_____

[ ] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
Attached, Document ID:_____

[X] Not Applicable

PART II

SUPPORTING INFORMATION

1.0 INTRODUCTION

Tropicana Products, Inc. is proposing to replace the General Electric (GE) LM 5000 gas turbine, associated with the cogeneration facility, with a GE LM 6000 at the existing Bradenton Citrus Processing Plant. The gas turbine was part of the cogeneration facility permitted by the Florida Department of Environmental Protection (FDEP) on May 30, 1989 pursuant to permit numbers AC41-157745 and PSD-FL-136. Prevention for Significant Deterioration (PSD) review was required for nitrogen oxides and carbon monoxide. Attachment A presents the existing Title V permit conditions for the cogeneration unit that includes the gas turbine.

The cogeneration unit currently consists of a General Electric LM 5000 gas turbine with a 45.4 megawatt (MW) electric generator, an associated heat recovery steam generator (HRSG) with a duct burner system. The steam produced by the turbine exhaust and duct burners is used as process steam in the Tropicana plant and replaced the steam previously generated by six boilers. These boilers were shut down after the cogeneration unit became operational. The existing gas turbine is being replaced due to the availability of parts for the LM 5000 and due to the fact that the LM 6000 is a more efficient gas turbine. GE no longer manufacturers the LM 5000. The LM 6000 will have a maximum generating capability of 49.9 MW.

Tropicana is seeking a minor source air construction permit for this project.

1.1 EXISTING FACILITY

The Tropicana facility is located at 1001 13th Avenue East, Bradenton, Florida. The existing industrial complex includes glass manufacturing and citrus processing that includes juice extracting, processing, packaging, warehousing, and distribution. Fruit is graded and carried to an extractor room where the juice is removed and pumped to either carton filling, glass filling, plastic filling, block freezing, aseptic storage, or to evaporators for concentrate production.

The plant contains three citrus feed mills, four citrus pellet mills (including two pellet coolers and associated pellet, bulk cooling reels, and Ross coolers), one glass plant (one glass plant was closed in 2000), cogeneration facility [including combustion turbine, HRSG, duct burner, auxiliary boiler, and a sanitary process steam boiler (used to produce 5-fold citrus oil)], and a wastewater treatment system (including a package steam boiler and an anaerobic reactor with a biogas flare).

The facility operates under a Title V permit issued by FDEP on February 27, 2000 (Final Permit No. 0810007-003-AV).

1.2 LM 6000 GAS TURBINE

The project will consist of replacing the existing LM 5000 with a LM 60000. Design information and stack parameters for the LM 6000 are presented in Table 1. The maximum heat input for the LM 6000 is 456 million British thermal units per hour (MMBtu/hr) on a high heating value (HHV) basis. The current maximum heat input that is authorized for the LM 5000 is 425.5 MMBtu/hr.

The potential hourly and annual criteria pollutant emissions associated with the LM 6000 are provided in Table 2. The maximum hourly emissions are based on the maximum heat input rate of 456 MMBtu/hr at a capacity of 49.9 MW. The maximum potential emissions of nitrogen oxides (NO_x) and volatile organic compounds (VOCs) from the LM 6000 will be lower than those authorized for the LM 5000. For NO_x, the maximum potential emissions from the LM 6000 will be 39.7 pounds per hour (lb/hr) [25 parts per million by volume dry (ppmvd) corrected to 15-percent oxygen (O_2)] compared to the LM 5000 of 62.6 lb/hr (42 ppmvd corrected to 15-percent O_2). Maximum VOC emissions from the LM 6000 will be 3.07 lb/hr compared to the currently authorized 3.6 lb/hr for the LM 5000. Emissions of sulfur dioxide (SO_2), particulate matter (PM) [including PM less than ten microns (PM_{10})], and carbon monoxide (CO) from the LM 6000 will be higher than that authorized for the LM 5000. For SO_2, the maximum potential emissions from the LM 6000 will be 1.3 lb/hr compared to that authorized for the LM 5000 of 1.2 lb/hr. Maximum PM/PM_{10} emissions from the LM 6000 will be 3.0 lb/hr compared to the currently authorized 1.5 lb/hr for the LM 5000. The maximum potential emissions for CO will increase from the 9.1 lb/hr currently authorized for the LM 5000 to 28.5 lb/hr for the LM 6000. The emission increase for CO is an artifact of the lower NO_x emissions for the LM 6000 as compared to the LM 5000.

1.3 APPLICABLE REQUIREMENTS AND PERMITTING CONDITIONS

The proposed project is a modification and the PSD requirements in Rule 62-212.400 Florida Administrative Code (F.A.C.) may be applicable. PSD review would potentially apply for a modification to the Bradenton facility if the increase in the emissions from the "Project" exceed the PSD thresholds. A modification is defined in Rule 62-210.200 F.A.C. as any physical change in, addition to or change in, the method of operation of a facility which would result in an increase in the actual emissions of any air pollutant subject to regulation under the Clean Air Act. A physical

change or a change in the method of operation does not include routine replacement, repair or replacement of component parts of an emission unit. The substitution of the LM 6000 for the LM 5000 is not a routine replacement since the entire gas turbine will be a different and larger gas turbine. A modification to a major source of air pollution, such as the Tropicana Bradenton Citrus Processing Plant, may be subject to review under the Department's PSD rules codified in Rule 62-212.400 F.A.C. However, if the potential emissions of the project, which includes the decreases in actual emissions afforded by the removal of the LM 5000 are less than the significant emission rates, then PSD review would not otherwise apply. Table 3 presents the potential emission of the LM 6000 along with the actual decreases in emissions from the LM 5000. The project consisting of the potential emissions of the LM 6000 minus the actual emissions of the LM 5000 is below the significant emission rates for all pollutants. Therefore, PSD is not applicable for the project.

Table 1. Design Information and Stack Parameters for Tropicana Products, Inc.
LM6000 Gas Turbine, Natural Gas, Baseload

Parameter	Turbine Inlet Temperature 52°F	60°F	70°F	90°F
Combustion Turbine Performance				
Power output (MW)	49.9	48.4	46.4	42.5
Heat rate (Btu/kWh, LHV)	8,235	8,281	8,374	8,559
(Btu/kWh, HHV)	9,141	9,192	9,295	9,500
Heat Input (MMBtu/hr, LHV)	411	401	389	364
(MMBtu/hr, HHV)	456	445	431	403
Fuel heating value (Btu/lb, LHV)	19,000	19,000	19,000	19,000
(Btu/lb, HHV)	21,090	21,090	21,090	21,090
(HHV/LHV)	1.110	1.110	1.110	1.110
Steam Injection (lb/hr)	34,956	32,999	32,999	25,588
CT Exhaust Flow	1,073,600	1,053,720	1,027,100	973,080
Mass Flow (lb/hr)- with no margin	1,073,600	1,053,720	1,027,100	973,080
- provided	814	816	819	825
Temperature (°F)	11.46	11.54	11.81	12.34
Moisture (% Vol.)	13.19	13.21	13.18	13.14
Oxygen (% Vol.)	27.99	27.98	27.95	27.89
Molecular Weight				
Fuel Usage				
Fuel usage (lb/hr) = Heat Input (MMBtu/hr) x 1,000,0	411	401	389	364
Heat input (MMBtu/hr, LHV)	19,000	19,000	19,000	19,000
Heat content (Btu/lb, LHV)	21,630	21,099	20,447	19,132
Fuel usage (lb/hr)- calculated				
Turbine Flow Conditions				
Turbine Flow (acfm) = [(Mass Flow (lb/hr) x 1,545 x	1,073,600	1,053,720	1,027,100	973,080
Mass flow (lb/hr)	814	816	819	825
Temperature (°F)	27.99	27.98	27.95	27.89
Molecular weight	601,790	591,812	578,854	552,198
Volume flow (acfm)- calculated	89	87	85	81
Velocity (ft/s)- calculated				
HRSG Stack	67	67	67	67
Stack height (ft)	12	12	12	12
Diameter (ft)	268	268	268	268
Temperature (°F)	343,880	337,648	329,481	312,841
Volume flow (acfm)- calculated	51	50	49	46
Velocity (ft/s)- calculated	51	50	49	46

Note: Universal gas constant = 1,545 ft-lb(force)/°R; atmospheric pressure = 2,090.9 lb(force)/ft²; 14.52 lb/in^2
A margin of 5% was added to heat rate.

Source: GE, 2002.

Table 2. Maximum Emissions for Criteria Pollutants for Tropicana Products Inc.
LM6000 Gas Turbine, Natural Gas, Baseload

Parameter	Turbine Inlet Temperature 52°F	60°F	70°F	90°F
Hours of Operation	8,760	8,760	8,760	8,760
Particulate (lb/hr) = Emission rate (lb/hr) from manufacturer (filterable)				
Basis (excludes H_2SO_4), lb/hr	3.00	3.00	3.00	3.00
CT Emission rate (lb/hr)	3.0	3.0	3.0	3.0
(TPY)	13.1	13.1	13.1	13.1
Sulfur Dioxide (lb/hr) = Natural gas (cf/hr) x sulfur content(gr/100 cf) x 1 lb/7000 gr x (lb SO_2/lb S) /100				
Fuel density (lb/cf)	0.0489	0.0489	0.0489	0.0489
Fuel use (cf/hr)	442,032	431,190	417,863	390,985
Sulfur content (grains/ 100 cf)	1	1	1	1
lb SO_2 /lb S (64/32)	2	2	2	2
Emission rate (lb/hr)	1.3	1.2	1.2	1.1
(TPY)	5.53	5.40	5.23	4.89
Nitrogen Oxides (lb/hr) = NO_x(ppm) x {[20.9 x (1 - Moisture(%)/100)] - Oxygen(%)} x 2090.9 x Volume flow (acfm) x 46 (mole wgt NO_x) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 5.9 x 1,000,000 (adj. for ppm)]				
CT, ppmvd @15% O_2	25	25	25	25
Moisture (%)	11.46	11.54	11.81	12.34
Oxygen (%)	13.2	13.2	13.2	13.1
Turbine Flow (acfm)	601,790	591,812	578,854	552,198
Turbine Exhaust Temperature (°F)	814	816	819	825
CT Emission rate (lb/hr)	39.7	38.8	37.6	35.3
(TPY)	174.1	169.7	164.6	154.4
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2090.9 lb/ft^2 x Volume flow (acfm) x 28 (mole. wgt CO) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]				
Basis, ppmvd	30	30	30	30
Basis, ppmvd @ 15% O_2- calculated	29.5	29.7	29.7	29.9
Moisture (%)	11.46	11.54	11.81	12.34
Oxygen (%)	13.2	13.2	13.2	13.1
Turbine Flow (acfm)	601,790	591,812	578,854	552,198
Turbine Exhaust Temperature (°F)	814	816	819	825
CT Emission rate (lb/hr)	28.5	28.0	27.2	25.7
(TPY)	125.0	122.6	119.2	112.5
VOCs (lb/hr) = VOC(ppmvw) x 2090.9 lb/ft^2 x Volume flow (acfm) x 16 (mole. weight as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]				
Basis, ppmvw	5	5	5	5
Basis, ppmvd @ 15% O_2- calculated	5.5	5.6	5.6	5.7
Moisture (%)	11.46	11.54	11.81	12.34
Oxygen (%)	13.2	13.2	13.2	13.1
Turbine Flow (acfm)	601,790	591,812	578,854	552,198
Turbine Exhaust Temperature (°F)	814	816	819	825
CT Emission rate (lb/hr)	3.07	3.01	2.94	2.79
(TPY)	13.4	13.2	12.9	12.2
Lead (lb/hr)= NA				
Emission Rate Basis	NA	NA	NA	NA
Emission rate (lb/hr)	NA	NA	NA	NA
(TPY)	NA	NA	NA	NA

Note: ppmvd= parts per million, volume dry, ppmvw= parts per million, volume wet; O_2= oxygen.

Source: GE, 2002; Golder Associates, 2002.

Table 3. Net Emissions Increases Associated with Tropicana Products
LM 6000 Project at Bradenton Citrus Processing Facility

	Emissions (tons/year)				
	CO	NO_x	PM_{10}	SO_2	VOC
LM 5000 Actual Emissions[a]					
Year 2000	31.9	144.9	5.3	0.5	12.6
Year 2001	24.6	113.1	4.1	0.4	9.8
2-year Average	28.2	129.0	4.7	0.4	11.2
LM 6000 Potential Emissions[b]	119.2	164.6	13.1	5.2	12.9
Project Net Emissions:	91.0	35.6	8.4	4.8	1.7
PSD SERs	100.0	40.0	15.0	40.0	40.0
PSD Applicable?	No	No	No	No	No

[a] from Annual Operating Reports for Air Pollutant Emitting Facility

[b] from Table 2 for a turbine inlet temperature of 70 degrees F

Note: SERs = Significant Emission Rates

ATTACHMENT A

TITLE V PERMIT CONDITIONS FOR DUCT BURNER
AND
MANUFACTURER INFORMATION FOR
THE DUCT BURNER AND CONTROL SYSTEM

Subsection D. This section addresses the following emissions unit(s).

E.U. ID No.	Brief Description
-016	Gas Turbine

The natural gas fired General Electric (GE) LM 5000 gas turbine (GT) has a maximum design heat input capacity of 425.5 MMBtu per hour, and a natural gas fired Heat Recovery Steam Generator (HRSG) with a maximum design heat input capacity of 104 MMBtu per hour. The cogeneration project has an electric generation capacity of 45.4 MW.

{Permitting note(s): This emission unit is regulated under NSPS - 40 CFR 60 Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units, adopted and incorporated by reference in Rule 62-204.800(7)(b)3, F.A.C.; NSPS - 40 CFR 60 Subpart GG - Standards of Performance for Stationary Gas Turbines, adopted and incorporated by reference in Rule 62-204.800(7)(b)39, F.A.C.; and Rule 62-296.405, F.A.C., Fossil Fuel Steam Generators with more than 250 Million Btu per Hour Heat Input. The gas turbine is subject to and shall meet all the applicable requirements of 40 CFR 60 Subpart GG. Based on the heat input capacity of the turbine and the fact that it is not an electric utility stationary gas turbine, the nitrogen oxides standards of 40 CFR 60 Subpart GG do not apply to this source. The heat recovery steam generator duct burner is subject to 40 CFR 60 Subpart Db.}

The following specific conditions apply to the emissions unit(s) listed above:

Essential Potential to Emit (PTE) Parameters

D.1. Capacity.

a. The maximum heat input to the Gas Turbine shall not exceed 425.5 MMBtu per hour (405.3 MCF/hr of natural gas).
b. The maximum heat input to the Heat Recovery Steam Generator shall not exceed 104 MMBtu per hour (99 MCF/hr of natural gas).
c. Heat input to the Heat Recovery Steam Generator shall not exceed 91 MMBtu per hour on a 30 day rolling average basis.

[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.; Air Construction Permit AC41-157745]

D.2. Methods of Operation - (i.e., Fuels) The Gas Turbine/Heat Recovery Steam Generator shall fire natural gas only. The sulfur content of the fuel (natural gas) used in the Gas Turbine shall not exceed 0.8% by weight.

[Rules 62-4.160(2), 62-204.800(7)(b)39, and 62-213.440(1), F.A.C.; 40 CFR 60.333(b); Air Construction Permit AC41-157745]

Emission Limitations and Standards

D.3. Visible emissions from the Gas Turbine and Heat Recovery Steam Generator shall not exceed 10% opacity.
[Air Construction Permit AC41-157745]

D.4. Carbon monoxide (CO) emissions shall not exceed the following:
a. 10 ppm (corrected to 15% O_2), dry basis, for the Gas Turbine;
b. 0.14 pounds/MMBtu for the Heat Recovery Steam Generator.
[BACT Determination of May 29, 1989 in accordance with Rule 62-212.400, F.A.C.]

D.5. Nitrogen oxides (NOx) emissions shall not exceed the following:
a. 42 ppm (corrected to 15% O_2), dry basis, for the Gas Turbine;
b. 0.1 pounds/MMBtu for the Heat Recovery Steam Generator.[1]
[BACT Determination of May 29, 1989 in accordance with Rule 62-212.400, F.A.C.]
{[1]Permitting Note: Compliance with this BACT limit will also satisfy the less stringent requirements of Subpart Db - 40 CFR 60.44b(a)(4)(i) which specifies a NOx limit of 0.2 lb/MMBtu for duct burners used in a combined cycle system.}

D.6. Emissions from the Gas Turbine and Heat Recovery Steam Generator shall not exceed any of the following:

Pollutant	Gas Turbine		Heat Recovery Steam Generator	
	Pounds per Hour	Tons per Year	Pounds per Hour[1]	Tons per Year[1]
NOx	62.6	274.6	10.4	39.9
CO	9.1	39.8	14.56	55.8
PM/PM_{10}	1.5	6.6	0.25	0.95
SO_2	1.2	2.63	0.29	0.60
VOC	3.6	15.9	4.16	15.9

[1]Note: Heat Recovery Steam Generator lb/hr emissions are based on 104 MMBtu/hr maximum heat input rate, while the tons/yr emissions are based on the 91 MMBtu/hr maximum 30 day rolling average heat input rate.
[Air Construction Permit AC41-157745 as amended May 20, 1992]

Test Methods and Procedures

D.7. Test the Gas Turbine/Heat Recovery Steam Generator for emissions of the following pollutants annually on or during the 60 day period prior to March 1.

a. Visible emissions (VE)
b. Nitrogen Oxides (NOx)
c. Sulfur Dioxide (SO_2)

[Air Construction Permit AC41-157745/PSD-FL-136]

{Permitting Notes: (1) A fuel analysis, including sulfur content, of a representative fuel sample and a calculation of the sulfur dioxide emission rate based on the fuel analysis may be submitted in lieu of the required sulfur oxides emission test. (2) Although CO, PM, and VOC are limited in Condition D.6, the referenced construction permit specified that testing for these pollutants shall be conducted upon initial operation only. (3) The compliance test due date is for planning purposes only. Rule 62-297.310(7)(a)4, F.A.C. allows the permittee to conduct a formal compliance test any time during the federal fiscal year (October 1 – September 30).}

D.8. Compliance with the emission limitations of Conditions D.3 through D.6 shall be determined using the following EPA Methods contained in 40 CFR 60, Appendix A and adopted by reference in Chapter 62-297, F.A.C.

a. EPA Method 5, 5B, or 17 for PM
b. EPA Method 201 or 201A for PM_{10} (recommended)
c. EPA Method 7/ 20 or 7E for NOx
d. EPA Method 9 for VE
e. EPA Method 10 for CO
f. EPA Method 25A for VOC

The minimum requirements for stationary point source emission test procedures and reporting shall be in accordance with 40 CFR 60 Appendix A and Chapter 62-297, F.A.C. [Chapter 62-297, F.A.C.; Air Construction Permit AC41-157745]

D.9. The visible emissions tests shall be conducted by a certified observer and be a minimum of sixty (60) minutes in duration. The test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. [Rule 62-297.310(4)(a), F.A.C.]

D.10. Testing of emissions must be conducted during operation of the Gas Turbine at a heat input rate within 95-100% of the maximum capacity achievable for the average ambient temperature during the compliance tests (or at a heat input rate between 90-100% of the maximum permitted heat input rate of 425 MMBTU per hour) and operation of the Heat Recovery Steam Generator at a heat input rate within 90 to 100% of the maximum

permitted rate of 104 MMBTU per hour. The turbine manufacturer's capacity vs. ambient temperature curve shall be included with the test report. A compliance test submitted at operating rates less than those specified above will automatically constitute an amended permit at the lesser rates until another test showing compliance at higher rates is submitted. Failure to submit the operating (heat input) rates or operation at conditions that do not represent normal operating conditions may invalidate the test. [Rule 62-4.070(3), F.A.C.]

Operating Conditions

D.11. The sale of electrical output generated by the Gas Turbine/Heat Recovery Steam Generator unit shall not exceed one third (33.3%) of the total annual electrical output based on a 12 month rolling average. (This limitation is necessary to insure that this source (emission unit) is not considered an electric utility gas turbine under Subpart GG - 40 CFR 60.331(q).)
[Rule 62-204.800(7)(b)39, F.A.C.; 40 CFR 60.331(q)]

Recordkeeping and Reporting Requirements

D.12. In order to document compliance with the limitations of Condition D.2 and D.6, the permittee shall maintain records of the sulfur content in the natural gas as supplied by the pipeline company. The Department may require the permittee to independently verify the sulfur content of the natural gas whenever the Department does not have reasonable assurance that the sulfur content information provided by the natural gas supplier accurately represents the sulfur content in the natural gas combusted in this source (emission unit). Compliance with the sulfur content standards shall be in accordance with the requirements of Subpart GG - 40 CFR 60.335(d). Proof of compliance with the annual SO_2 limitation (including calculations) shall be submitted along with the annual operating report each year.
[Air Construction Permit AC41-159485 as amended May 20, 1992; Rule 62-204.800(7)(b)39, F.A.C.; 40 CFR 60.335(d)]

D.13. The permittee shall keep records of total electrical generation output and electrical output sold such that compliance with Condition D.11 can be determined.
[Rule 62-213.440, F.A.C.]

D.14. The permittee shall submit quarterly SO_2 excess emission reports in accordance with 40 CFR 60.7(c) and Subpart GG - 40 CFR 60.334(c)(2). If there are no excess emissions during a calendar quarter the permittee shall submit a report stating that no excess emissions occurred during the reporting period.
[Rule 62-204.800(7)(b)39, F.A.C.; 40 CFR 60.334(c)(2)]

D.15. All reports required by 40 CFR 60 shall be submitted to the Air Compliance Sections of the MCEMD and Southwest District Office of the Department. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. [Rule 62-213.440, F.A.C.]