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BUREAU OF AIR REGULATION

TAMPA ELECTRIC

June 28, 2002

Mr. Syed Arif, P.E.
New Source Review Section
Florida Department of Environmental Protection
111 South Magnolia Drive, Suite 4
Tallahassee, FL 32301

Via FedEx
Airbill No. 7920 6107 1417

Re: Tampa Electric Company
Hookers Point Station
Permit No.: 0570038-002-AC
Mobile Generator Project
Response to Additional Information Request and
Air Construction Permit Application

Dear Mr. Arif:

Tampa Electric Company (TEC) has received the Florida Department of Environmental Protection's (the DEP) letter of incompleteness along with the Environmental Protection Commission of Hillsborough County's (EPCHC) comments dated May 2, 2002 addressing TEC's request that Condition B.15. of FINAL Permit 0570038-002-AC be removed. Hence removing the June 2003 IC engine cessation of operation date from the permit. TEC intends to retire the Hookers Point Emissions Unit IDs 001-006, that is all six boilers and their related equipment, no later than January 1, 2003.

This correspondence is intended to provide a response to each specific issue raised by the Department. For your convenience, TEC has restated each point and provided a response below each specific issue.

EPCHC Issue 1
Based on the prior permitting action with the TEC's, Hookers Point facility, EPC staff would like to ensure that all the applicable sources (IC Generators) are included in this project. The project was originally considered in the absence of the temporary IC generators located within 5 miles of Hookers Point.

EPC staff believes these should have been included. In a memo dated November 16, 1994, from the Office of Air Quality Planning and Standards, it is stated, "...it is the EPA's policy that temporary and contractor operated units be included in part of the source with which they operate or support." Additionally in a phone conversation with Mr. Jim Little, May 3, 2001, he felt at least two of the IC

generators at neighboring substations (Maritime Blvd and 11th Avenue) should have been included and possibly an additional two from the Clearview and State Road 60 sites.

At the present time it is unclear if the IC generators are still located at the respective sites. EPC staff will visit each of the four sites to verify the presence or absence of the generators. If the IC generators are still present, EPC staff requests these be considered in the construction permit application.

TEC Response
The temporary rental generators were operated to meet summer demand and are no longer under contract to TEC or physically present on-site at the substations. Although these engines were located within a five-mile vicinity of Hookers Point, they were not contiguous with Hookers Point.

EPCHC Issue 2
EPC staff is concerned about the duration of the construction permit and the future type of operation permit the facility will be issued. In the letter dated April 1, 2002, TEC personnel state the existing emissions units at Hooker's Point will be permanently retired January 1, 2003. Are the emission units the boilers, the IC generators, or some combination of the two? If the boilers are shut down the facility may no longer be a Title V facility and only require a minor source operation permit. Although no complaints have been received, EPC staff wish to ensure that the IC generators are properly permitted to operate in the future should TEC personnel request authorization to do so. Please request TEC personnel to clarify the statement about retiring the emission units in the April 1st letter .

TEC Response
TEC will be retiring Hookers Point Station Emissions Unit IDs 001-006, along with any related equipment. All six boilers will be rendered incapable of firing any fuel on or before January 1, 2003. With the IC engines in operation, the facility will remain a major source and will require a Title V permit to operate.

EPCHC Issue 3
Please have TEC submit a complete construction application package. The letter dated April 1, 2002, does not have the required signatures and has not been sealed by a professional engineer. [Rule 62-4.050(3), F.A.C.]

TEC Response
Attached is a complete construction permit application package sealed by a professional engineer and the responsible official's signature in Attachment A to this correspondence.

In the original submitted construction permit application, the manufacturers specification indicated the each IC engine uses 122.8 gallons per hour within a 3% error margin. However, based on a year of engine operations, the actual fuel usage is about 128 gallons per hour. This impacts the hours of operation as the current fuel limit of 2,713,880 gallons per year would actually limit the hours to 21,198 hours instead of the permitted 22,100 hours during any consecutive 12-month period. Therefore TEC requests that the fuel limit should be changed from 2,713,880 gallons per year to 2,828,800 gallons per year. This will not result in an increase in emissions, as the hours of operation will remain the same. With this change, the annual fuel oil consumption limit will be equivalent to the annual hours of operation.

TEC appreciates the cooperation and consideration of the DEP and EPCHC in this matter. If further questions or concerns arise pertaining to the additional information TEC has provided please contact me (813) 641-5376.

Sincerely,

Laura R. Crouch
Manager- Air Programs
Environmental Affairs

EA/bmr/DNL120

Enclosure

c/enc: Mr. Jerry Campbell, EPCHC
Mr. Clair Fancy, FDEP
Mr. Jerry Kissel - FDEP SW

INTRODUCTION

Tampa Electric Company (TEC) operates six No. 6 oil-fired steam boilers (Units Nos. 1 through 6) at the Hookers Point Station located at 1700 Hemlock Street, Tampa, Hillsborough County, Florida. Operation of the existing steam boilers is currently authorized by Title V FINAL Permit No. 0570038-001-AV. FINAL Permit No. 0570038-001-AV was issued with an effective date of January 1, 1998, and expires on January 1, 2003.

To meet anticipated summer power demands, TEC recently installed 30 Caterpillar XQ2000 Power Modules at the Hookers Point Station. Each Power Module consists of one Caterpillar 3516B 16-cylinder, 4-stroke cycle diesel internal combustion (IC) engine and one Caterpillar SR4B generator. The Caterpillar 3516B IC engine has a power output rating of 2,593 brake horsepower (bhp) at 100 percent load. The Caterpillar SR4B generator has a power output rating of 1,825 kilowatts (kW) at 100 percent load. The Caterpillar 3516B IC engines are fired exclusively with low sulfur (maximum of 0.05 weight percent sulfur) diesel fuel oil. Initial operation of the 30 IC engines was authorized by Department FINAL Permit No. 0570038-002-AC.

In correspondence to the Department dated April 1, 2002, TEC requested deletion of Department Air Permit No. 0570038-002-AC, Section III., Condition No. 15. This permit condition requires the 30 IC engines to cease operation in June 2003. In response, the Department requested submittal of a construction permit application—reference Department correspondence dated May 2, 2002.

TEC plans to permanently retire existing Hookers Point Station oil-fired Units 1 through 6 no later than January 1, 2003. The purpose of this construction permit application is to request deletion of Department Air Permit No. 0570038-002-AC, Section III., Condition No. 15 to allow for continued operation of the 30 IC engines following June 2003. In addition, actual engine fuel consumption has been found to be slightly higher than the original estimate; i.e., the maximum engine fuel consumption rate has been determined to be 128 gallons

per hour compared to the original estimate of 122.8 gallons per hour. Operation of the 30 Caterpillar XQ2000 Power Modules is presently limited to no more than 22,100 engine-hours during any consecutive 12-month period. Consistent with this operating hour constraint, TEC requests that the equivalent annual fuel oil consumption limit in Department Air Permit No. 0570038-002-AC, Section III., Condition No. 12 be changed to 2,828,800 gallons per year. No other revisions to Department Air Permit No. 0570038-002-AC are requested. Specifically, no changes to the IC engine NO_x hourly (53 lb/hr/engine) and annual (582 tpy for all engines) emission rates listed in Department Air Permit No. 0570038-002-AC, Section III., Condition No. 7. are requested. IC engine stack testing conducted in July 2001 demonstrated that actual IC engine NO_x emission rates are well below the permit limit of 53 lb/hr. Of the five IC engines tested in July 2001, the maximum test series average NO_x emission rate was 39.2 lb/hr or only 74 percent of the 53 lb/hr permit limit.

As requested by the Department, Attachment A contains a completed FDEP Application for Air Permit—Title V Source; DEP Form 62-210.900(1). Attachment B provides IC engine emission rate calculations.

ATTACHMENT A

APPLICATION FOR AIR PERMIT—
TITLE V SOURCE

Department of Environmental Protection

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BUREAU OF AIR REGULATION

Division of Air Resources Management

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: **Tampa Electric Company**	
2. Site Name: **Hookers Point Station**	
3. Facility Identification Number: **0570038** [ ] Unknown	
4. Facility Location: Street Address or Other Locator: **1700 Hemlock Street** City: **Tampa** County: **Hillsborough** Zip Code: **33605-6660**	
5. Relocatable Facility? [ ] Yes [✔] No	6. Existing Permitted Facility? [✔] Yes [ ] No

Application Contact

1. Name and Title of Application Contact: **Dru Latchman** **Associate Engineer – Air Programs, Environmental Planning**
2. Application Contact Mailing Address: Organization/Firm: **Tampa Electric Company** Street Address: **6499 U.S. Highway 41 North** City: **Apollo Beach** State: **FL** Zip Code: **33572-9200**
3. Application Contact Telephone Numbers: Telephone: **(813)641 – 5034** Fax: **(813) 641-5081**

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	
2. Permit Number:	
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)

[✔] 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:
   Karen Sheffield, General Manager
2. Application Contact Mailing Address:
   Organization/Firm: **Tampa Electric Company**
   Street Address: **1700 Hemlock Street**
   City: **Tampa** State: **FL** Zip Code: **33605-6660**
3. Owner/Authorized Representative or Responsible Official Telephone Numbers:
   Telephone: **(813) 228-1111, Ext. 35300** Fax: **(813) 641-5418**
4. Owner/Authorized Representative or Responsible Official Statement:

   I, the undersigned, am the owner or authorized representative(check here [ ], 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.*

   Karen Sheffield — Signature
   6/28/02 — Date

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: **Thomas W. Davis**
   Registration Number: **36777**
2. Professional Engineer Mailing Address:
   Organization/Firm: **Environmental Consulting & Technology, Inc.**
   Street Address: **3701 Northwest 98th Street**
   City: **Gainesville** State: **FL** Zip Code: **32606**
3. Professional Engineer Telephone Numbers:
   Telephone: **(352) 332-0444** Fax: **(352) 332-6722**

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 [✔], 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.

Signature — Date: 6/26/02

(seal)

* Attach any exception to certification statement.

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type	Processing Fee
007 – 036	IC Engine/Generator Set Nos. 1 – 30	N/A	N/A

Application Processing Fee

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

Construction/Modification Information

1. Description of Proposed Project or Alterations:

Tampa Electric Company (TEC) has installed thirty (30) Caterpillar XQ2000 Power Modules at its existing Hookers Point Station. Each Power Module consists of one Caterpillar 3516B 16-cylinder, 4-stroke cycle diesel internal combustion (IC) engine and one Caterpillar SR4B generator. The Caterpillar 3516B IC engine has a power output rating of 2,593 brake horsepower (bhp) at 100% load. The Caterpillar SR4B generator has a power output rating of 1,825 kilowatts (kW) at 100% load.

Condition No. 15 of Department Air Permit No. 0570038-002-AC requires the 30 IC engines to cease operation in June 2003. TEC plans to permanently retire existing Hookers Point Station oil-fired Units 1 through 6 no later than January 1, 2003. The purpose of this application is to request deletion of Condition No. 15 to allow for continued operation of the 30 IC engines following June 2003.

2. Projected or Actual Date of Commencement of Construction: **N/A**

3. Projected Date of Completion of Construction: **N/A**

Application Comment

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: **17** East (km): **358.0** North (km): **3,091.0**			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): Longitude (DD/MM/SS):			
3. Governmental Facility Code: **0**	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **49**	6. Facility SIC(s): **4911**
7. Facility Comment (limit to 500 characters):			

Facility Contact

1. Name and Title of Facility Contact: **Karen Sheffield, General Manager**
2. Application Contact Mailing Address: Organization/Firm: **Tampa Electric Company** Street Address: **1700 Hemlock Street** City: **Tampa** State: **FL** Zip Code: **33605-6660**
3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: **(813) 228-1111, Ext. 35300** Fax: **(813) 641-5418**

Facility Regulatory Classifications

Check all that apply:

1. [ ] Small Business Stationary Source?	[ ] Unknown
2. [✔] Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?	
3. [ ] Synthetic Minor Source of Pollutants Other than HAPs?	
4. [ ] Major Source of Hazardous Air Pollutants (HAPs)?	
5. [ ] Synthetic Minor Source of HAPs?	
6. [ ] 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): **Facility classifications shown above apply after 1/1/03; i.e., following the permanent retirement of existing oil-fired Units 001 – 006.**	

List of Applicable Regulations

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
NOX	**A**	**N/A**	**582**	**ESCPSD**	**EU IDs 007 - 036**
CO	**SM**	**N/A**	**N/A**	**N/A**	
SO2	**SM**	**N/A**	**N/A**	**N/A**	
VOC	**SM**	**N/A**	**N/A**	**N/A**	
HAPS	**SM**	**N/A**	**N/A**	**N/A**	

Note: Facility pollutants shown above apply after 1/1/03; i.e., following the permanent retirement of existing oil-fired Units 001 – 006.

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Area Map Showing Facility Location: [ ] Attached, Document ID: [ ] Not Applicable [✔] Waiver Requested
2. Facility Plot Plan: [ ] Attached, Document ID: [ ] Not Applicable [✔] Waiver Requested
3. Process Flow Diagram(s): [ ] Attached, Document ID: [✔] Not Applicable [ ] Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: [ ] Attached, Document ID: [✔] Not Applicable [ ] Waiver Requested
5. Fugitive Emissions Identification: [ ] Attached, Document ID:_____ [✔] Not Applicable [ ] Waiver Requested
6. Supplemental Information for Construction Permit Application: [ ] Attached, Document ID: [✔] Not Applicable
7. Supplemental Requirements Comment: **Items 1 and 2 previously submitted – see Hookers Point Station initial Title V permit application.**

Additional Supplemental Requirements for Title V Air Operation Permit Applications

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

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

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

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

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

15. Compliance Certification (Hard-copy Required):
    [ ] Attached, Document ID:_____ [ ] 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)

[✔] 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)

[✔] 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.

2. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
Caterpillar XQ2000 Power Module comprised of one Caterpillar 3516B 16-cylinder, 4-stroke cycle diesel internal combustion (IC) engine and one Caterpillar SR4B generator. The Caterpillar 3516B IC engine has a power output rating of 2,593 brake horsepower (bhp) at 100% load. The Caterpillar SR4B generator has a power output rating of 1,825 kilowatts (kW) at 100% load. The IC engine will be fired exclusively with low sulfur diesel fuel oil.

4. Emissions Unit Identification Number:
ID: **007**
[ ] No ID
[ ] ID Unknown

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)

Emissions Unit Control Equipment

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

   None

2. Control Device or Method Code(s): **N/A**

Emissions Unit Details

1. Package Unit:
   Manufacturer: **Caterpillar** Model Number: **XQ2000**
2. Generator Nameplate Rating: **1.825** 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:	**17.5**	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:		hours/day	days/week
		weeks/year	**22,100** hours/year*

6. Operating Capacity/Schedule Comment (limit to 200 characters):

*** Total fuel oil consumption limit of 2,828,800 gallons per year for all 30 engines combined is requested. This fuel oil consumption limit is equivalent to 22,100 engine-hours per year for all 30 engines at 100% load.**

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

N/A	

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? **ENG 1**	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **N/A**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **N/A**		
5. Discharge Type Code: **V**	6. Stack Height: **13.5** feet	7. Exit Diameter: **6 ft x 8 ft**
8. Exit Temperature: **856** °F	9. Actual Volumetric Flow Rate: **14,251** 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): **Exit temperature (field No. 8) and actual flow rate (Field No. 9) are averages as measured during the July 2001 emissions testing.**		

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):		
IC engine fired with diesel fuel oil.		
3. Source Classification Code (SCC): **20100102**	3. SCC Units: **Thousand Gallons Burned**	
4. Maximum Hourly Rate: **0.128**	5. Maximum Annual Rate: **1,121.28***	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.05**	8. Maximum % Ash: **0.01**	9. Million Btu per SCC Unit: **137**
10. Segment Comment (limit to 200 characters): *** Total fuel oil consumption limit of 2,828,800 gallons per year for all 30 engines combined is requested.**		

Segment Description and Rate: Segment ____ of ____

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
2. Source Classification Code (SCC):	3. SCC Units:	
3. Maximum Hourly Rate:	4. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
6. Maximum % Sulfur:	7. Maximum % Ash:	8. Million Btu per SCC Unit:
9. 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
1 – NOX			**EL**
2 – SO2			**WP**

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

Potential/Fugitive Emissions

1. Pollutant Emitted: **NOX**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **53** lb/hour **582*** tons/year	4. Synthetically Limited? [✔]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **53 lb/hr** Reference: **Allowable emission rate**	7. Emissions Method Code: **0**
8. Calculation of Emissions (limit to 600 characters): *** Annual rate for all 30 engines.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **ESCPSD**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **53 lb/hr**	4. Equivalent Allowable Emissions: **53** lb/hour **582*** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 7E**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): *** Annual rate for all 30 engines.**	

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

Potential/Fugitive Emissions

1. Pollutant Emitted: **SO2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.93** lb/hour **10.3*** tons/year	4. Synthetically Limited? [✔]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **0.93 lb/hr** Reference: **Mass Balance**	7. Emissions Method Code: **2**

8. Calculation of Emissions (limit to 600 characters):

*** Annual emission rate (all 30 engines) = (0.93 lb/hr) x (22,100 hr/yr) x (1 ton/2,000 lb)**

Annual emission rate (all 30 engines) = 10.3 ton/yr

See Appendix B for emission rate calculations.

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: **0.05 weight % S fuel oil**	4. Equivalent Allowable Emissions: **0.93** lb/hour **10.3** tons/year
5. Method of Compliance (limit to 60 characters): **Annual fuel analysis**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **Annual allowable emission rate is the total for all 30 engines.** **Rule 62-210.200, F.A.C. (PTE)**	

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

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

1. Visible Emissions Subtype: **VE20**	2. Basis for Allowable Opacity: [✔] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **20** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
5. Method of Compliance: **EPA Reference Method 9**	
6. Visible Emissions Comment (limit to 200 characters): **Rule 62-296.320(4)(b)1., F.A.C.**	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

2. Visible Emissions Subtype: **VE27**	2. Basis for Allowable Opacity: [ ] Rule [✔] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: **27** % Maximum Period of Excess Opacity Allowed: **60** min/hour	
7. Method of Compliance: **EPA Reference Method 9**	
8. Visible Emissions Comment (limit to 200 characters): **Excess emissions resulting during startup and shutdown shall not exceed 27% opacity for up to 2 hours in any 24 hour period per Air Permit 0570038-002-AC, Section III, Condition No. 10.** **Rule 62-210.700(1), F.A.C.**	

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:
6. Continuous Monitor Comment (limit to 200 characters):	

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:_____ [✔] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [ ] Not Applicable [✔] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID: _____ [✔] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [✔] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [✔] Previously submitted, Date: **August 21, 2001** [ ] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [✔] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [✔] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application [✔] Attached, Document ID:_____ [ ] Not Applicable **Attachment B – Emission Rate Calculations**
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [✔] Not Applicable
10. Supplemental Requirements Comment: **Item 2 previously submitted – reference January 2001 Air Construction Permit Application, Attachment B.**

Additional Supplemental Requirements for Title V Air Operation Permit Applications

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

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

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

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [ ] 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:_____

[ ] Not Applicable

NOTE:

EMISSION UNITS 007 THROUGH 036 ARE IDENTICAL UNITS.

SECTION III. EMISSIONS UNIT INFORMATION PROVIDED FOR EU 007 (IC ENGINE/GENERATOR NO. 1) IS ALSO APPLICABLE TO EU 008 (IC ENGINE/GENERATOR NO. 2) THROUGH EU 036 (IC ENGINE/GENERATOR NO. 30).

EMISSIONS UNIT INFORMATION SECTIONS 2 THROUGH 7 ARE IDENTICAL TO SECTION 1, WITH THE EXCEPTION OF IDENTIFICATION NUMBERS.

ATTACHMENT B

EMISSION RATE CALCULATIONS

POTENTIAL EMISSION INVENTORY WORKSHEET

Tampa Electric Company, Hookers Point IC Engine Project

ENG 007-036

EMISSION SOURCE TYPE

HEAVY DUTY OIL-FIRED ENGINES - CRITERIA POLLUTANTS

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	4-Cycle Rich Burn Engine
Emission Control Method(s)/ID No.(s):	None
Emission Point Description:	1.825 MW Engine/Generator, Caterpillar Model XQ2000 Power Module

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = Engine Power Output (hp) x Pollutant Emission Factor (lb/hp-hr)

Emission (ton/yr) = Engine Power Output (hp) x Pollutant Emission Factor (lb/hp-hr) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb)

Source: ECT, 2002.

INPUT DATA (PER ENGINE) AND EMISSIONS CALCULATIONS

Operating Hours:	24	Hrs/Day	7	Days/Wk	
Operating Hours:	737	Hrs/Yr (equivalent).			
Fuel Usage:	128.0	gal/hr	94,293	gal/yr (equivalent). Total fuel limited to 2,828,800 gal/yr.	
Engine Heat Input:	17.5	10^6 Btu/hr (LHV)	Power Output:	1,825	kW
Engine Power Output:	2,593	HP	Fuel Oil Sulfur Content:	0.05	weight %
Oil Heat Content:	137,000	Btu/gal (LHV)	Heat Rate:	9,609	Btu/kW-hr
Number of Engines:	30	Oil Consumed:	0.1280	10^3 gal/hr	94.29 10^3 gal/yr

Criteria Pollutant	Pollutant Emission Factors		Potential Emission Rates (Per Engine)		Potential Emission Rates (All Engines)	
	(g/hp-hr)	(lb/hp-hr)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
NO_x	9.22	0.02032	52.7	19.41	1,580.7	582.2
CO	0.17	0.00037	0.97	0.36	29.1	10.7
THC	0.17	0.00037	0.97	0.36	29.1	10.7
SO_2	0.16	0.00036	0.93	0.34	28.0	10.3
PM/PM_{10}	0.08	0.00019	0.48	0.18	14.4	5.3
H_2SO_4[1]	0.0023	0.0000051	0.013	0.005	0.39	0.15

SOURCES OF INPUT DATA

Parameter	Data Source
Operating Hours	ECT, 2002. Total fuel consumption for all 30 engines limited to avoid PSD review.
Fuel Usage Data	Caterpillar, 2000.
Engine Power Output	Caterpillar, 2000.
Fuel Oil Sulfur Content	TEC, 2002.
Emission Factors (except SO_2 and H_2SO_4)	Caterpilar (100% load), 2000.
Emission Factor, SO_2	Mass balance, ECT, 2002.
Emission Factor, H_2SO_4	Table 1.3-1, AP-42, EPA, September 1998.

NOTES AND OBSERVATIONS

[1] H_2SO_4 emissions assumes 100% conversion of SO_3 to H_2SO_4.

DATA CONTROL

Data Collected by:	T.Davis	Date:	Jun-02
Data Entered by:	T.Davis	Date:	Jun-02
Reviewed by:	D. Latchman	Date:	Jun-02

Tampa Electric Company, Hookers Point IC Engine Project
Hazardous Air Pollutant (HAP) Potential Emission Estimates
IC Engines - Diesel

Emission Unit ID No.	Engine Model	No. of Engines	Engine Data (Per Engine) Operating Hours (hr/yr)	Engine Rating (hp)	Heat Input (10^6 Btu/hr)	Heat Input (10^6 Btu/yr)
007-036	Caterpillar 3516B	30	737	2,593	17.54	12,918.2

HAP	CAS	Uncontrolled Emission Factor (lb/10^6 Btu)	Each Engine Potential Emissions (tpy)	30 Engines Potential Emissions (tpy)
1,3-Butadiene	106-99-0	1.56E-03	1.01E-02	3.02E-01
Acetaldehyde	75-07-0	1.91E-03	1.23E-02	3.70E-01
Acrolein	107-02-8	1.51E-04	9.75E-04	2.93E-02
Benzene	7-14-32	1.16E-03	7.49E-03	2.25E-01
Beryllium	N/A	4.67E-07	3.02E-06	9.05E-05
Cadmium	N/A	2.24E-05	1.45E-04	4.34E-03
Chromium	N/A	3.71E-06	2.40E-05	7.19E-04
Ethylbenzene	100-41-4	5.73E-05	3.70E-04	1.11E-02
Formaldehyde	50-00-0	2.08E-03	1.34E-02	4.03E-01
Hexane	110-54-3	9.76E-05	6.30E-04	1.89E-02
Lead	N/A	6.92E-06	4.47E-05	1.34E-03
Manganese	N/A	2.15E-05	1.39E-04	4.17E-03
Mercury	N/A	1.44E-06	9.30E-06	2.79E-04
Naphthalene	91-20-3	1.20E-03	7.75E-03	2.33E-01
Nickel	N/A	3.84E-06	2.48E-05	7.44E-04
PAH	N/A	2.73E-03	1.76E-02	5.29E-01
Selenium	N/A	1.84E-06	1.19E-05	3.57E-04
Toluene	108-88-3	6.46E-04	4.17E-03	1.25E-01
Xylene	1330-20-7	3.99E-04	2.58E-03	7.73E-02
Maximum Individual HAP			**0.018**	**0.53**
Total HAPs			**0.078**	**2.34**

Source: ECT, 2002.

Ringhaver

Ringhaver Equipment Co.

June 28, 2002

Ms. Drupatie Latchman
Tampa Electric Company
PO Box 111
Tampa, FL 33601

Subject: Fuel Rate For Caterpillar Model 3516B Diesel Generator Set

Dear Ms. Latchman:

The fuel rate for the above generator set is approximately 123.1 gph while operating at 1825 KW. Due to a tolerance of +/- 5%, the fuel rate may vary from approximately 116.9 gph to approximately 129.3 gph. The fuel rate and tolerances are based on the conditions listed on the following page.

Please do not hesitate to call if you have any questions.

Sincerely,

Alan Obal
Power Systems Division

-GKPNO2- TMI - ENGINE AND COMP PERF DATE: 12/07/00
TIME: 08:41:08
09 - PACKAGE SET PERFORMANCE
3516B DI TA SC DRY MANF TURBO QTY 4 PARALLEL ADEM GOV
DM4501-02
INFO CODE 08 - PERFORMANCE PARAMETERS REFERENCE * * * * * * * * * * * * * * *
TM5739 - 04 GEN SET - PACKAGED - DIESEL
29 DEG C (84.2 DEG F) WHERE THE DENSITY IS 838.9 G/L (7.002
LB/GAL).

THE CORRECTED PERFORMANCE VALUES SHOWN FOR CATERPILLAR ENGINES WILL APPROXIMATE THE VALUES OBTAINED WHEN THE OBSERVED PERFORMANCE DATA IS CORRECTED TO SAE J1995, ISO 3046-2 & 8665 & 2288 & 9249 & 1585, EEC 80/1269 AND DIN70020 STANDARD REFERENCE CONDITIONS.

ENGINES ARE EQUIPPED WITH STANDARD ACCESSORIES; LUBE OIL, FUEL PUMP AND JACKET WATER PUMP. THE POWER REQUIRED TO DRIVE AUXILIARIES MUST BE DEDUCTED FROM THE GROSS OUTPUT TO ARRIVE AT THE NET POWER AVAILABLE FOR THE EXTERNAL (FLYWHEEL) LOAD. TYPICAL

PRESS <ENTER> FOR ADDITIONAL NOTES

NEXT TRAN: INFO CODE (08) UNIT TYPE (E)
HLP-F1 ACF-F3 PGM-F4 INQ-F5 IDX-P9

-GKPNO2- TMI - ENGINE AND COMP PERF DATE: 12/07/00
09 - PACKAGE SET PERFORMANCE TIME: 08:40:58
3516B DI TA SC DRY MANF TURBO QTY 4 PARALLEL ADEM GOV
DM4501-02
INFO CODE 08 - PERFORMANCE PARAMETERS REFERENCE * * * * * * * * * * * * * * *
TM5739 - 04 GEN SET - PACKAGED - DIESEL

FUEL RATE	+/-	5%
HEAT REJECTION	+/-	5%
HEAT REJECTION EXHAUST ONLY	+/-	10%

CONDITIONS:
ENGINE PERFORMANCE IS CORRECTED TO INLET AIR STANDARD CONDITIONS OF 99 KPA (29.31 IN HG) AND 25 DEG C (77 DEG F).

THESE VALUES CORRESPOND TO THE STANDARD ATMOSPHERIC PRESSURE AND TEMPERATURE IN ACCORDANCE WITH SAE J1995. ALSO INCLUDED IS A CORRECTION TO STANDARD FUEL GRAVITY OF 35 DEGREES API HAVING A LOWER HEATING VALUE OF 42,780 KJ/KG (18,390 BTU/LB) WHEN USED AT

PRESS <ENTER> FOR ADDITIONAL NOTES

NEXT TRAN: INFO CODE (08) UNIT TYPE (E)
HLP-F1 ACF-F3 PGM-F4 INQ-F5 IDX-F9