

# Title V Permit Application

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MARTIN PLANT



VIA AIRBORNE EXPRESS



June 10, 1996

Clair H. Fancy, P.E., Chief  
Bureau of Air Regulation  
State of Florida  
Department of Environmental Protection  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400

**RECEIVED**

JUN 12 1996

BUREAU OF  
AIR REGULATION

**Re: Submittal of FPL Martin Plant Title V Application**

Dear Mr. Fancy:

Enclosed, pursuant to DEP Rules 62-210.300(2), F.A.C., and 62-213.420(1)(a)1.a., F.A.C., please find four (4) hard copies of the subject Title V permit application. Due to the recent FDEP recall of the ELSA program, the diskettes containing the electronic application are not included at this time. FPL has worked diligently to prepare an electronic submittal and will submit diskettes containing the electronic application at a later date (when the ELSA program deficiencies have been resolved).

If you have any questions regarding this application, please do not hesitate to contact me at (561) 625-7661.

Very truly yours,

A handwritten signature in cursive script that reads "Richard Piper".

Richard Piper  
Environmental Specialist  
Florida Power & Light Company

cc: DEP Southeast District Office (w/o att)

Florida Department of  
Environmental Protection

Memorandum

**RECEIVED**

TO: Isidore Goldman, Air Permitting Administrator, Southeast District  
FROM: Bruce Mitchell *BM*  
DATE: August 12, 1996  
SUBJECT: Completeness Review of an Application Package for a Title V Operation Permit  
Martin Plant: 0850001-004-AV

AUG 27 1996

BUREAU OF  
AIR REGULATION

Enclosed is an application package for a Title V operation permit that is being processed in Tallahassee. Please have someone review the package for completeness and respond in writing by September 9, if you have any comments. Otherwise, no response is required. If there are any questions, please call the project engineer, Tom Cascio, at 904/488-1344 or SC:278-1344. It is very important to verify the compliance statement regarding the facility, since we do not have a readily effective means of determining compliance at the time the application was submitted. Please advise if you know of any emissions unit(s) that were not in compliance at that time and provide supporting information. Also, do not write on the documents.

If there are any questions regarding this request, please call me or Scott Sheplak at the above number(s).

RBM/bm

Enclosure

# TABLE OF CONTENTS

## MARTIN TITLE V APPLICATION

Section 1 Application Information

Section 2 Facility Information

### Emission Unit Information

(Includes Emission Unit, Emission Point, Applicable Regulations, Segment, Pollutant, Visible Emission, Continuous Monitor, PSD Information and Supplemental Information)

Section 3	EU1 - Unit 1 Boiler
Section 4	EU2 - Unit 2 Boiler
Section 5	EU3 - Combustion Turbine 3A
Section 6	EU4 - Combustion Turbine 3B
Section 7	EU5 - Combustion Turbine 4A
Section 8	EU6 - Combustion Turbine 4B
Section 9	EU7 - Auxiliary Boiler
Section 10	EU8 - Emergency Diesel Generator - Combined-cycle units 3 & 4
Section 11	EU9 - Unregulated Emission Units



**Owner/Authorized Representative or Responsible Official**

1. Name and Title of Owner/Authorized Representative or Responsible Official:

Name: J.A. Keener  
Title : Plant General Manager

2. Owner or Responsible Official Mailing Address:

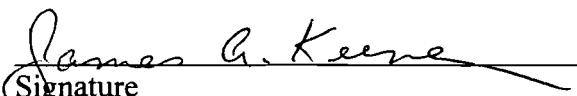
Organization/Firm: FPL Environmental Affairs Department  
Street Address: 11770 U.S. Highway One  
City: North Palm Beach State: FL Zip Code: 33408

3. Owner or Responsible Official Telephone Numbers:

Telephone: 4075977106 Fax: 4075977416

4. Owner or Responsible Official Statement:

*I, the undersigned, am the owner or authorized representative\* of the non-Title V source addressed in this Application for Air Permit or the responsible official, as defined in Rule 62-210.200 F.A.C., 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

5-23-96  
Date

\* Attach letter of authorization if not currently on file.

**Scope of Application**

This Application for Air Permit addresses the following emissions unit(s) at the facility (or Title V source). An Emissions Unit Information Section (a Section III of the form) must be included for each emissions unit listed.

Emissions Unit Id	Description of Emissions Unit	Permit Type
01	Steam Generator-Front-Fired Unit 1 (ARMS ID # 50WPB43000101)	
02	Steam Generator-Front-Fired Unit 2 (ARMS ID # 50WPB43000102)	
03	Combined Cycle Unit 3A, 1CT & 1 HRSG (ARMS ID # 50WPB43000103)	
04	Combined Cycle Unit 3B, 1CT & 1 HRSG (ARMS ID # 50WPB43000104)	
05	Combined Cycle Unit 4A, 1 CT & 1 HRSG (ARMS ID # 50WPB43000105)	
06	Combined Cycle Unit 4A, 1 CT & 1 HRSG (ARMS ID # 50WPB43000105)	
07	Combined Cycle Unit 4B, 1 CT & 1 HRSG (ARMS ID # 50WPB43000106)	
08	Auxiliary Boiler (ARMS ID # 50WPB43000107)	
09	Emergency Diesel Generator for fossil units 1 and 2.	
10	Emergency Diesel Generator for Fossil Units 3,4,5, and 6	
11	Facility-wide fugitive emissions  Paint spray booth at Land Utilization Department	

**Purpose of Application and Category**

Enter the Letter that applies and related information (except as otherwise indicated):

**Category I: All Air Operation Permit Applications Subject to Processing Under Chapter 17-213, F.A.C.**

This Application for Air Permit is submitted to obtain (A,B,C,D,E,F): A

- [ A ] Initial air operation permit under Chapter 17-213, F.A.C., for an existing facility which is classified as a Title V source.
- [ B ] Initial air operation permit under Chapter 17-213, F.A.C., 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:

- [ C ] Air operation permit renewal under Chapter 17-213, F.A.C., for a Title V source.

Operation permit to be renewed:

- [ D ] Air operation permit revision for a Title V source to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number:

Operation permit to be revised:

- [ E ] Air operation permit revision or administrative correction for a Title V source to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application for such emissions unit(s). Also check appropriate item under Category III.

Operation permit to be revised/corrected:

- [ F ] Air operation permit revision for a Title V source 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 to be revised:

Reason for Revision:



**Category II: All Air Operation Permit Applications Subject to Processing Under Rule 17-210.300(2)(b), F.A.C.**

This Application for Air Permit is submitted to obtain (A,B,C):

- [ A ] Initial air operation permit under Rule 17-210.300(2)(b), F.A.C., for an existing facility seeking classification as a synthetic non-Title V source.

Current operation/construction permit number(s):

- [ B ] Renewal air operation permit under Rule 17-210.300(2)(b), F.A.C., for a synthetic non-Title V source.

Operation permit to be renewed:

- [ C ] Air operation permit revision for a synthetic non-Title V source. Give reason for revision; e.g., to address one or more newly constructed or modified emissions units addressed herein.

Operation permit to be revised:

Reason for revision:

**Category III: All Air Construction Permit Applications for All Facilities and Emissions Units**

This Application for Air Permit is submitted to obtain (A,B,C):

- [ A ] Air construction permit to construct or modify one or more emissions units within a facility (including any facility classified as a Title V source).

Current operation permit number(s), if any:

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

Current operation permit number(s):

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

**Application Processing Fee**

Check one:

[ N ] Applicable (Y/N)                      Attached - Amount: \$

**Construction/Modification Information**

1. Description of Proposed Project or Alterations : Not Applicable
2. Projected or Actual Date of Commencement of Construction (DD-MON-YYYY):
3. Projected Dates of Completion of Construction (DD-MON-YYYY):

**Professional Engineer Certification**

1. Professional Engineer Name: Kennard F. Kosky Registration Number: 14996
2. Professional Engineer Mailing Address:  Organization/Firm: KBN Engineering & App. Sciences Street Address: 6241 N.W. 23rd Street City: Gainesville                                      State: FL Zip Code: 32653-1500
3. Professional Engineer Telephone Numbers: Telephone: 3523365600                                      Fax: 3523366603

# MARTIN PLANT

## 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 a emission 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 emission 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

6/8/94

(seal)

\* Attach any exception to certification statement.

**Application Contact Information**

1. Name and Title of Application Contact: Name: Richard G. Piper Title: Environmental Specialist
2. Application Contact Mailing Address:  Organization/Firm: Florida Power & Light Company Street Address: P.O. Box 088801 City: North Palm Beach                      State: FL                      Zip Code: 33408
3. Application Contact Telephone Numbers: Telephone: 5616257661                      Fax: 5616257251

**Application Comment**

This application is for the Martin Power Plant which consists of two oil and natural gas fired Combined-Cycle Units (Units 3 and 4), each with a maximum heat input of 1966 mmBtu/hour (at 40 degrees F) and a net capability of 385 megawatts, and two oil and natural gas fired conventional steam electric generating stations (Units 1 and 2), each with a maximum heat input of 9040 mmBtu/hour and a net capability of 859 megawatts (approximately 890 MW at peak/over-pressure conditions).

Each Combined Cycle Unit consists of two combustion turbines which each exhaust through a separate Heat Recovery Steam Generator (HRSG). Each conventional steam unit consists of a boiler/steam generator which drives a single-reheat turbine generator.

The current PSD permit and Site Certification for the facility address coal-gasification and combined-cycle combustion turbine units 5 and 6. Preliminary permitting was undertaken for these units at the time the existing units 3 and 4 were permitted. However it should be noted that neither units 5 and 6 nor the coal-gasification plant exist at the Martin facility. Additional permitting will be undertaken by FPL at such time as these additional units are required.

Attachment PMRAI-1.xls presents the structure of this Title V application. The application structure, including a breakdown of all the emission units, is shown on the attached figures.

**ATTACHMENT PMRAI-1  
APPLICATION STRUCTURE  
Sheet 1 of 2**

**FACILITY: Florida Power & Light Company Martin Plant**

INFORMATION SUPPLIED	Emission Units	
	4-Combustion Turbines (CT)	2-Boilers
GENERAL	4 Emission Units Consisting of Combustion Turbine Exhausting Through HRSG; Each Unit Regulated Separately	2 Emission Units Consisting of a Boiler/Steam Gen; Each Unit Regulated Separately
EMISSION POINTS	1 Stack per Emission Unit	1 Stack per Emission Unit
SEGMENTS	Natural Gas (Primary Fuel) and Distillate Oil (Back-up)	Natural Gas Residual Oil Used Oil Co-firing oil & gas
POLLUTANTS	Particulate matter PM-10 sulfur dioxide nitrogen oxides VOC's carbon monoxide lead - total sulfuric acid mist beryllium compounds fluorides - total mercury compounds nickel compounds formaldehyde manganese	Particulate matter PM-10 sulfur dioxide nitrogen oxides VOC's lead - total carbon monoxide nickel compounds cobalt compounds formaldehyde hydrogen chloride hydrogen fluoride antimony
VISIBLE EMISSION	VE Limits Applicable	VE Limits Applicable
CONTINUOUS MONITOR	NOx	CO2 SO2 NOx VE

**ATTACHMENT PMRAI-1  
APPLICATION STRUCTURE  
Sheet 2 of 2**

**FACILITY: Florida Power & Light Company Martin Plant**

<b>INFORMATION SUPPLIED</b>	<b>Emission Units</b>			
	<b>Auxiliary Boiler (AB)</b>	<b>2 Emergency Diesel Generators</b>	<b>2 Paint Spray Booths</b>	<b>Facility-Wide Fugitives</b>
<b>GENERAL</b>	1 Emission Unit Consisting of a Boiler Unit Regulated Separately	2 Emission Units each Consisting of a Diesel Engine & Generator Unit	2 Emission Units each Consisting of a booth with spray equipment and particulate filters	1 Emission Unit Consisting of Facility-Wide Fugitives..
<b>EMISSION POINTS</b>	1 Stack per Emission Unit	1 Stack per Emission Unit	1 Stack per Emission Unit	No true stack
<b>SEGMENTS</b>	Natural Gas	Diesel Fuel	Paints, solvents	None
<b>POLLUTANTS</b>	NOx, SO2	NOx, PM, CO, SO2	VOC	VOC, PM
<b>VISIBLE EMISSION</b>	Annual method 9 if operated > 400 hours/year	Annual method 9 if operated > 400 hours/year	None requested	None requested
<b>CONTINUOUS MONITOR</b>	Not Required	Not Required	Not Required	Not Required
<b>PSD</b>	Not Applicable	Not Applicable	Not Applicable	Not Applicable



**Facility Regulatory Classifications**

1. Small Business Stationary Source? (Yes/No/Unknown)(Y/N/U) : N
2. Title V Source? (Yes/No) (Y/N) : Y
3. Synthetic Non-Title V Source? (Yes/No) (Y/N) : N
4. Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)? (Yes/No) (Y/N) : Y
5. Synthetic Minor Source of Pollutants Other than HAPs? (Yes/No) (Y/N) : N
6. Major Source of HAPs? (Yes/No/Possible) (Y/N/P) : Y
7. Synthetic Minor Source of HAPs? (Yes/No) (Y/N) : N
8. One or More Emissions Units Subject to NSPS? (Yes/No) (Y/N) : Y
9. One or More Emissions Units Subject to NESHAP? (Yes/No) (Y/N) : Y
10. Title V Source by EPA Designation? (Yes/No) (Y/N) : N
11. Facility Regulatory Classifications Comment (limit to 200 characters): Units 1 and 2 are subject to 40 CFR 60 Subpart D. Units 3 and 4 are subject to 40 CFR 60 Subpart GG, the aux. boiler is subject to 40 CFR 60 Subpart Dc.



## B. FACILITY REGULATIONS

**Rule Applicability Discussion** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

Information for Facility-Id : 1

<p>40 CFR 61.05  40 CFR 61.12(b)  40 CFR 61.145  40 CFR 61.148  40 CFR 61.150  40 CFR 61.19  40 CFR 82.166(k)  40 CFR 82.166(m)  DNRP 27-173(h)  F.A.C. 62-204.800(8)(b)8.  (state only)  F.A.C. 62-204.800(8)(d)  (state only)  F.A.C. 62-210.300(2)  (except (b))  F.A.C. 62-210.300(3)(a)10.  F.A.C. 62-210.300(3)(a)11.  F.A.C. 62-210.300(3)(a)12.  F.A.C. 62-210.300(3)(a)15.  F.A.C. 62-210.300(3)(a)16.  F.A.C. 62-210.300(3)(a)17.</p>	<p>F.A.C. 62-210.300(3)(a)20.  F.A.C. 62-210.300(3)(a)21.  F.A.C. 62-210.300(3)(a)22.  F.A.C. 62-210.300(3)(a)23.  F.A.C. 62-210.300(3)(a)24.  F.A.C. 62-210.300(3)(a)4.  F.A.C. 62-210.300(3)(a)5.  F.A.C. 62-210.300(3)(a)7.  F.A.C. 62-210.300(3)(a)8.  F.A.C. 62-210.300(3)(a)9.  F.A.C. 62-210.300(3)(b)  F.A.C. 62-210.370(3)  F.A.C. 62-210.900(5)  F.A.C. 62-213.205(1)(a)  F.A.C. 62-213.205(1)(b)  F.A.C. 62-213.205(1)(c)  F.A.C. 62-213.205(1)(e)  F.A.C. 62-213.205(1)(f)</p>	<p>F.A.C. 62-213.205(1)(g)  F.A.C. 62-213.205(1)(i)  F.A.C. 62-213.205(1)(j)  F.A.C. 62-213.205(4)  F.A.C. 62-213.205(5)  F.A.C. 62-213.400  F.A.C. 62-213.410  F.A.C. 62-213.420(1)(b)2.  F.A.C. 62-213.420(1)(b)3.  F.A.C. 62-213.430(3)  F.A.C. 62-213.460  F.A.C. 62-256.300(1)  F.A.C. 62-256.300(2)  F.A.C. 62-256.300(3)  F.A.C. 62-256.300(4)  F.A.C. 62-256.300(7)  F.A.C. 62-256.300(8)  F.A.C. 62-256.300(9)</p>	<p>F.A.C. 62-256.500  F.A.C. 62-256.600  F.A.C. 62-256.700  F.A.C. 62-257.300  F.A.C. 62-257.301  F.A.C. 62-257.350  F.A.C. 62-257.400  F.A.C. 62-257.401  F.A.C. 62-257.900  F.A.C. 62-296.320(2)  (state only)  F.A.C. 62-296.320(3)(b)  (state only)  F.A.C. 62-296.320(4)(b)  F.A.C. 62-296.320(4)(c)  F.A.C. 62-297.310(7)(a)10.  F.A.C. 62-4.030  F.A.C. 62-4.040(1)(a)  F.A.C. 62-4.040(1)(b)  F.A.C. 62-4.100  F.A.C. 62-4.130</p>
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### C. FACILITY POLLUTANTS

**Facility Pollutant Information :**

1. Pollutant Emitted:	2. Pollutant Classification
SO2	A
NOx	A
PM	A
PM10	A
VOC	A
CO	A
SAM	A
H133	A
H106	A
H107	A
PB	B
H114	B
FL	B
H021	B
HAP	A

## E. FACILITY SUPPLEMENTAL INFORMATION

### Supplemental Requirements for All Applications For Facility :/

1. Area Map Showing Facility Location: PMRFS_1.bmp (Enter the Attached Document ID, NA - Not Applicable or WaiverRequested)
2. Facility Plot Plan: PMRFS_2.bmp (Enter the Attached Document ID, NA - Not Applicable or WaiverRequested)
3. Process Flow Diagram(s): PMRFS_3.bmp (Enter the Attached Document ID, NA - Not Applicable or WaiverRequested)
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: PMRFS_4.doc (Enter the Attached Document ID, NA - Not Applicable or WaiverRequested)
5. Fugitive Emissions Identification : PMRFS_5.doc (Enter the Attached Document ID, NA - Not Applicable or WaiverRequested)
6. Supplemental Information for Construction Permit Application: Not Applicable (Enter the Attached Document ID, NA - Not Applicable)

### Additional Supplemental Requirements for Category I Applications Only

7. List of Proposed Exempt Activities: PMRFS_7.doc (Enter the Attached Document ID, NA - Not Applicable)
8. List of Equipment/Activities Regulated under Title VI: PMRFS_8.doc (Enter the Attached Document ID, Equipment/Activities Onsite but not Required to be Individually Listed, NA - Not Applicable)
9. Alternative Methods of Operation: PMRFS_9.doc (Enter the Attached Document ID, NA - Not Applicable)
10. Alternative Modes of Operation (Emissions Trading): Not Applicable (Enter the Attached Document ID, NA - Not Applicable)
11. Identification of Additional Applicable Requirements: PMRFS_11.doc (Enter the Attached Document ID, NA - Not Applicable)
12. Compliance Assurance Monitoring Plan: Not Applicable (Enter the Attached Document ID, NA - Not Applicable)

13. Risk Management Plan Verification: Not Applicable

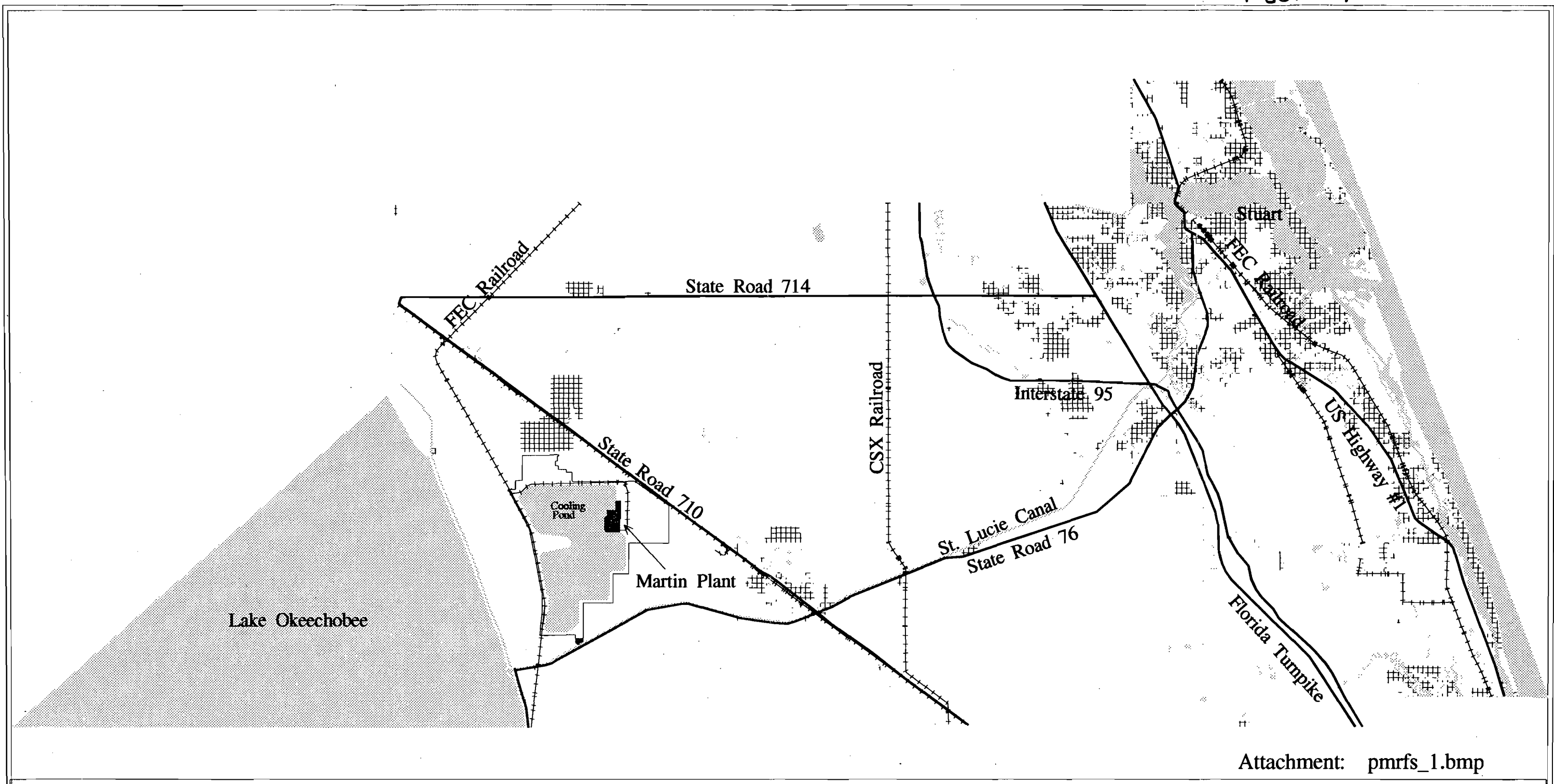
Plan Submitted to Implementing Agency - Verification Attached(Attached Document ID)

Plan to be Submitted to Implementing Agency by Required Date

Not Applicable (NA)

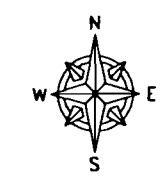
14. Compliance Report and Plan: PMRFS\_13.txt  
(Enter the Attached Document ID, NA - Not Applicable)

15. Compliance Statement (Hard-copy Required): PMRFS\_14.doc  
(Enter the Attached Document ID, NA - Not Applicable)



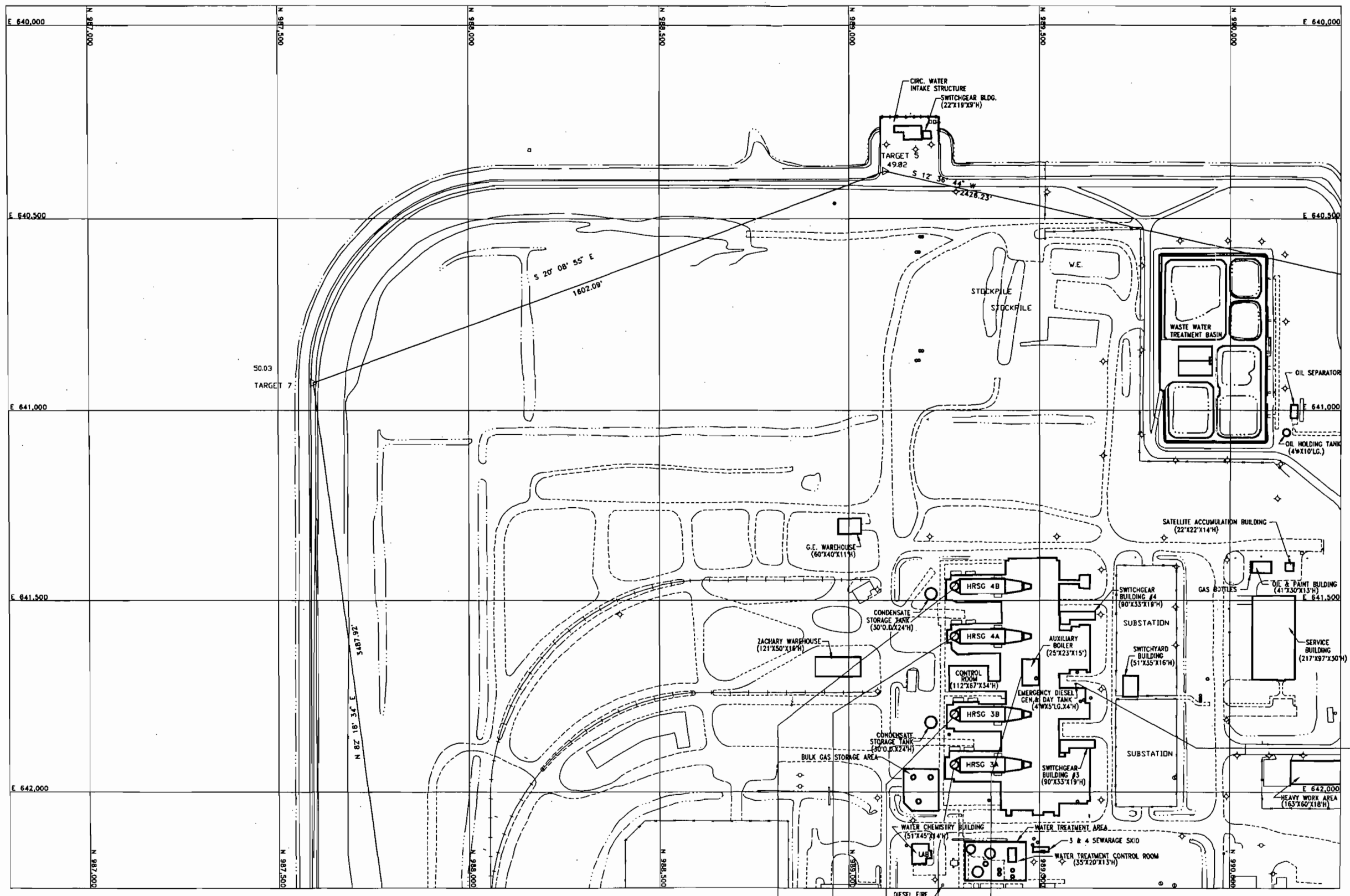
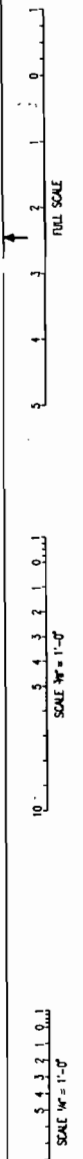
# Martin Plant Area Map

Martin County



- Water
- Electrical Power Facility
- Residential Area
- Major Roads
- Railroads

TECHNICAL ACCEPTANCE	
DATE	BY
AS-BUILT INFORMATION	
DATE	BY
MATERIAL INFORMATION	
DATE	BY



MATCH LINE SEE SHT 3

MATCH LINE SEE SHT 2

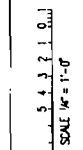
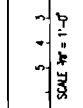
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SYSTEM YY	DISCIPLINE M	PLANT/UNIT	MARTIN PLANT
SCALE N/A	GRID FILE NAME MR001587	FILE	FACILITY PLOT PLAN ATTACHMENT FS-2
DRAWING SIZE E(30" X 42")	FILE ARCHIVE NAME MR001567	PROJECT NUMBER	PMR1-SK-M-001/COM-J-013-94
DATE 7/14/95	ISSUED FOR TITLE & PERMIT	SHEET	1 OF 4
REV. DATE	REVISION DESCRIPTION	REV.	0

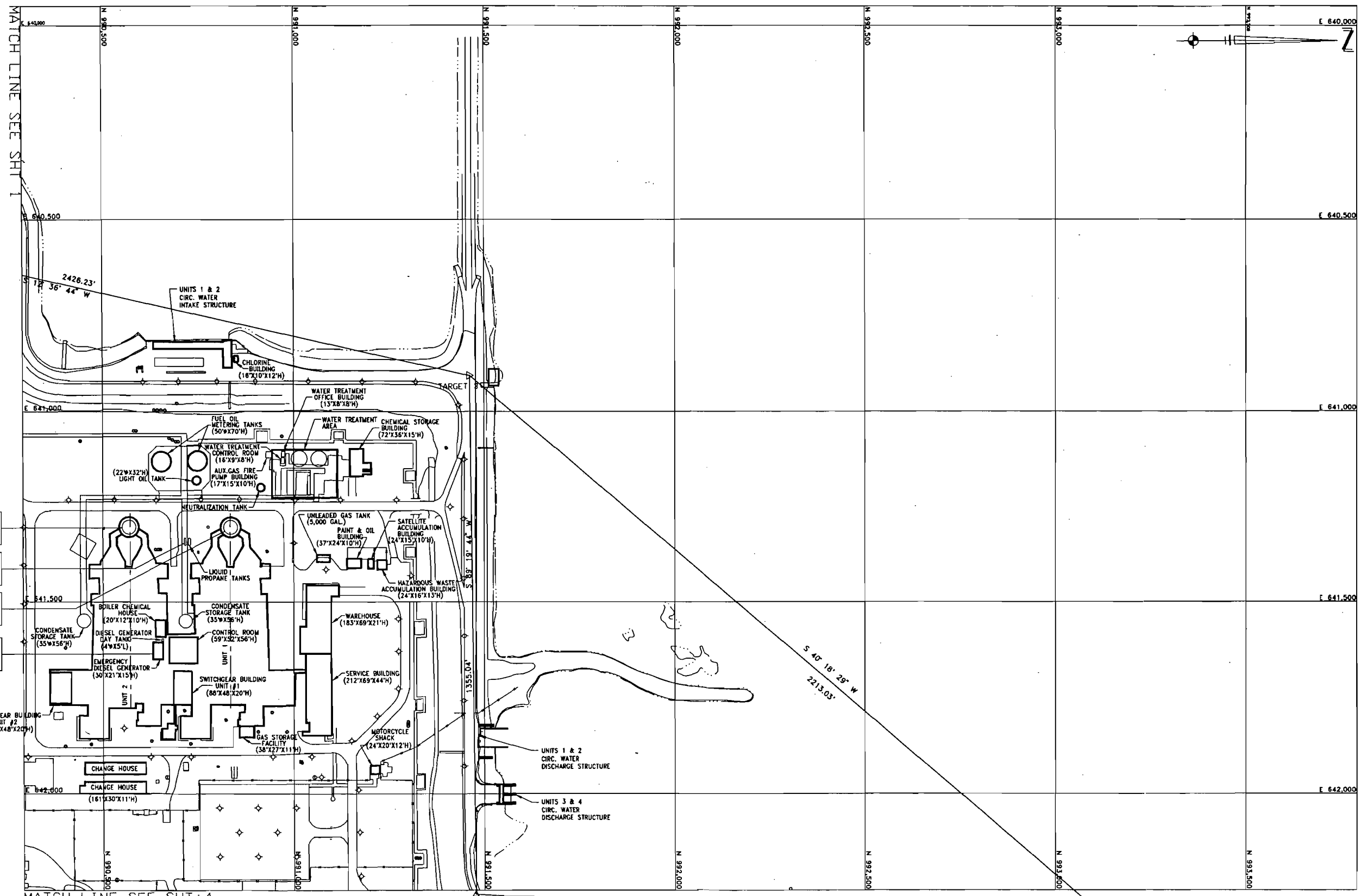
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BY: CH, CDR, APR, ORC

TECHNICAL ACCEPTANCE	
DATE	BY
AS-BUILT INFORMATION	
DATE	BY



MATCH LINE SEE SHT 1

MATCH LINE SEE SHT 4



REV	DATE	ISSUED FOR TITLE Y PERMIT	REVISION DESCRIPTION
0	7/14/95	ISSUED FOR TITLE Y PERMIT	

PL	PMR	CS2	CS3	ETS
BY	CH	CON	APR	DRG



SYSTEM	YY	DISCIPLINE	M	PLANT/UNIT	MARTIN PLANT
SCALE	N/A	GRID FILE NAME	MR001568	TITLE	FACILITY PLOT PLAN ATTACHMENT FS-2
DRAWING SIZE	E(30" X 42")	FILE ARCHIVE NAME	MR001568		
DRAWING NUMBER	PMR1-SK-001/COM-J-013-94			SHEET	2
				REV	0

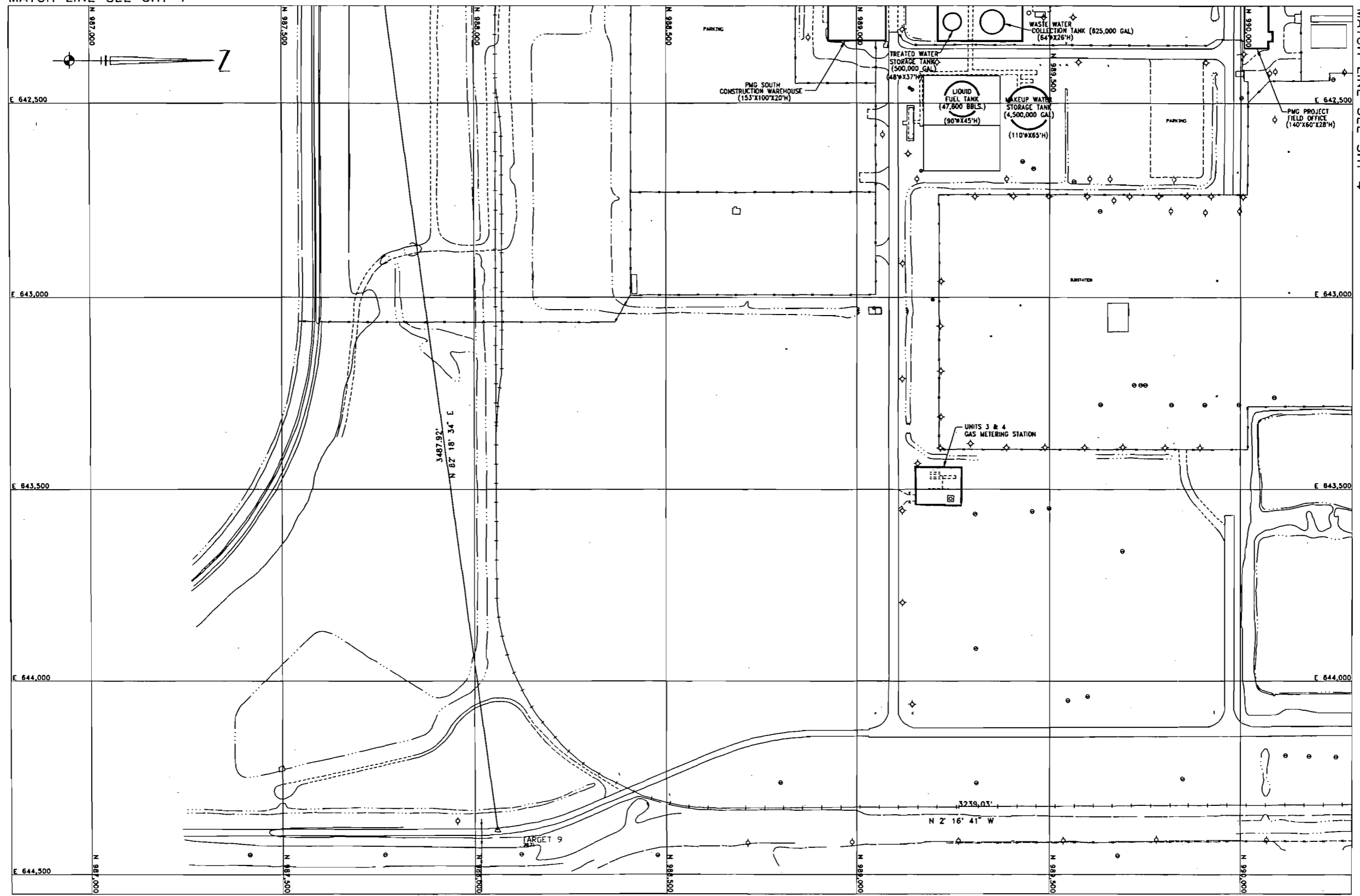
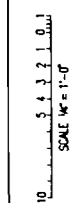
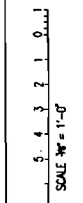
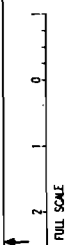
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DRG	DRG



MATCH LINE SEE SHT 1

MATCH LINE SEE SHT 4

WALLOUT INFORMATION		TECHNICAL ASSISTANCE	
AS-BUILT INFORMATION	DATE	ENGINEERING ORGANIZATION	DATE



REV	DATE	REVISION DESCRIPTION

	SYSTEM	YY	DISCIPLINE	M	PLANT/UNIT	MARTIN PLANT
	SCALE	N/A	CD FILE NAME	MRO01569	TITLE	FACILITY PLOT PLAN
	DRAWING SIZE	E(30" X 42")	PL ARCHIVE NAME	MRO01569		ATTACHMENT FS-2
	DRAWING NUMBER	PMR1-SK-M-001/COM-J-013-94	SHEET	3	REV	0

ISSUED FOR TITLE V PERMIT

PL: PMR/CSP/CSF/ETS  
BY: CH/CDS/APP/DRG

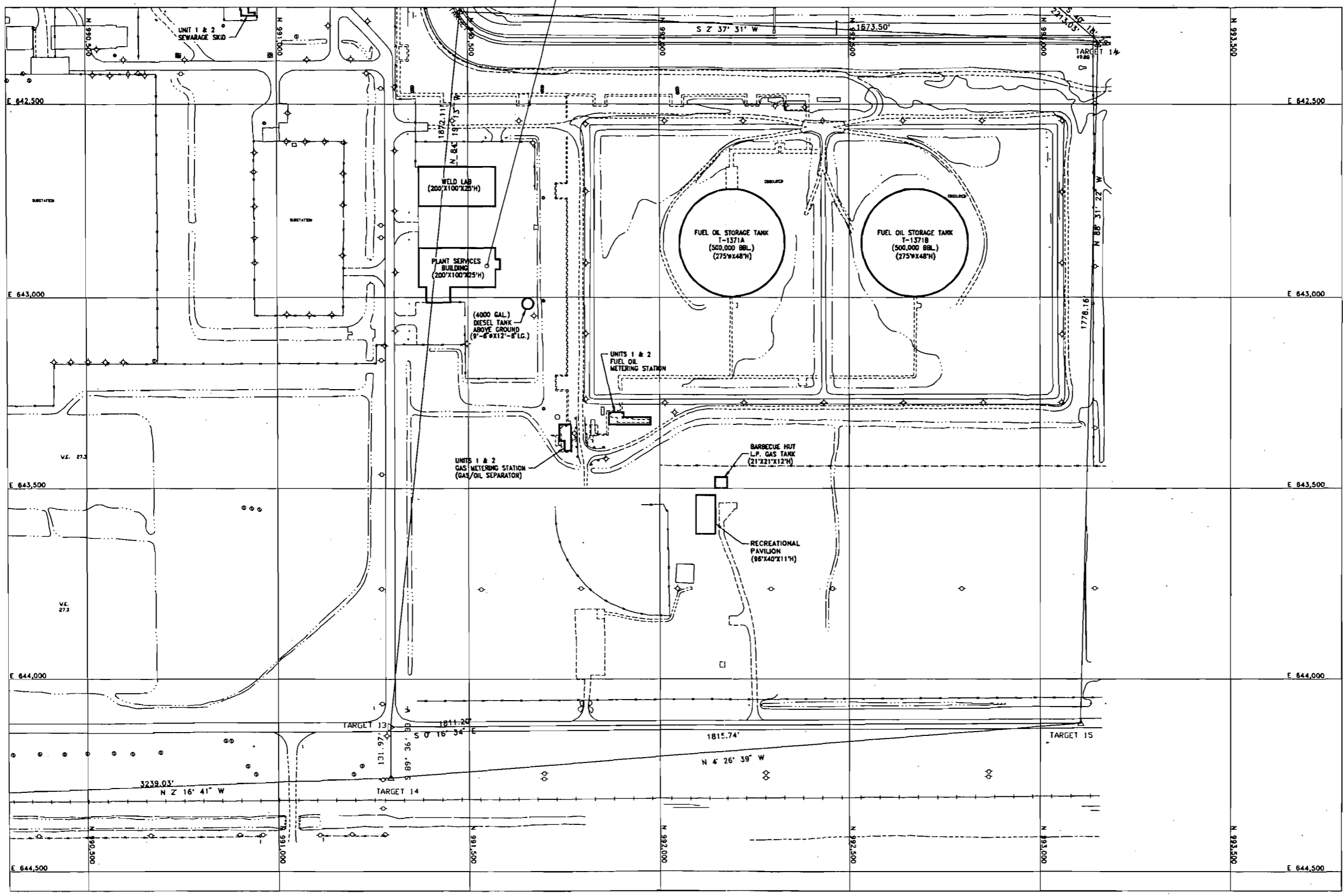
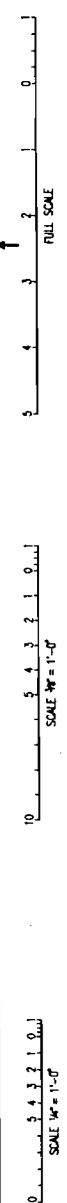
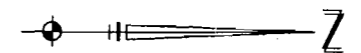
DATE CODE

PROJECT CODE

W/CDOWN INFORMATION	TECHNICAL ACCEPTANCE
AS-BUILT INFORMATION	ENGINEERING ORGANIZATION
DATE	DATE

MATCH LINE SEE SHT 2  
MATCH LINE SEE SHT 3

EUI1  
UTM COORD.  
E. 543,567  
N. 2,993,303



DATE	ISSUED FOR TITLE V PERMIT	REVISION DESCRIPTION
7/14/98		

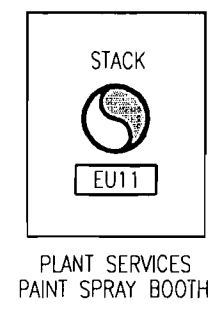
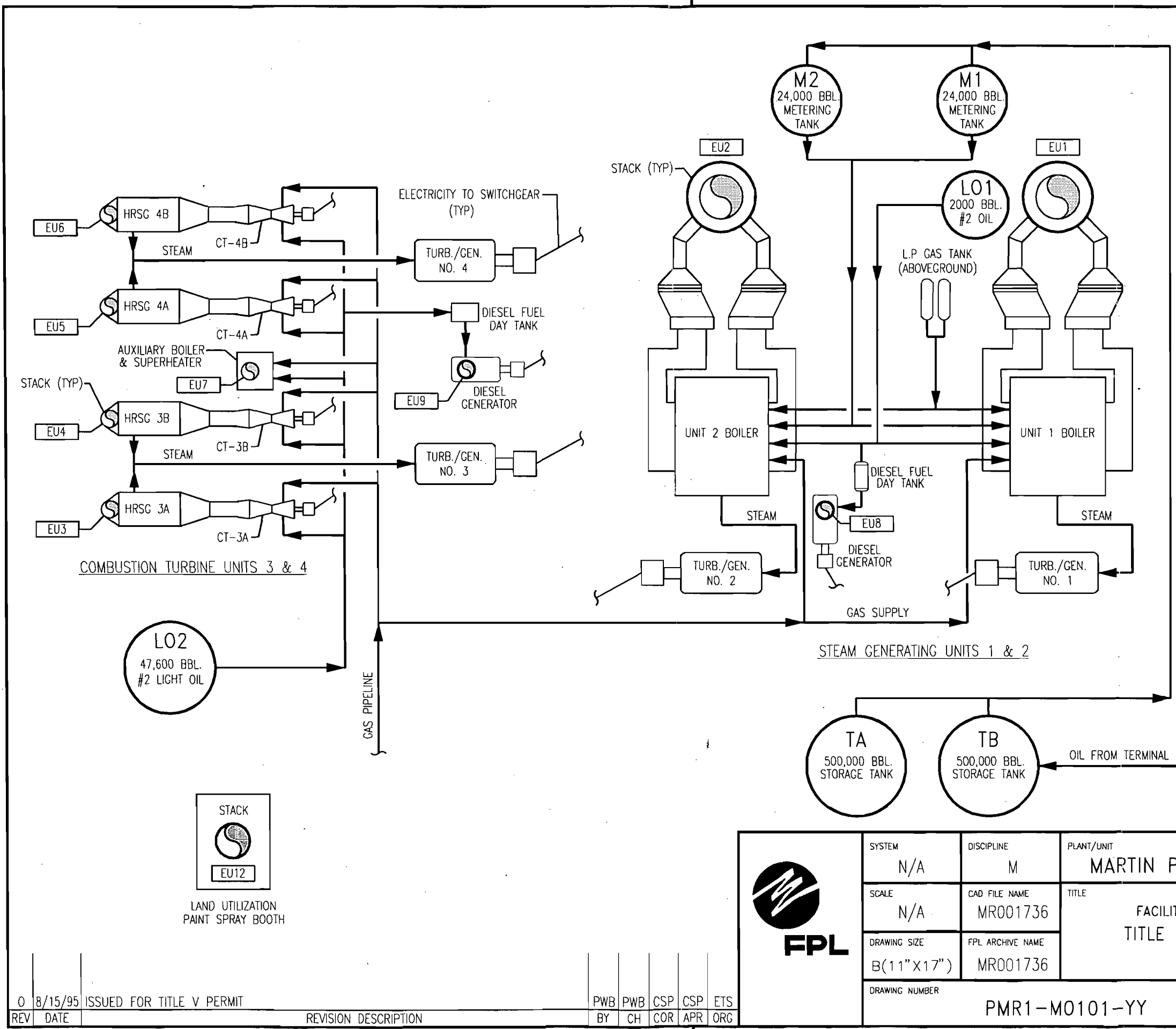
	SYSTEM	YY	DISCIPLINE	M	PLANT/UNIT	MARTIN PLANT
	SCALE	N/A	CD FILE NAME	MR001570	TITLE	FACILITY PLOT PLAN ATTACHMENT FS-2
	DRAWING SIZE	E(30" X 42")	PL PROJECT NAME	MR001570		
	DRAWING NUMBER	PMR1-SK-M-001/COM-J-013-94	SHEET	4	REV	0

DATE	ISSUED FOR TITLE V PERMIT	REVISION DESCRIPTION	DATE	ISSUED FOR TITLE V PERMIT	REVISION DESCRIPTION
7/14/98					

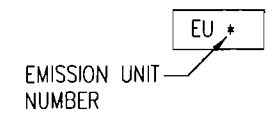
WALKDOWN INFORMATION	ORG	BY	DATE
	ENGINEERING ORGANIZATION		
AS-BUILT INFORMATION	ORG	BY	DATE

SCALE 3/8" = 1'-0"

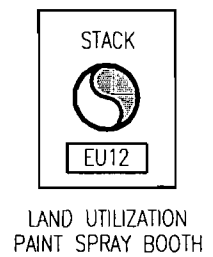
SCALE 1/4" = 1'-0"



- NOTES:
- ACRONYMS:  
 EU-EMISSION UNIT  
 FO-FUEL OIL  
 CT-COMBUSTION TURBINE  
 LP-LIQUID PROPANE  
 HRSG-HEAT RECOVERY STEAM GENERATOR  
 AB-AUXILIARY BOILER  
 DG-DIESEL GENERATOR
  - FOR BOILER POLLUTION CONTROL DEVICES, SEE EMISSION UNIT FLOW SHEETS.
  - EMISSION UNITS ARE IDENTIFIED WITH A RECTANGULAR BOX:



- TANK LEGEND:
- T - STORAGE TANK (TA&B)
  - M - METERING TANK (M1&2)
  - LO - LIGHT OIL TANK (LO1&2)



	SYSTEM	DISCIPLINE	PLANT/UNIT	BAR CODE
	N/A	M	MARTIN PLANT-UNIT 1,2,3 & 4	
	SCALE	CAD FILE NAME	TITLE	
	N/A	MR001736	FACILITY SOURCE FLOW DIAGRAM TITLE V ATTACHMENT FS-3 TITLE V	
DRAWING SIZE	FPL ARCHIVE NAME	DRAWING NUMBER		
B(11"X17")	MR001736	PMR1-M0101-YY		
SHEET			REV	
1 OF 1			0	

0	8/15/95	ISSUED FOR TITLE V PERMIT	PWB	PWB	CSP	CSP	ETS
REV	DATE	REVISION DESCRIPTION	BY	CH	COR	APR	ORG

Attachment PMRFS 4.txt

Precautions to Prevent Emissions of Unconfined Particulate Matter

The facility has negligible amounts of unconfined particulate matter as a result of the operation of the facility. Potential examples of particulate matter include:

- fugitive dust from unpaved roads
- sandblasting abrasive material from plant maintenance activities
- fugitive particulates from the use of bagged chemical products (soda ash, di-, tri- and monosodium phosphate, and other chemicals as needed)

Several precautions were taken to prevent emissions of particulate matter in the *original design* of the facility. These include:

- Paving of primary roads, primary parking areas and equipment yards
- Landscaping and planting of vegetation

*Operational measures* are undertaken at the facility which also minimize particulate emissions, in accordance with 17-296.310 F.A.C.:

- Use of hoods, fans and filters to contain and capture sand in the the sandblast facility. The facility also constructs temporary sandblasting enclosures when necessary, in order to perform sandblasting on fixed plant equipment.
- Maintenance of paved areas as needed
- Regular mowing of grass and care of vegetation
- Limiting access to plant property by unnecessary vehicles.
- Bagged chemical products are stored in concrete block buildings until they are used. Spills of powdered chemical products are cleaned up as soon as practical.

**Attachment PMRFS\_5.txt  
Fugitive Emission Identification**

***Criteria and Precursor Air Pollutants***

Fugitive particulate emissions are addressed in Attachment PMRFS\_4.doc. FPL is not aware of fugitive emissions of sulfur dioxide, nitrogen oxides, carbon monoxide or lead compounds which would exceed the reporting thresholds defined in the permit application instructions.

***Fugitive HAPs Emissions***

The fugitive HAPs emissions at the Martin facility have been calculated to be less than the relevant reporting thresholds and are therefore not included here. Many other sources are very minor and are included in Emission Unit 13, which includes all unregulated emission units.

Attachment PMRFS\_8.txt

EQUIPMENT / ACTIVITIES REGULATED UNDER TITLE VI

The Martin facility currently has over 100 refrigeration and air-conditioning units on the plant site. Of these, nine air-conditioning units currently meet the 50-pound threshold established by 40 CFR 82 for regulated Class 1 and Class 2 substances:

<u>Unit</u>	<u>Location</u>	<u>Pounds CFC</u>
Trane Model CGACC804RLNJ423DG7VFM	PMG Service Building	143
York Model YCAZ77LES/46XR	PMR Service Building	112
Trane Model SSZA3004HF54C54DFO	PMR Service Building	64
Trane Model SSZA3004HF54C54DFO	PMR Service Building	64
Trane Model SAC1504A	PMR Control Building	67.6
Trane Model SAC1504A	PMR Control Building	67.6
Trane Model SAC1504A	PMR Control Building	67.6
Trane Model SAC1504A	PMR Control Building	67.6
Trane Model SAC1504A	PMR Control Building	67.6

**Attachment PMRFS 9.txt**  
**Alternative Methods of Operation**

Conventional Fossil fuel-fired Boiler Units 1 and 2

Operation at Various Capacities

The two conventional fossil-fuel boilers at the Martin plant site may be operated up to 8760 hours per year at heat input rates from zero to 100% of maximum.

Different Fuel Types and heat input rates

The units burn low sulfur fuel oil containing a maximum of 0.7% sulfur (by weight), natural gas, or a mixture of low sulfur fuel oil containing a maximum of 1.0% sulfur by weight and natural gas in a ratio which will result in a maximum sulfur dioxide emission rate of 0.80 lbs/MMBtu heat input. The units' heat inputs are each 8,650 MMBtu/hr on oil and 9,040 MMBtu/hr on natural gas. When a blend of fuel oil and natural gas are burned, the heat input is prorated based upon the percent heat input of each fuel. The units may also burn on-specification used oil meeting EPA specifications under 40 CFR 266.40.

Sootblowing/Auxiliary Equipment

The unit may blow soot for up to 24 hours per day, so long as this does not result in excess emissions. (Excess emissions during sootblowing are not allowed for NSPS Subpart D units). Other activities such as operation of the boilers' steam coils, boiler steam lances and air preheater and dust collector wash equipment is undertaken as needed in order to maintain the boilers' cleanliness.

Utilization of Magnesium Oxide

Magnesium oxide (MgO, or "magox") is added to the boiler periodically at various loads. The MgO slurry is injected into the boiler via the I.K. sootblower lances and through manual hand lances on a batch basis, rather than continuously. The dosage rate is based on the quantity of fuel burned and the amount of ash in the fuel.

Off-Stoichiometric Combustion

This technique involves operating the burners at fuel-rich mixture ratios. The proportion of fuel burned at peak temperatures in the presence of excess air is reduced and consequently NOx emissions are lowered. At Martin, the method for performing off-stoichiometric combustion is to terminate the fuel flow to selected burners and utilize these burners as air ports. The other burners are then operated at a fuel-rich mixture ratio. This is also known as a bias-firing scheme.

Flame Temperature Reduction

This approach utilizes two gas injection fans to recirculate the flue gases and mix these gases with the combustion air. The recirculated gases act as an inert, absorbing a part of the energy released in combustion and reducing the peak temperatures achieved. Controlling and generally reducing the high temperature conditions that would otherwise occur, significantly reduces the formation of nitrogen oxide.

Attachment PMRFS 9.txt  
Alternative Methods of Operation

Combined-Cycle Units 3 and 4

Operation at Various Capacities

The two combined-cycle units at the Martin power plant site may be operated up to 8760 hours per year at heat input rates from zero to 100% of maximum.

Different Fuel Types and heat input rates

The units currently burn primarily natural gas, with light distillate oil as a backup fuel. At a later date, coal-gasification equipment may be added at the plant site. Per the existing PSD permit (PSD-FL-146) the maximum heat input to each CT shall neither exceed 1966 MMBtu/hr (@ 40 deg. F) while firing natural gas, nor 1846 MMBtu/hr while firing light distillate oil (@ 40 deg. F). Operation on distillate oil is currently limited to 2,000 hours per year. For coal-derived gas firing the maximum heat input to each CT shall not exceed 2100 MMBtu/hr (@ 75 deg. F). Note that the heat input rate varies with ambient temperature.

Power Augmentation

At higher ambient temperatures (> 40 deg. F) the combined-cycle combustion turbines may be operated in power augmentation mode; that is, while steam or water is injected into the combustion area of the turbine. Current emissions limitations and heat input limits will not be exceeded while operating in either mode of operation. This mode of operation will increase megawatt output to low ambient conditions. The power augmentation mode from a combustion viewpoint is no different from standard operation. All emission limits are based on with and without power augmentation.



**Attachment FS\_13.txt  
Martin Plant  
Compliance Report and Plan**

The facility and emissions units identified in this application are in compliance with the Applicable Requirements identified in Sections II.B. and III.D. of the application form and attachments referenced in Section III.L. 12 (if included). Compliance is certified as of the date this application is submitted to the Florida Department of Environmental Regulation as required in Rule 62-213.420(1)(a) F.A.C.

Attachment PMRFS\_14.txt

Compliance Statement

I, the undersigned, am the responsible official as defined in Chapter 62-213, F.A.C., of the Title V source for which this report is being submitted. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made and data contained in this report are true, accurate, and complete.

J. A. Keene  
Signature, Responsible Official

5-23-96  
Date

Proposed Schedule for submittal of periodic compliance statements to the Department:

FPL will submit an annual compliance statement to the Department's Southeast District Office concurrently with the submittal of the Annual Operating Report for this facility.

Unit 1 Boiler

**III. EMISSIONS UNIT INFORMATION**

Information for Facility - ID : 1 Emission Unit # : 1

1

A separate Emissions Unit Information Section (including subsections A through L 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. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

**A. TYPE OF EMISSIONS UNIT  
(Regulated and Unregulated Emissions Units)**

**Type of Emissions Unit Addressed in This Section**

1. Regulated or Unregulated Emissions Units? 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 a unregulated emissions unit.

2. Single Process, Group Processes, or Fugitive Only?

Enter The Number (1-3): 1

- [ 1 ] 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).
- [ 2 ] 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.
- [ 3 ] 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.

**B. GENERAL EMISSIONS UNIT INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): Unit 1 is equipped with low NOx burners & multicyclones.
2. Emissions Unit Identification Number: 001 (No Corresponding ID or Unknown)
3. Emission Unit Status Code: (A or C): A
4. Acid Rain Unit? (Y/N): Y
5. Emissions Unit Major Group SIC Code: 49
6. Emissions Unit Comment (limit to 500 characters): The generator nameplate rating given is taken from data provided to the Florida Public Service Commission (PSC) in the 10-Year Site Plan. Actual generator output may exceed the value given, due to changes in unit efficiency, or with fluctuations in system load demand. The initial startup date given is the date commercial operation commenced.

**Emissions Unit Control Equipment**

**A. Control Equipment # : 1**

1. Description (limit to 200 characters): Multiple cyclone with flyash reinjection
2. Control Device or Method Code: Multiple Cyclone w/Fly Ash Reinjection

**B. Control Equipment # : 2**

1. Description (limit to 200 characters):  
Flue Gas Recirculation

2. Control Device or Method Code: Flue Gas Recirculation

**C. Control Equipment # : 3**

1. Description (limit to 200 characters):  
Low Nox Burners

2. Control Device or Method Code: Staged Combustion

**C. EMISSIONS UNIT DETAIL INFORMATION  
(Regulated Emissions Units)**

**Emissions Unit Details**

1. Initial Startup Date (DD-MON-YYYY): 12/22/80
2. Long-term Reserve Shutdown Date (DD-MON-YYYY):
3. Package Unit: Manufacturer: Not Applicable <span style="float: right;">Model Number: Not Applicable</span>
4. Generator Nameplate Rating: 863 MW
5. Incinerator Information: <div style="text-align: right; margin-left: 100px;">Dwell Temperature: °F</div> <div style="text-align: right; margin-left: 100px;">Dwell Time: seconds</div> <div style="text-align: right; margin-left: 100px;">Incinerator Afterburner Temperature: °F</div>

**Emissions Unit Operating Capacity**

1. Maximum Heat Input Rate: 9040 mmBtu/hr
2. Maximum Incineration Rate: lbs/hr <div style="text-align: center;">tons/day</div>
3. Maximum Process or Throughput Rate: Units:
4. Maximum Production Rate: Units:
5. Operating Capacity Comment (limit to 200 characters): The heat input rate given is the current maximum for natural gas. The method of compliance for heat input is fuel sampling and analysis.

**Emissions Unit Operating Schedule**

Requested Maximum Operating Schedule:	
hours/day	days/week
weeks/yr	8760 hours/yr

**D. EMISSIONS UNIT REGULATIONS  
(Regulated Emissions Units Only)**

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

Emissions Unit ID 1

<p>40 CFR 60.42 (a)(1)                  40 CFR 60.42 (a)(2)                  40 CFR 60.43 (a)(1)                  40 CFR 60.43 (b)                  40 CFR 60.43 (c)                  40 CFR 60.44(a)(1)                  40 CFR 60.44(a)(2)                  40 CFR 60.44(b)                  40 CFR 60.45(a)                  40 CFR 60.45(b)(1)                  40 CFR 60.45(b)(2)                  40 CFR 60.45(b)(3)                  40 CFR 60.45(b)(4)                  40 CFR 60.45(c)                  40 CFR 60.45(e)                  40 CFR 60.45(g)(1)                  40 CFR 60.45(g)(2)                  40 CFR 60.45(g)(3)                  40 CFR 60.46(a)                  40 CFR 60.46(b)                  40 CFR 60.46(c)                  40 CFR 60.46(d)(1)                  40 CFR 60.46(d)(2)                  40 CFR 60.46(d)(3)                  40 CFR 60.46(d)(4)                  40 CFR 60.46(d)(5)                  40 C.F.R. 279.72                  40 C.F.R. 60.11(a)                  40 C.F.R. 60.11(b)                  40 C.F.R. 60.11(c)                  40 C.F.R. 60.11(d)                  40 C.F.R. 60.11(e)(2)                  40 C.F.R. 60.12                  40 C.F.R. 60.13(a)                  40 C.F.R. 60.13(d)(1)                  40 C.F.R. 60.13(e)                  40 C.F.R. 60.13(h)                  40 C.F.R. 60.7(b)                  40 C.F.R. 60.7(f)                  40 C.F.R. 60.8(c)                  40 C.F.R. 60.8(e)                  40 C.F.R. 72.20(a)                  40 C.F.R. 72.20(b)                  40 C.F.R. 72.20(c)                  40 C.F.R. 72.21(a)                  40 C.F.R. 72.21(b)                  40 C.F.R. 72.21(d)                  40 C.F.R. 72.22(a)                  40 C.F.R. 72.22(c)                  40 C.F.R. 72.23                  40 C.F.R. 72.24(a)                  40 C.F.R. 72.30(a)                  40 C.F.R. 72.30(b)(2)</p>	<p>40 C.F.R. 72.30(c)                  40 C.F.R. 72.30(d)                  40 C.F.R. 72.32                  40 C.F.R. 72.33(b)                  40 C.F.R. 72.33(c)                  40 C.F.R. 72.33(d)                  40 C.F.R. 72.40(a)                  40 C.F.R. 72.40(b)                  40 C.F.R. 72.40(c)                  40 C.F.R. 72.40(d)                  40 C.F.R. 72.51                  40 C.F.R. 72.90                  40 C.F.R. 72.9(a)(1)(iii)                  40 C.F.R. 72.9(a)(1)(i)                  40 C.F.R. 72.9(a)(2)                  40 C.F.R. 72.9(b)                  40 C.F.R. 72.9(c)(1)(iii)                  40 C.F.R. 72.9(c)(2)                  40 C.F.R. 72.9(c)(4)                  40 C.F.R. 72.9(c)(5)                  40 C.F.R. 72.9(d)                  40 C.F.R. 72.9(e)                  40 C.F.R. 72.9(f)                  40 C.F.R. 72.9(g)(4)                  40 C.F.R. 73.33                  40 C.F.R. 73.35                  40 C.F.R. 75 Appendix A-1                  40 C.F.R. 75 Appendix A-2                  40 C.F.R. 75 Appendix A-3                  40 C.F.R. 75 Appendix A-4                  40 C.F.R. 75 Appendix A-5                  40 C.F.R. 75 Appendix A-6                  40 C.F.R. 75 Appendix B                  40 C.F.R. 75 Appendix C-1                  40 C.F.R. 75 Appendix C-2                  40 C.F.R. 75 Appendix D                  40 C.F.R. 75 Appendix F                  40 C.F.R. 75 Appendix G-2                  40 C.F.R. 75 Appendix G-4                  40 C.F.R. 75 Appendix H                  40 C.F.R. 75.10(a)(1)                  40 C.F.R. 75.10(a)(2)                  40 C.F.R. 75.10(a)(3)(i)                  40 C.F.R. 75.10(a)(4)                  40 C.F.R. 75.10(b)                  40 C.F.R. 75.10(c)                  40 C.F.R. 75.10(d)                  40 C.F.R. 75.10(f)                  40 C.F.R. 75.10(g)                  40 C.F.R. 75.11(b)(1)                  40 C.F.R. 75.11(c)(3)                  40 C.F.R. 75.11(d)                  40 C.F.R. 75.12(a)</p>	<p>40 C.F.R. 75.12(b)                  40 C.F.R. 75.13(a)                  40 C.F.R. 75.13(b)                  40 C.F.R. 75.14(a)                  40 C.F.R. 75.20(a)(5)                  40 C.F.R. 75.20(b)                  40 C.F.R. 75.20(c)                  40 C.F.R. 75.20(d)                  40 C.F.R. 75.20(f)                  40 C.F.R. 75.20(g)                  40 C.F.R. 75.21(a)                  40 C.F.R. 75.21(b)                  40 C.F.R. 75.21(c)                  40 C.F.R. 75.21(d)                  40 C.F.R. 75.21(e)                  40 C.F.R. 75.21(f)                  40 C.F.R. 75.22                  40 C.F.R. 75.24                  40 C.F.R. 75.30(a)(1)                  40 C.F.R. 75.30(a)(2)                  40 C.F.R. 75.30(a)(3)                  40 C.F.R. 75.31                  40 C.F.R. 75.32                  40 C.F.R. 75.33                  40 C.F.R. 75.35                  40 C.F.R. 75.36                  40 C.F.R. 75.4(a)(4)(ii)                  40 C.F.R. 75.5                  40 C.F.R. 75.51(c)                  40 C.F.R. 75.53(a)                  40 C.F.R. 75.53(b)                  40 C.F.R. 75.53(c)                  40 C.F.R. 75.53(d)(1)                  40 C.F.R. 75.54                  40 C.F.R. 75.55(c)                  40 C.F.R. 75.55(e)                  40 C.F.R. 75.56                  40 C.F.R. 75.60(a)                  40 C.F.R. 75.60(b)                  40 C.F.R. 75.60(c)(3)                  40 C.F.R. 75.61(a)(1)                  40 C.F.R. 75.61(a)(5)                  40 C.F.R. 75.61(b)                  40 C.F.R. 75.62                  40 C.F.R. 75.63                  40 C.F.R. 75.64(a)                  40 C.F.R. 75.64(b)                  40 C.F.R. 75.64(c)                  40 C.F.R. 75.64(d)                  40 C.F.R. 75.65                  40 C.F.R. 75.66(a)                  40 C.F.R. 75.66(b)                  40 C.F.R. 75.66(c)</p>	<p>40 C.F.R. 75.66(d)                  40 C.F.R. 75.66(g)                  40 C.F.R. 75.66(h)                  40 C.F.R. 76.13                  40 C.F.R. 77.3                  40 C.F.R. 77.5(b)                  40 C.F.R. 77.6                  F.A.C. 62-204.800(12)                  (state only)                  F.A.C. 62-204.800(13)                  (state only)                  F.A.C. 62-204.800(14)                  (state only)                  F.A.C. 62-204.800(7)(b)1.                  (state only)                  F.A.C. 62-204.800(7)(d)                  (state only)                  F.A.C. 62-210.650                  F.A.C. 62-210.700 (1)                  F.A.C. 62-210.700 (2)                  F.A.C. 62-210.700 (4)                  F.A.C. 62-210.700 (6)                  F.A.C. 62-214.300                  F.A.C. 62-214.330                  F.A.C. 62-214.350 (2)                  F.A.C. 62-214.350 (3)                  F.A.C. 62-214.350 (5)                  F.A.C. 62-214.350 (6)                  F.A.C. 62-214.370 (1)                  F.A.C. 62-214.370 (3)                  F.A.C. 62-214.370 (4)                  F.A.C. 62-214.370 (7)                  F.A.C. 62-214.430                  F.A.C. 62-297.310(1)                  F.A.C. 62-297.310(2)(b)                  F.A.C. 62-297.310(3)                  F.A.C. 62-297.310(4)(a)1.                  F.A.C. 62-297.310(4)(a)2.c.                  F.A.C. 62-297.310(4)(b)                  F.A.C. 62-297.310(4)(c)                  F.A.C. 62-297.310(4)(d)                  F.A.C. 62-297.310(4)(e)                  F.A.C. 62-297.310(5)                  F.A.C. 62-297.310(6)(a)                  F.A.C. 62-297.310(6)(c)                  F.A.C. 62-297.310(6)(d)                  F.A.C. 62-297.310(6)(e)                  F.A.C. 62-297.310(6)(f)                  F.A.C. 62-297.310(6)(g)                  F.A.C. 62-297.310(7)(a)1.                  F.A.C. 62-297.310(7)(a)2.                  F.A.C. 62-297.310(7)(a)3.                  F.A.C. 62-297.310(7)(a)4.                  F.A.C. 62-297.310(7)(a)5.                  F.A.C. 62-297.310(7)(a)9.                  F.A.C. 62-297.310(7)(c)                  F.A.C. 62-297.310(8)                  Table 62-297.310-1</p>
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**E. EMISSION POINT (STACK/VENT) INFORMATION  
(Regulated Emissions Units Only)**

**Emission Point Description and Type**

Information for Facility-ID    Emission Unit # :   

**13**

1. Identification of Point on Plot Plan or Flow Diagram: EU-1
2. Emission Point Type Code (1,2,3,4) : 1
3. Descriptions of Emissions Points Comprising this Emissions Unit (limit to 100 characters): NA
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: NA
5. Discharge Type Code (D, F, H, P, R, V, W) : v
6. Stack Height: 499 ft
7. Exit Diameter: 36 ft
8. Exit Temperature: 338 °F
9. Actual Volumetric Flow Rate: 2634519 acfm
10. Percent Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm
12. Nonstack Emission Point Height: ft
13. Emission Point UTM Coordinates: Zone: 17 East: 543.075 North: 2993.085
14. Emission Point Comment (limit to 200 characters): Data presented in fields 8 and 9 was taken from the compliance test performed on July 7, 1994

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :1 Emission Unit #: 1 Segment #: 1 4

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Unit 1 Boiler Natural gas firing
2. Source Classification Code (SCC): 1-01-006-01
3. SCC Units: Million cubic feet burned
4. Maximum Hourly Rate: 8.61
5. Maximum Annual Rate: 75424
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: 0.0031
8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 1050
10. Segment Comment (limit to 200 characters): Permit # AO-060170568 allows Unit 1 to burn fuel containing a max. of 1.0% sulfur by weight & nat. gas in a ratio that will result in a maximum SO2 emission rate of 0.80 pounds per mmBtu heat input.

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID : / Emission Unit #: / Segment #: 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Unit 1 Boiler Number 6 oil firing
2. Source Classification Code (SCC): 1-01-004-01
3. SCC Units: thousand gallons burned
4. Maximum Hourly Rate: 57.3
5. Maximum Annual Rate: 501948
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: 0.7
8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 150952
10. Segment Comment (limit to 200 characters): This emission unit may burn up to 1% sulfur oil, as long as it is blended with a sufficient quantity of natural gas such that the SO <sub>2</sub> emissions are kept below 0.8 lb/mmBtu.

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID : / Emission Unit #: / Segment #: 3

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Unit 1 Boiler burning Number 2 diesel oil
2. Source Classification Code (SCC): 1-01-005-01
3. SCC Units: Thousand gallons burned
4. Maximum Hourly Rate: 63.603
5. Maximum Annual Rate: 557162.3
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: 0.007
8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 136
10. Segment Comment (limit to 200 characters): Current permit (AO43-170568) contains an SO2 emission limit & a sulfur limit for the fuel. The unit is currently permitted to burn a variable combination of #6 oil, natural gas, or #2 oil.

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :1 Emission Unit #: 1 Segment #: 4

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Unit 1 Boiler burning propane
2. Source Classification Code (SCC): 1-01-006-01
3. SCC Units: Million cubic feet burned
4. Maximum Hourly Rate: 8.65
5. Maximum Annual Rate: 865
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur:
8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 1000
10. Segment Comment (limit to 200 characters): Unit 1 is currently permitted to burn a mixture of nat. gas, #6 oil, #2 fuel oil, propane, or on-spec. used oil from FPL operations. Propane is used primarily for lighting off the boiler for start-up.

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :1 Emission Unit #: 1 Segment #: 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Unit 1 Boiler On-specification used oil firing
2. Source Classification Code (SCC): 1-01-013-02
3. SCC Units: thousand gallons burned
4. Maximum Hourly Rate: 0.5
5. Maximum Annual Rate: 20
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: 1
8. Maximum Percent Ash:
9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters): Max. % sulfur given is for cofiring with natural gas. When firing 100% oil, a max.sulfur content of 0.7% is the current permit limit. FPL burns only on-specification used oil, per 40 CFR 279.72.

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :1 Emission Unit #: 1 Segment #: 6

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Unit 1 co-firing all possible combinations of natural gas, residual oil, on specification used oil, #2 fuel oil, and propane.
2. Source Classification Code (SCC): 1-01-006-01
3. SCC Units: million cubic feet and thousand gallons
4. Maximum Hourly Rate:
5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: 1
8. Maximum Percent Ash: 0.1
9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters): Air Operation Permit # AO-43-170568 allows Unit 1 to burn a mixture of the above fuels in a ratio that will result in a max. SO2 emission rate of 0.8 lbs/mmBtu.

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :1 Emission Unit #: 1 Segment #: 7

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Unit 1 Boiler chemical cleaning waste evaporation. This process may be undertaken while firing natural gas or residual oil.
2. Source Classification Code (SCC): 1-01-013-01
3. SCC Units: thousand gallons burned
4. Maximum Hourly Rate: 3
5. Maximum Annual Rate: 700
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur:
8. Maximum Percent Ash:
9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters): Items 6,7,8 & 9 do not apply. This activity to be undertaken on a periodic basis pursuant to DARM guidance, and EPA waste rules (40 CFR 279.72). May include evap. of waste from Units 3 & 4 HRSGs.



**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: / Emission Unit #: / Pollutant #: /

1

**Pollutant Detail Information**

1. Pollutant Emitted:	Particulate Matter - Total	
2. Total Percent Efficiency of Control:	70	%
3. Potential Emissions:	865 lbs/hr	3788.7 tons/yr
4. Synthetically Limited? (Yes/No):	N	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3):	to tons/yr	
6. Emission Factor:	0.1	Units lb/mmBtu
Reference:	40 CFR 60.42(a)(1)	
7. Emissions Method Code: (0, 1, 2, 3, 4, 5):	0	
	<input type="checkbox"/> 0	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
8. Calculation of Emissions (limit to 600 characters):	0.1 lb/mmBtu x 8,650 mmBtu/hr = 865 lb/hour	
	(865 lb/hour x 8,760 hours/year)/2,000 lb/ton = 3,788.7 tons per year	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		

**Information for Facility\_ID: / Emission Unit #: / Pollutant #: /  
Basis For Allowable Emission #: 1 1**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.1 Units : lb/mmBtu
4. Equivalent Allowable Emissions: 905 lbs/hr 3963.9 tons/yr
5. Method of Compliance: DEP Rule 62-296.405(1)(e)2.
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): <b>183</b> The information provided is for natural gas firing. This emissions unit is a new source subject to 40 CFR 60.42(a)(1) limits and is currently permitted under FDEP permit AO 43-170568.

**G. EMISSIONS UNIT POLLUTANTS  
(Regulated Emissions Units Only)**

Information for Facility\_ID: / Emission Unit #: /

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
SO2	NA	NA	EL
NOx	025	026	EL
CO	NA	NA	NS
PM	077	NA	EL
PM10	NA	NA	NS
VOC	NA	NA	NS
H133	NA	NA	NS
H106	NA	NA	NS
H107	NA	NA	NS
SAM	NA	NA	NS
HAP	NA	NA	NS

**Information for Facility\_ID: / Emission Unit #: / Pollutant #: /  
Basis For Allowable Emission #: 2 2**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.1 Units : lb/mmBtu
4. Equivalent Allowable Emissions: 865 lbs/hr 3788.7 tons/yr
5. Method of Compliance: DEP Rule 62-296.405(1)(e)2.
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 47 Information provided is for #6 oil firing only.

**Information for Facility\_ID: / Emission Unit #: / Pollutant #: /  
Basis For Allowable Emission #: 3 80**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.1 Units : lb/mmBtu
4. Equivalent Allowable Emissions: 905 lbs/hr 3963.9 tons/yr
5. Method of Compliance: DEP Rule 62-296.405(1)(e)2.
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 137 The information provided is for cofiring #6 oil & natural gas. This emissions unit is currently permitted under FDEP permit AO 43-170568.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 1 Pollutant #: 2

2

**Pollutant Detail Information**

1. Pollutant Emitted:	Sulfur Dioxide
2. Total Percent Efficiency of Control:	%
3. Potential Emissions:	6920 lbs/hr                      30309.6 tons/yr
4. Synthetically Limited? (Yes/No):	N
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) :	to tons/yr
6. Emission Factor:	0.8                      Units lb/mmBtu
Reference:	40 CFR 60.43(a)(1)
7. Emissions Method Code: (0, 1, 2, 3, 4, 5):	0
	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
8. Calculation of Emissions (limit to 600 characters):	0.80 lb/mmBtu x 8,650 mmBtu/hour = 6,920 lb/hour (6,920 lb/hour x 8,760 hours/year)/2,000 lb/ton = 30,309.6 tons per year
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	This emissions unit is limited to firing 0.7% sulfur oil while firing 100% oil, and is limited to firing 1.0% sulfur oil while cofiring with natural gas.

**Information for Facility\_ID: 1 Emission Unit #: 1 Pollutant #: 2**  
**Basis For Allowable Emission #: 4 4**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.8 Units : lb/mmBtu
4. Equivalent Allowable Emissions: 6920 lbs/hr 30309.6 tons/yr
5. Method of Compliance: Fuel sampling & analysis
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): <b>148</b> Information provided on this page is for #6 residual oil firing only. This emission unit is a new source subject to 40 CFR 60.43(a)(1) requirements.

Information for Facility\_ID: 1 Emission Unit #: 1 Pollutant #: 2  
Basis For Allowable Emission #: 75 75

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.8 Units : lb/mmBtu
4. Equivalent Allowable Emissions: 6920 lbs/hr 30309.6 tons/yr
5. Method of Compliance: Fuel sampling & analysis
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 195 Information provided on this page is for natural gas. Default sulfur value from 40 CFR 75 Appendix D, section 2.3.2. This emission unit is a new source subject to 40 CFR 60.43(a)(1) requirements.



**Information for Facility\_ID: 1 Emission Unit #: 1 Pollutant #: 2**  
**Basis For Allowable Emission #: 76 76**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.8 Units : lb/mmBtu
4. Equivalent Allowable Emissions: 6920 lbs/hr 30309.6 tons/yr
5. Method of Compliance: Fuel sampling & analysis
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 82 Information provided on this page is for cofiring #6 residual oil and natural gas.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 1 Pollutant #: 3

3

**Pollutant Detail Information**

1. Pollutant Emitted:	Nitrogen Oxides		
2. Total Percent Efficiency of Control:	60		%
3. Potential Emissions:	2595 lbs/hr	11366.1 tons/yr	
4. Synthetically Limited? (Yes/No):	N		
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3):	to tons/yr		
6. Emission Factor:	0.3	Units	lb/mmBtu
Reference:	40 CFR 60.44(a)(2)		
7. Emissions Method Code: (0, 1, 2, 3, 4, 5):	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
8. Calculation of Emissions (limit to 600 characters):	0.3 lb/mmBtu x 8,650 mmBtu/hour = 2,595 lb/hour  (2,595 lb/hour x 8,760 hours/year)/2,000 lb/ton = 11,366.1 tons per year		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	This emission unit utilizes Low Nox burners, and flue gas recirculation, as well as off-stoichiometric combustion to control emissions of NOx.		

**Information for Facility\_ID: 1 Emission Unit #: 1 Pollutant #: 3**  
**Basis For Allowable Emission #: 77 77**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.3 Units : lb/mmBtu
4. Equivalent Allowable Emissions: 2595 lbs/hr 11366.1 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 7E
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 167 Information provided on this page is for cofiring oil & natural gas. The emission limit on the cofiring is prorated, based on the percent of each fuel being combusted.

**Information for Facility\_ID: 1 Emission Unit #: 1 Pollutant #: 3**  
**Basis For Allowable Emission #: 78 78**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.2 Units : lb/mmBtu
4. Equivalent Allowable Emissions: 1808 lbs/hr 7919.04 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 7E
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 70 Information provided on this page is reflective of natural gas firing.

**Information for Facility\_ID: / Emission Unit #: / Pollutant #: 3**  
**Basis For Allowable Emission #: 79 79**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.3 Units : lb/mmBtu
4. Equivalent Allowable Emissions: 2595 lbs/hr 11366.1 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 7E
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 62 Information provided on this page is reflective of oil firing.



**I. VISIBLE EMISSIONS INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 1

Visible Emissions Limitation #: 2

2

1. Visible Emissions Subtype: VE100
2. Basis for Allowable Opacity Code(R/O):   RULE       [ ] Rule       [ ] Other
3. Allowable Opacity: Normal Conditions: 100                   % Exceptional Conditions:    % Maximum Period of Excess Opacity Allowed: 60   min/hr
4. Method of Compliance Code:   EPA Method 9
5. Visible Emissions Comment (limit to 200 characters): DEP Rule 62-210.700(1) allows excess emissions for up to 2 hrs / 24 hrs for startup, shutdown and malfunctions.

**J. CONTINUOUS MONITOR INFORMATION**  
**(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 1  
Continuous Monitor #: 1 1

**Continuous Monitoring System**

1. Parameter Code:			
2. Pollutant(s):	Carbon dioxide		
3. CMS Requirement Code(R/O):	OTHER	Rule	/ Other
4. Monitor Information:			
Manufacturer: Milton Roy		Serial Number: N3K4369T	
Model Number: 3300			
5. Installation Date (DD-MON-YYYY): 01/31/94			
6. Performance Specification Test Date (DD-MON-YYYY): 12/07/94			
7. Continuous Monitor Comment (limit to 200 characters):			



**J. CONTINUOUS MONITOR INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 1  
Continuous Monitor #: 14 14

**Continuous Monitoring System**

1. Parameter Code:		
2. Pollutant(s):	Volumetric flow rate	
3. CMS Requirement Code(R/O):	RULE	Rule / Other
4. Monitor Information:		
Manufacturer:	Air Monitor	
Model Number:	MASSTRON	Serial Number: 5742D
5. Installation Date (DD-MON-YYYY):	01/31/94	
6. Performance Specification Test Date (DD-MON-YYYY):	12/07/94	
7. Continuous Monitor Comment (limit to 200 characters):	Required by 40 CFR 75.10(a)(1)	

**J. CONTINUOUS MONITOR INFORMATION**  
**(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 1  
Continuous Monitor #: 17 17

**Continuous Monitoring System**

1. Parameter Code:		
2. Pollutant(s):	Nitrogen Oxides	
3. CMS Requirement Code(R/O):	RULE	Rule / Other
4. Monitor Information:		
Manufacturer:	TECO	
Model Number:	42	Serial Number: 42-45956-275K
5. Installation Date (DD-MON-YYYY):	01/31/94	
6. Performance Specification Test Date (DD-MON-YYYY):	12/07/94	
7. Continuous Monitor Comment (limit to 200 characters):	Required by 40 CFR 75.10(a)(2)	

**J. CONTINUOUS MONITOR INFORMATION**  
**(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 1  
Continuous Monitor #: 20 20

**Continuous Monitoring System**

1. Parameter Code:		
2. Pollutant(s):	Sulfur Dioxide	
3. CMS Requirement Code(R/O):	RULE	Rule / Other
4. Monitor Information:		
Manufacturer:	TECO	
Model Number:	43B	Serial Number: 43B-46586-276
5. Installation Date (DD-MON-YYYY): 01/31/94		
6. Performance Specification Test Date (DD-MON-YYYY): 12/07/94		
7. Continuous Monitor Comment (limit to 200 characters): Required by 40 CFR 75.10(a)(1)		

**J. CONTINUOUS MONITOR INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 1  
Continuous Monitor #: 16 16

**Continuous Monitoring System**

1. Parameter Code:		
2. Pollutant(s):	Visible emissions (opacity)	
3. CMS Requirement Code(R/O):	RULE	Rule / Other
4. Monitor Information: Manufacturer: Lear Siegler Model Number: RM 41		
Serial Number: 905/833		
5. Installation Date (DD-MON-YYYY): 03/01/78		
6. Performance Specification Test Date (DD-MON-YYYY): 01/05/95		
7. Continuous Monitor Comment (limit to 200 characters): Two serial numbers are provided because each duct leading to the stack has its own transmissometer. Since the opacity monitors were just certified, no installation date is known.		

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT  
TRACKING INFORMATION  
(Regulated and Unregulated Emissions Units)**

Information for Facility-ID : 1 Emission Unit # : 1

**PSD Increment Consumption Determination**

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

Select (1-5) : 1

- [ 1 ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. Final determination is that emissions unit consumes increment.
- [ 2 ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 17-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 3 ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 4 ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 5 ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

Select (1-5) : 5

- [ 1 ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. Final determination is that emissions unit consumes increment.
- [ 2 ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 17-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 3 ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 4 ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 5 ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code: (C, E, U- unkown):

PM	C
SO2	C
NO2	E

4. Baseline Emissions:

PM	865 lbs/hr	3788.7	tons/yr
SO2	6920 lbs/hr	30309.6	tons/yr
NO2	11366.1 tons/yr		

5. PSD Comment (limit to 200 characters):  
PSD baseline emissions information taken from PSD permit application (Chapter 10.1.5 of the Martin Site Certification Application - table 6-15) and calculations.

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit # : 1

**Supplemental Requirements for All Applications**

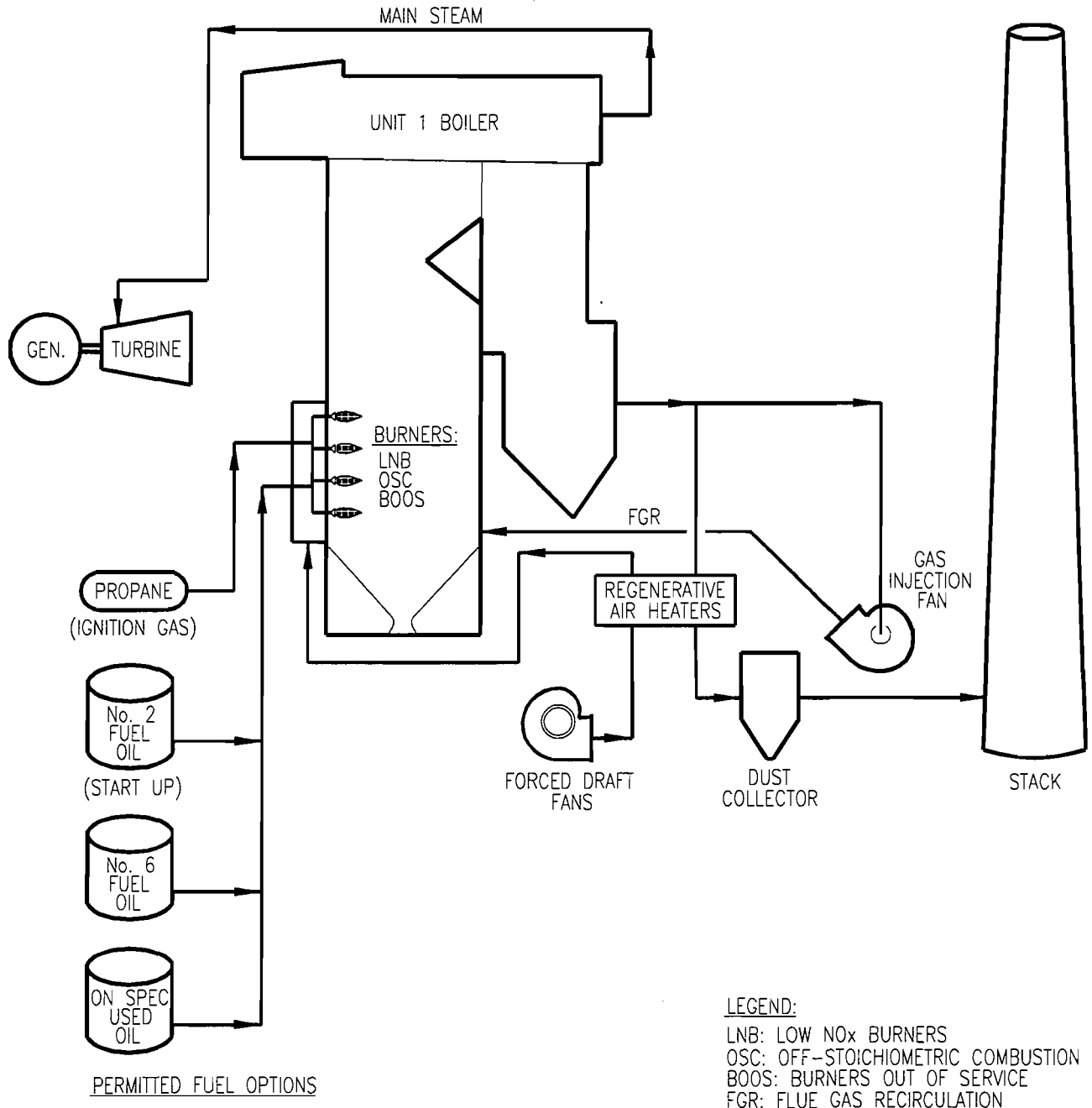
1. Process Flow Diagram : PMREU1_1.bmp Attached Document ID / Not Applicable / Waiver Requested
2. Fuel Analysis or Specification: PMRU1_2.doc Attached Document ID / Not Applicable / Waiver Requested
3. Detailed Description of Control Equipment : PMRU1_3.doc Attached Document ID / Not Applicable / Waiver Requested
4. Description of Stack Sampling Facilities : PMREU1_4.bmp Attached Document ID / Not Applicable / Waiver Requested
5. Compliance Test Report : Previously submitted, Date = July 15, 1994 Attached Document ID / Previously submitted, Date / Not Applicable
6. Procedures for Startup and Shutdown : PMRU1_6.doc Attached Document ID / Not Applicable
7. Operation and Maintenance Plan : NA Attached Document ID / Not Applicable
8. Supplemental Information for Construction Permit Application : NA Attached Document ID / Not Applicable
9. Other Information Required by Rule or Statute : NA Attached Document ID / Not Applicable



**Additional Supplemental Requirements for Category I Applications Only**

10. Alternative Methods of Operation : PMRU1_10.doc Attached Document ID / Not Applicable
11. Alternative Modes of Operation (Emissions Trading) : NA Attached Document ID / Not Applicable
12. Identification of Additional Applicable Requirements : PMRU1_13.txt Attached Document ID / Not Applicable
13. Enhanced Monitoring Plan : Not Applicable Attached Document ID / Not Applicable
14. Acid Rain Permit Application  Acid Rain Application - Phase II (Form No. 17-210.900(1)(a)) Attached Document ID: Not Applicable  Repowering Extension Plan (Form No. 17-210.900(1)(b)) Attached Document ID: Not Applicable  New Unit Exemption (Form No. 17-210.900(1)(c)) Attached Document ID: Not Applicable  Retired Unit Exemption (Form No. 17-210.900(1)(c)) Attached Document ID: Not Applicable  Not Applicable

TECHNICAL ACCEPTANCE		
ORG	BY	DATE
ENGINEERING ORGANIZATION		
WALKDOWN INFORMATION		
ORG	BY	DATE
AS-BUILT INFORMATION		



**LEGEND:**  
 LNB: LOW NO<sub>x</sub> BURNERS  
 OSC: OFF-STOICHIOMETRIC COMBUSTION  
 BOOS: BURNERS OUT OF SERVICE  
 FGR: FLUE GAS RECIRCULATION

BAR CODE

	SYSTEM YY	DISCIPLINE M	PLANT/UNIT MARTIN PLANT
	SCALE N/A	CAD FILE NAME MR001737	TITLE EMISSION UNIT PROCESS FLOW DIAGRAM STEAM GENERATOR/BOILER ATTACHMENT NO. EU1
	DRAWING SIZE A (8.5X11)	FPL ARCHIVE NAME MR001737	

0	7/13/95	ISSUED FOR TITLE V PERMIT	PWB	PWB	CSP	CSP	ETS
REV	DATE	REVISION DESCRIPTION	BY	CH	COR	APR	ORG

DRAWING NUMBER	PMR1-M0102-YY	SHEET	1 OF 1	REV	0
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Fuel Analysis  
Natural Gas Analysis (typical)<sup>3</sup>

<u>Parameter</u>	<u>Typical value</u>	<u>Max value</u>
Specific gravity(@ 60° F)	0.887	none
Heat content (Btu/cu ft)	950 - 1124 <sup>2</sup>	none
% sulfur (grains/CCF)	0.43 <sup>1</sup>	1.00
% nitrogen (by volume)	0.8	none
% ash	negligible	none

\*Note: The values listed are "typical" values based upon information supplied to FPL by Florida Gas Transmission (FGT). However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

- (1) Data from laboratory analysis
- (2) Data from FPL fuel purchasing specifications
- (3) The values are "typical" based upon the following:
  - Information gathered by FPL through laboratory analysis, and
  - FPL's fuel purchasing specifications. It should be noted that the analytical results obtained from grab samples taken at any given time may vary from those listed.

## Attachment PMRU1\_2.txt

Fuel Analysis  
No.6 Oil Analysis (typical)<sup>5</sup>

<u>Parameter</u>	<u>Typical value</u>	<u>Specifications</u>
API gravity (@ 60° F)	6 - 12	none
Heat content (MBtu/bbl)	6,310 - 6420	6,340 <sup>4</sup>
% Sulfur	0.7 <sup>5</sup>	1.0 max <sup>3</sup>
% Nitrogen	0.2 - 0.5 <sup>2</sup>	none
% Ash	0.06 - 0.09 <sup>2</sup>	0.10 max <sup>4</sup>

Footnotes:

- (1) Martin 1 and 2 can burn up to 1% sulfur fuel oil if it is cofired with natural gas.
- (2) Data taken from laboratory analysis.
- (3) Maximum permitted from current air operation permit.
- (4) Data from FPL fuel purchasing specifications.
- (5) The values are "typical" based upon the following:
  - Information gathered by FPL through laboratory analysis, and
  - FPL's fuel purchasing specifications. It should be noted that the analytical results obtained from grab samples taken at any given time may vary from those listed.
- (5) Sulfur content values typically range between 0.6% and 1.0% and are derived from as-fired laboratory analysis of fuel oil fired at Martin Power Plant.

## Attachment PMRUI\_2.txt

Fuel Analysis  
No. 2 Distillate oil (typical)<sup>3</sup>

<u>Parameter</u>	<u>Typical value</u>	<u>Specifications</u>
API gravity (@ 60 F)	35.0 <sup>2</sup>	30 - 40 <sup>1</sup>
Heat content (MBtu/bbl)	5,700 - 5,800 <sup>2</sup>	none
% sulfur	0.2	0.3 maximum
% nitrogen	no specification	none
% ash	<0.01 <sup>2</sup>	0.01 <sup>1</sup>

Footnotes:

- (1) Data taken from FPL fuel specifications.
- (2) Data taken from laboratory analysis.
- (3) The values are "typical" based upon the following:
  - Information gathered by FPL through laboratory analysis, and
  - FPL's fuel purchasing specifications. It should be noted that the analytical results obtained from grab samples taken at any given time may vary from those listed.

## Attachment PMRU1\_2.txt

Fuel Analysis  
Propane (typical)<sup>1</sup>

Emission units 1 and 2 may occasionally light off (start up) on propane fuel, then switch to another fuel, such as No.6 residual oil. The propane fuel is supplied by a commercial vendor and is stored in small tanks located at the bottom of the boiler area. The chemical formula for propane is C<sub>3</sub>H<sub>8</sub> .

<u>Parameter</u>	<u>Typical value</u>	<u>Specifications</u>
Specific gravity (@ 60 F)	0.51 <sup>1</sup>	none
Heat content (MBtu/bbl)	600 - 1,000	none
% sulfur	0.0031	none
% nitrogen	no specification	none
% ash	no specification	none

Footnotes:

- (1) The values are "typical" based upon the following:
- Information gathered by FPL through laboratory analysis, and
  - FPL's fuel purchasing specifications. It should be noted that the analytical results obtained from grab samples taken at any given time may vary from those listed.

Attachment PMRU1\_2.txtFuel Analysis  
On Specification Used Oil

The boilers may occasionally burn used oil during normal operation. All used oil fired in the unit meets the specifications mandated by 40 CFR 279.11. Used oil fired by this boiler is typically derived from plant maintenance activities, and may include used lube oils, transformer oils, etc. that meet the analytical specifications. Criteria used oil values follow:

<u>Parameter</u>	<u>Typical value</u>	<u>Specifications</u>
API gravity (@ 60 F)	30.0 <sup>1</sup>	none
Heat content (MBtu/bbl)	6,000 <sup>1</sup>	none
% sulfur	0.3 <sup>1</sup>	none
% nitrogen	negligible	none
% ash	0.01 <sup>1</sup>	0.01

Footnotes:

- (1) The values are "typical" based upon the following:
- Information gathered by FPL through laboratory analysis, and
  - FPL's fuel purchasing specifications. It should be noted that the analytical results obtained from grab samples taken at any given time may vary from those listed.

**Attachment PMRU1\_3.txt**  
**Detailed Description of Control Equipment**

page 1 of 2

**A. Cyclone Separator** - This steam generator (boiler) is supplied with two tubular mechanical dust collectors with side inlet and universal outlet. The control efficiency specified by the manufacturer is 84 percent.

However, it has been FPL's experience that the cyclone separators efficiency is largely dependent upon the particle size of the particulate matter. The following data represents representative collection efficiency for a similar cyclone separator at 2.55 inches of water @ peak load:

<u>Particle Range</u> <u>(micron)</u>	<u>Mean Diameter</u> <u>(micron)</u>	<u>Estimated Efficiency</u> <u>(percent)</u>
0 - 5	2.5	30.3
5 - 10	7.5	66.2
10 - 20	15	88.6
20 - 45	32.5	99.1
45 +	45	99.5

**B. Low Nox Burners** - The boiler design incorporates "Low Nox burners" which have as their primary purpose the reduction of NOx production during the combustion process.

**C. Flue Gas Recirculation - Nitrogen oxides reduction**

Purpose

The boiler design incorporates the techniques of flame temperature reduction and off-stoichiometric combustion designed to reduce and maintain the nitrogen oxides stack gas emissions below the boiler manufacturer's guaranteed maximum levels and below that maximum allowed by federal and state pollution control agencies.

The gas injection control system regulates the gas injection fan speeds and the associated dampers to control the amount of recirculated gas that will be mixed with the air flow to the boiler. By mixing recirculated gas with the air, the flame helps to reduce the formation of NOx. The gas injection control loop has two subloops; gas injection fan speed control and gas injection fan interlocks.



#### Gas Injection Fan Speed Control

The gas injection fan speeds are individually regulated to provide the proper amount of fuel gas injection into the boiler's air supply. There are two gas injection fans each providing injection to the discharge of one of the air preheaters. Steam flow (a load index) developed from first stage pressure is used to develop a base demand for gas injection from each fan. The gas injection for each fan can be biased as required for balanced operation. Also, each demand is limited according to the air flow to which the flue gas will be mixed. Thus if an forced draft (FD) fan is removed from service or operating at a reduced load, the high limit will prevent excessive flue gas from being mixed with the low air flow.

The demand for gas injection for each fan is compared to each fan's actual gas injection. Any error between demand and actual flue gas flow causes a proportional plus integral controller to readjust the associated fan's speed. To prevent erroneous control action from attempting to exceed the maximum fan load, a low select is employed. Fan amps are compared to the maximum allowable fan amps. When actual fan amps exceed the maximum allowable, the low select will choose the fan amp signal, and fan speed will be controlled to maintain the maximum load until the normal control requests a lower fan speed.

#### **D. Flame Temperature Reduction**

This approach utilizes two gas injection fans to recirculate the flue gases and mix these gases with the combustion air. The recirculated gases act as an inert, absorbing a part of the energy released in combustion and, thereby, reducing the peak temperatures achieved. Controlling and generally reducing the high temperature conditions that would otherwise occur significantly reduce the formation of nitric oxide.

#### **E. Off-Stoichiometric Combustion**

This technique involves operating the burners at fuel-rich mixture ratios. The proportion of fuel burned at peak temperatures in the presence of excess air is reduced and consequently NO<sub>x</sub> emissions are lowered. The remaining air required to maintain the overall furnace stoichiometry is introduced through 16 overfire air ports located above the top row of burners.

A second way of operating the burners at a fuel-rich mixture ratio is to terminate the fuel flow to selected burners and utilize these burners as air ports. The other burners would be operated at a fuel-rich mixture ratio. This is called a bias-firing scheme.

FLORIDA POWER & LIGHT CO.  
STACK SAMPLING FACILITIES  
MARTIN SITE

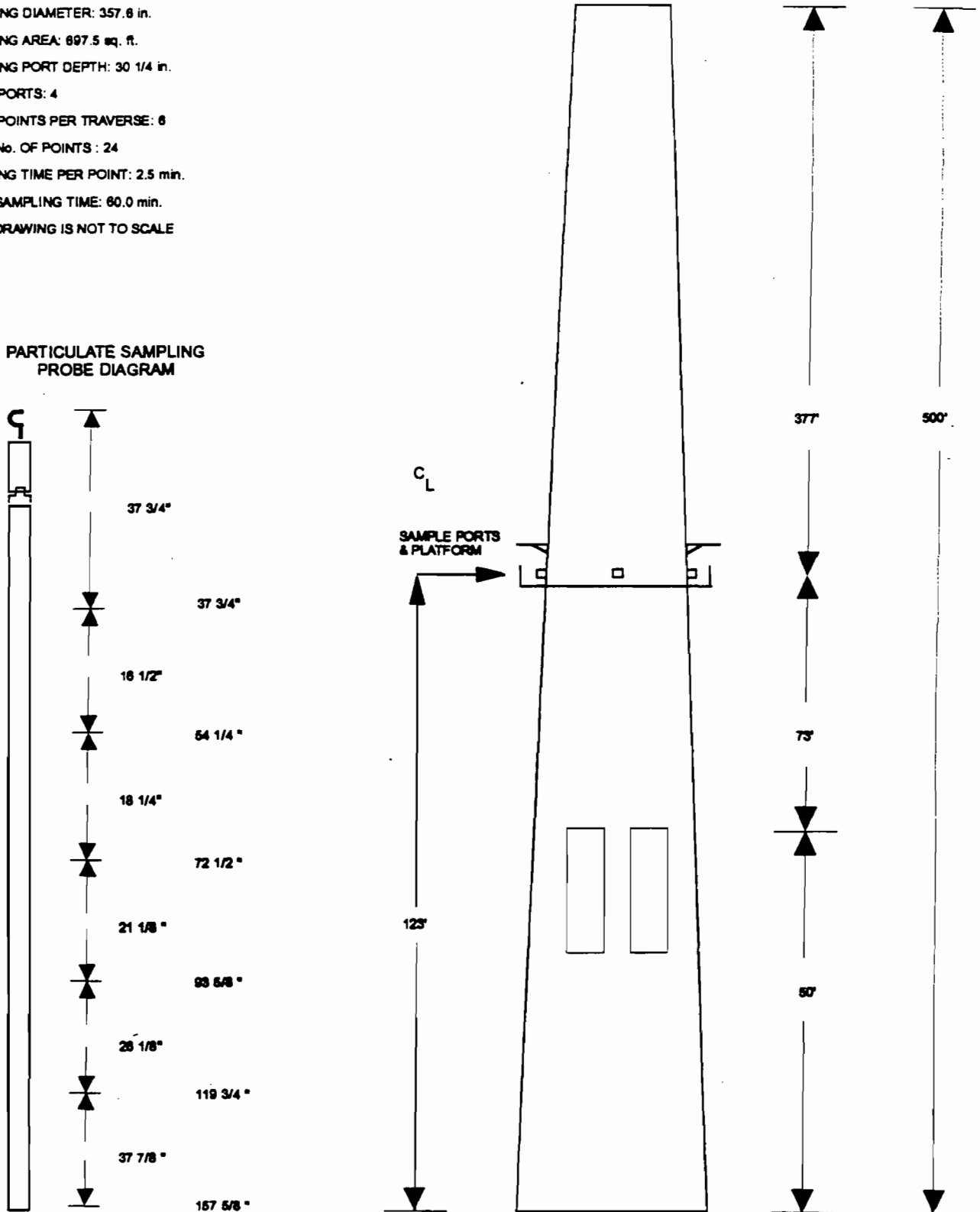
FOSSIL FUEL STEAM GENERATORS  
UNITS 1 & 2

STACK SPECIFICATIONS

SAMPLING DIAMETER: 357.6 in.  
SAMPLING AREA: 897.5 sq. ft.  
SAMPLING PORT DEPTH: 30 1/4 in.  
No. OF PORTS: 4  
No. OF POINTS PER TRAVERSE: 6  
TOTAL No. OF POINTS : 24  
SAMPLING TIME PER POINT: 2.5 min.  
TOTAL SAMPLING TIME: 60.0 min.  
NOTE: DRAWING IS NOT TO SCALE

STACK DIAGRAM

PARTICULATE SAMPLING  
PROBE DIAGRAM



Access to the sampling ports is provided by a ladder. Channel iron with a trolley system is above each port for probe support. AC power is available on the platform and at the base of the stack.

## Attachment PMRU1\_6.txt

### Startup & Shutdown Procedures - Minimizing Excess Emissions

Startup of the fossil-fuel boilers begins when fuel (either natural gas or oil) is introduced into one or more burners within the boiler and lighted (commencement of combustion). Startup is complete and steady-state operation begins when the combustion process has stabilized and the megawatt load on the unit is stable.

Shutdown of the fossil-fuel boilers begins when unit megawatt load is decreased to below 10% of maximum and continues until the final burner gun is removed from service and the final Induced-draft or Forced-draft fan is removed from service.

Excess emissions may be detected during all modes of boiler operation by any one of several continuous emissions monitors. Continuous monitors are currently in place for NO<sub>x</sub>, SO<sub>2</sub> and opacity. An audible and visual alarm are activated whenever permitted values for any of the above parameters are approached.

Countermeasures which may be taken in the event of excess emissions include, but are not limited to:

- proper excess air adjustments
- recognizing and removal of faulty burners
- fuel oil temperature adjustments
- proper and timely operation of boiler cleaning devices
- removal of the unit from system-dispatch mode
- reduction of unit megawatt load
- stopping and restarting of boiler cleaning devices
- lowering load rate
- pressure rate changes

Knowledge of the appropriate countermeasures to take under an excess emissions condition is a part of the routine operator training given to the personnel who operate the fossil boilers.

## **Attachment PMRU1\_10.txt Alternative Methods of Operation**

### Operation at Various Capacities and heat input rates

The Martin Units 1 and 2 boilers may each be operated up to 8760 hours per year at heat input rates from zero to 8,760 MMBtu per hour on #6 oil, and from zero to 9,040 MMBtu per hour on natural gas. When a blend of fuel oil and natural gas are burned, the heat input is prorated based upon the percent heat input of each fuel.

### Different Fuel Types

The units may burn low sulfur fuel oil containing a maximum of 0.7% sulfur (by weight), natural gas, or a mixture of low sulfur fuel oil containing a maximum of 1.0% sulfur by weight and natural gas in a ratio which will result in a maximum sulfur dioxide emission rate of 0.80 lbs/MMBtu heat input. The units may also burn on-specification used oil meeting EPA specifications under 40 CFR 279.11 The units may occasionally utilize propane fuel to light off (start up) the boiler, then switch to another fuel, such as #6 residual oil.

Current emissions limitations are as follows:

<u>Pollutant</u>	<u>Emission Limit</u>
Particulate matter	0.1 lb/MMBtu and 865* lb/hr
Sulfur dioxide	0.80 lb/MMBtu and 6,920 lb/hr
Nitrogen oxides	0.30 lb/MMBtu and 2,595 lb/hr on oil 0.20 lb/MMBtu and 1,808 lb/hr on nat. gas

### Sootblowing

The units may blow soot for up to 24 hours per day, so long as this does not result in excess emissions. (Excess emissions during sootblowing are not allowed for NSPS Subpart D units).

### Utilization of Additives

Additives such as Magnesium hydroxide is added to the boiler periodically at various loads. The slurry is injected into the boiler via the I.K. sootblower lances and through manual hand lances on a batch basis, or may be injected continuously along with the fuel being fired. The dosage rate is based on the quantity of fuel burned and the amount of ash in the fuel. FPL reserves the right to utilize alternative additives if they are found to be suitable.

### Off-Stoichiometric Combustion

This technique involves operating the burners at fuel-rich mixture ratios. The proportion of fuel burned at peak temperatures in the presence of excess air is reduced and consequently NOx emissions are lowered. At Martin, the method for performing off-stoichiometric combustion is to terminate the fuel flow to selected burners and utilize these burners as air ports. The other burners are then operated at a fuel-rich mixture ratio. This is also known as a bias-firing scheme.

**Attachment PMRU1\_10.txt**  
**Alternative Methods of Operation**

Flame Temperature Reduction

This approach utilizes two gas injection fans to recirculate the flue gases and mix these gases with the combustion air. The recirculated gases act as an inert, absorbing a part of the energy released in combustion and reducing the peak temperatures achieved. Controlling and generally reducing the high temperature conditions that would otherwise occur, significantly reduces the formation of nitrogen oxide.

Evaporation of Spent Boiler Chemical Cleaning Chemicals

On a periodic basis, as part of routine maintenance, the inside of the steam generator tubes (boiler tubes) at Martin Unit 1 are cleaned using a series of chemical solutions that remove deposited scale which adversely affects the efficiency and reliability of the generating units.

The solutions and rinsewaters are collected in large mobile tanks ("frac tanks") pursuant to guidance issued by the Department. Upon completion of the cleaning process and prior to disposal of the spent cleaning solution and rinses, representative sampling of the liquids collected in the "frac tanks" is conducted as per 40 CFR 261, Appendix I, to determine the hazardous waste status of the accumulated wastewater, using Toxicity Characteristic Leaching Procedure (TCLP) analysis.

If the wastewater is determined to be hazardous, it will be managed as such in accordance with 40 CFR 262.34, 40 CFR 265 Subpart I, and 40 CFR 268 with respect to generators accumulating and treating waste in containers and tanks. An appropriate waste analysis plan will be developed to determine and document the pre- and post-treatment characteristics of the wastewater. Hazardous waste may also be transported to an approved hazardous waste facility for the appropriate disposal.

If the spent cleaning solution and rinses are determined to be non-hazardous, they are then disposed by evaporation in the units boiler. Introduction into the boiler will occur at a rate that will not cause an exceedence of the opacity limit of the unit in which evaporation is occurring (in this case, 40 percent opacity).

## Attachment PMRU1\_12.txt

### Identification of Additional Applicable Requirements

Applicable Requirements as defined in Rule 62-210.200(29) not identified in Section D of this emission unit section are included in this attachment of the application. Any air operation permit issued by the Department (or local program designee) and included in this attachment is provided for information purposes. The specific conditions of the operating permit are not Applicable Requirements as defined in Rule 62-210.200(29) unless implementing a specific Applicable Requirement of the Department's rules (e.g. emission limitations and consent orders).

Martin Unit 1 is currently operating under DEP permit number AO43 170568. However, this is not a federally-enforceable permit. Permit number AC-73044, is federally-enforceable, and was issued to FPL on March 20, 1973. A renewal of the initial construction permit was issued to FPL on June 30, 1977 (Permit number AC43-4037 - also federally-enforceable).

The following specific conditions were taken from permit AC4-73044:

Description of Facility: #1 Steam Generator Unit producing  $13.38 \times 10^{10}$  BTU/Day burning 0.7% sulfur Bunker "C" oil.

*The unit description given in the current Air Operating permit should be used.*

1. Construction of this installation shall be completed by 6/30/77.

***(This specific condition is related to initial construction and startup of this unit and is requested to be deleted.)***

2. This construction permit expires on 12/30/77 following an initial period of operation for appropriate testing to determine compliance with the Rule of the Florida Pollution Control Board.

***(This specific condition is related to initial construction and startup of this unit and is requested to be deleted.)***

3. All applicable rules of the Department including design discharge limitations specified in the application shall be adhered to. The permit holder may also need to comply with county, municipal, federal, or other state regulations prior to construction.

***(This specific condition is related to initial construction and startup of this unit and is requested to be deleted.)***

4. The applicant shall continue the retention of the engineer of record for the inspection of the construction of this project. Upon completion the engineer shall inspect for conformity to construction permit applications and associated documents. A report of such inspection shall be submitted by the engineer to the Department of Environmental Regulation for consideration toward the issuance of an operation permit.

***(This specific condition is related to initial construction and startup of this unit and is requested to be deleted.)***

5. The operation of this installation shall be observed for visible emissions in accordance with Method 9 - Visible Determination of the Opacity of Emissions from Stationary Sources (Federal Register, December 23, 1971). The observation results are required prior to our issuance of an operation permit, and shall be submitted in duplicate to the DPC Southeast Florida Regional Office, 200 S.E. 6th Street, Suite 500, Fort Lauderdale, Florida 33301.

*(This specific condition is related to initial construction and startup of this unit and is requested to be deleted.)*

6. Satisfactory ladders, platforms, and other safety devices shall be provided/available as well as necessary ports to facilitate the carrying out of an adequate sampling program.

*FPL has installed sampling platforms with appropriate sampling ports, and has tested this unit repeatedly over the years. This specific condition is requested to be deleted.*

7. The following items are required prior to our issuance of an operation permit in addition to the engineer of record's report of inspection:

- a) An emission report for total particulates based upon actual operations.
- b) A tabular summary of fuels used & sulfur content (as received basis).
- c) A tabular summary of actual records of frequencies and durations of soot blowing as well as boiler blowdown characteristics and disposal practices.

These items are required prior to our issuance of an operation permit and shall be submitted to the DPC Southeast Florida Regional Office, 200 S.E. 6th Street, Suite 504, Ft. Lauderdale Florida 33301.

*(This specific condition is related to initial construction and startup of this unit and is requested to be deleted.)*

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

*FPL proposes that this condition has been adequately addressed in the facility's NPDES and IWW permits, and it is therefore requested to be deleted from the Title V permit.*

9. All fugitive dust generated at this site shall be adequately controlled.

*FPL has utilized vegetative plantings, paving, maintenance, and various other operational methods to control fugitive dust.*

The following specific conditions were taken from permit AC43-4037, which was a renewal of air construction permit AC-73044:

Description of Facility: Steam Generator Unit #1, producing 5,579 MBtu/hr., burning max. of 0.7% sulfur Bunker "C" oil or natural gas subject to attached provisos of approval.

*The unit description given in the current Air Operating permit should be used.*

1. Construction of this installation shall be completed by December 1, 1981. Application for permit to operate to be submitted by January 1, 1982.

*FPL completed construction on Martin Unit 1 and has operated the unit for several years. ( This requirement is requested to be deleted.)*

2. This construction permit expires on February 1, 1982 following an initial period of operation for appropriate testing to determine compliance with the Rules of the Florida Environmental Regulation Commission.

*( This requirement is requested to be deleted.)*

3. All applicable rules of the Department including design discharge limitation specified in the application shall be adhered to. The permit holder may also need to comply with county, municipal, federal, or other state regulation prior to construction.

*( This requirement is requested to be deleted.)*

4. The applicant shall continue the retention of the engineer of record for the inspection of the construction of this project. Upon completion the engineer shall inspect for conformity to construction permit applications and associated documents. A report of such inspection shall be submitted by the engineer to the Department of Environmental Regulation for consideration toward the issuance of an operation permit.

*(This specific condition is related to initial construction and startup of this unit and is requested to be deleted.)*

5. This steam generating Unit #1 shall be tested for EPA "New Source" compliance testing within 30 days after it is placed in operation.. These test results are required prior to our issuance of an operation permit and shall be submitted to the Department of Environmental Regulation, 806 S. Sixth Street, Fort Pierce, FLa. 33450- (305) 464-8525.

*(This specific condition is related to initial construction and startup of this unit and is requested to be deleted.)*

6. Stack Sampling for total particulates or other contaminant emissions shall be conducted if found by the Department of Environmental Regulation at the Fort Pierce, Florida District Office to be necessary as a basis for the issuance of an operation permit.

*(This specific condition is related to initial construction and startup of this unit and is requested to be deleted.)*



7. Satisfactory ladders, platforms, and other safety devices shall be provided/available as well as necessary ports to facilitate the carrying out of an adequate sampling program.

*FPL has installed sampling platforms with appropriate sampling ports, and has tested this unit repeatedly over the years. This specific condition is requested to be deleted.*

8. The following items are required prior to our issuance of an operation permit in addition to the engineer of record's report of inspection:

- a) An emission report for total particulates based upon actual operations.
- b) A tabular summary of fuels used & sulfur content (as received basis).
- c) A tabular summary of actual records of frequencies and durations of soot blowing as well as boiler blowdown characteristics and disposal practices.

These items are required prior to our issuance of an operation permit and shall be submitted to the Department of Environmental Regulation 806 South Sixth Street, Fort Pierce, Florida 33450, telephone (30-5) 464-8525.

*(This specific condition is related to initial construction and startup of this unit and is requested to be deleted.)*

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

*FPL proposes that this condition has been adequately addressed in the facility's NPDES and IWW permits, and it is therefore requested to be deleted from the Title V permit.*

10. All fugitive dust generated at this site shall be adequately controlled. This includes, but is not limited to, roadway dust.

*FPL has utilized vegetative plantings, paving, maintenance, and various other operational methods to control fugitive dust.*

11. Please be advised that the Department does not condone nor authorize the permittee to bypass waste materials from either air or wastewater facilities at any time that would result in a violation of the rules and regulations of the Department.

In case of breakdown or lack of proper functioning of the facility causing or likely to cause discharge of improperly treated sewage or air emissions, it shall be the duty of the owner of the facility to promptly notify the Department. In addition to notifying this Department, the permittee shall notify the local County Health Officer.

The owner of the impaired facility causing the violation shall be responsible for any and all damages which may result. If violations of State standards occur, enforcement actions may be initiated.

*FPL understands the permit condition, but questions its necessity. It is proposed to be deleted from the Title V permit.*

III. EMISSIONS UNIT INFORMATION

Information for Facility - ID : 1 Emission Unit # : 2  
2

A separate Emissions Unit Information Section (including subsections A through L 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. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT  
(Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Units? 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 a unregulated emissions unit.

2. Single Process, Group Processes, or Fugitive Only?

Enter The Number (1-3): 1

- [ 1 ] 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).
- [ 2 ] 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.
- [ 3 ] 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.

**B. GENERAL EMISSIONS UNIT INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): Unit 2 is equipped with low NOx burners and multicyclones.
2. Emissions Unit Identification Number: 002 (No Corresponding ID or Unknown)
3. Emission Unit Status Code: (A or C) : A
4. Acid Rain Unit? (Y/N): Y
5. Emissions Unit Major Group SIC Code: 49
6. Emissions Unit Comment (limit to 500 characters): The generator nameplate rating given is taken from data provided to the Florida Public Service Commission (PSC) in the 10-Year Site Plan. Actual generator output may exceed the value given, due to changes in unit efficiency, or with fluctuations in system load demand. The initial startup date given is the date commercial operation commenced.

**Emissions Unit Control Equipment**

**A. Control Equipment # : 1**

1. Description (limit to 200 characters): Multicyclones with fly ash reinjection
2. Control Device or Method Code: Multiple Cyclone w/Fly Ash Reinjection

**B. Control Equipment # : 2**

1. Description (limit to 200 characters):  
Flue Gas Recirculation

2. Control Device or Method Code: Flue Gas Recirculation

**C. Control Equipment # : 3**

1. Description (limit to 200 characters):  
Low Nox Burners

2. Control Device or Method Code: Staged Combustion

**C. EMISSIONS UNIT DETAIL INFORMATION  
(Regulated Emissions Units)**

**Emissions Unit Details**

1. Initial Startup Date (DD-MON-YYYY): 06/17/81
2. Long-term Reserve Shutdown Date (DD-MON-YYYY):
3. Package Unit: Manufacturer: Not Applicable <span style="float: right;">Model Number: Not Applicable</span>
4. Generator Nameplate Rating: 863 MW
5. Incinerator Information: <div style="text-align: right; margin-left: 100px;">Dwell Temperature: °F</div> <div style="text-align: right; margin-left: 100px;">Dwell Time: seconds</div> Incinerator Afterburner Temperature: °F

**Emissions Unit Operating Capacity**

1. Maximum Heat Input Rate: 9040 mmBtu/hr
2. Maximum Incineration Rate:    lbs/hr <div style="text-align: center;">   tons/day</div>
3. Maximum Process or Throughput Rate:    Units:
4. Maximum Production Rate:                    Units:
5. Operating Capacity Comment (limit to 200 characters): The heat input rate given is the current maximum value while firing natural gas. The method of compliance for heat input is fuel sampling and analysis.

**Emissions Unit Operating Schedule**

Requested Maximum Operating Schedule:	
hours/day	days/week
weeks/yr	8760 hours/yr

**D. EMISSIONS UNIT REGULATIONS  
(Regulated Emissions Units Only)**

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

Emissions Unit ID 2

<p>40 CFR 60.42 (a)(1)                  40 CFR 60.42 (a)(2)                  40 CFR 60.43 (a)(1)                  40 CFR 60.43 (b)                  40 CFR 60.43 (c)                  40 CFR 60.44(a)(1)                  40 CFR 60.44(a)(2)                  40 CFR 60.44(b)                  40 CFR 60.45(a)                  40 CFR 60.45(b)(1)                  40 CFR 60.45(b)(2)                  40 CFR 60.45(b)(3)                  40 CFR 60.45(b)(4)                  40 CFR 60.45(c)                  40 CFR 60.45(e)                  40 CFR 60.45(g)(1)                  40 CFR 60.45(g)(2)                  40 CFR 60.45(g)(3)                  40 CFR 60.46(a)                  40 CFR 60.46(b)                  40 CFR 60.46(c)                  40 CFR 60.46(d)(1)                  40 CFR 60.46(d)(2)                  40 CFR 60.46(d)(3)                  40 CFR 60.46(d)(4)                  40 CFR 60.46(d)(5)                  40 C.F.R. 279.72                  40 C.F.R. 60.11(a)                  40 C.F.R. 60.11(b)                  40 C.F.R. 60.11(c)                  40 C.F.R. 60.11(d)                  40 C.F.R. 60.11(e)(2)                  40 C.F.R. 60.12                  40 C.F.R. 60.13(a)                  40 C.F.R. 60.13(d)(1)                  40 C.F.R. 60.13(e)                  40 C.F.R. 60.13(h)                  40 C.F.R. 60.7(b)                  40 C.F.R. 60.7(f)                  40 C.F.R. 60.8(c)                  40 C.F.R. 60.8(e)                  40 C.F.R. 72.20(a)                  40 C.F.R. 72.20(b)                  40 C.F.R. 72.20(c)                  40 C.F.R. 72.21(a)                  40 C.F.R. 72.21(b)                  40 C.F.R. 72.21(d)                  40 C.F.R. 72.22(a)                  40 C.F.R. 72.22(c)                  40 C.F.R. 72.23                  40 C.F.R. 72.24(a)                  40 C.F.R. 72.30(a)                  40 C.F.R. 72.30(b)(2)</p>	<p>40 C.F.R. 72.30(c)                  40 C.F.R. 72.30(d)                  40 C.F.R. 72.32                  40 C.F.R. 72.33(b)                  40 C.F.R. 72.33(c)                  40 C.F.R. 72.33(d)                  40 C.F.R. 72.40(a)                  40 C.F.R. 72.40(b)                  40 C.F.R. 72.40(c)                  40 C.F.R. 72.40(d)                  40 C.F.R. 72.51                  40 C.F.R. 72.90                  40 C.F.R. 72.9(a)(1)(iii)                  40 C.F.R. 72.9(a)(1)(i)                  40 C.F.R. 72.9(a)(2)                  40 C.F.R. 72.9(b)                  40 C.F.R. 72.9(c)(1)(iii)                  40 C.F.R. 72.9(c)(2)                  40 C.F.R. 72.9(c)(4)                  40 C.F.R. 72.9(c)(5)                  40 C.F.R. 72.9(d)                  40 C.F.R. 72.9(e)                  40 C.F.R. 72.9(f)                  40 C.F.R. 72.9(g)(4)                  40 C.F.R. 73.33                  40 C.F.R. 73.35                  40 C.F.R. 75 Appendix A-1                  40 C.F.R. 75 Appendix A-2                  40 C.F.R. 75 Appendix A-3                  40 C.F.R. 75 Appendix A-4                  40 C.F.R. 75 Appendix A-5                  40 C.F.R. 75 Appendix A-6                  40 C.F.R. 75 Appendix B                  40 C.F.R. 75 Appendix C-1                  40 C.F.R. 75 Appendix C-2                  40 C.F.R. 75 Appendix D                  40 C.F.R. 75 Appendix F                  40 C.F.R. 75 Appendix G-2                  40 C.F.R. 75 Appendix G-4                  40 C.F.R. 75 Appendix H                  40 C.F.R. 75.10(a)(1)                  40 C.F.R. 75.10(a)(2)                  40 C.F.R. 75.10(a)(3)(i)                  40 C.F.R. 75.10(a)(4)                  40 C.F.R. 75.10(b)                  40 C.F.R. 75.10(c)                  40 C.F.R. 75.10(d)                  40 C.F.R. 75.10(f)                  40 C.F.R. 75.10(g)                  40 C.F.R. 75.11(b)(1)                  40 C.F.R. 75.11(c)(3)                  40 C.F.R. 75.11(d)                  40 C.F.R. 75.12(a)</p>	<p>40 C.F.R. 75.12(b)                  40 C.F.R. 75.13(a)                  40 C.F.R. 75.13(b)                  40 C.F.R. 75.14(a)                  40 C.F.R. 75.20(a)(5)                  40 C.F.R. 75.20(b)                  40 C.F.R. 75.20(c)                  40 C.F.R. 75.20(d)                  40 C.F.R. 75.20(f)                  40 C.F.R. 75.20(g)                  40 C.F.R. 75.21(a)                  40 C.F.R. 75.21(b)                  40 C.F.R. 75.21(c)                  40 C.F.R. 75.21(d)                  40 C.F.R. 75.21(e)                  40 C.F.R. 75.21(f)                  40 C.F.R. 75.22                  40 C.F.R. 75.24                  40 C.F.R. 75.30(a)(1)                  40 C.F.R. 75.30(a)(2)                  40 C.F.R. 75.30(a)(3)                  40 C.F.R. 75.31                  40 C.F.R. 75.32                  40 C.F.R. 75.33                  40 C.F.R. 75.35                  40 C.F.R. 75.36                  40 C.F.R. 75.4(a)(4)(ii)                  40 C.F.R. 75.5                  40 C.F.R. 75.51(c)                  40 C.F.R. 75.53(a)                  40 C.F.R. 75.53(b)                  40 C.F.R. 75.53(c)                  40 C.F.R. 75.53(d)(1)                  40 C.F.R. 75.54                  40 C.F.R. 75.55(c)                  40 C.F.R. 75.55(e)                  40 C.F.R. 75.56                  40 C.F.R. 75.60(a)                  40 C.F.R. 75.60(b)                  40 C.F.R. 75.60(c)(3)                  40 C.F.R. 75.61(a)(1)                  40 C.F.R. 75.61(a)(5)                  40 C.F.R. 75.61(b)                  40 C.F.R. 75.62                  40 C.F.R. 75.63                  40 C.F.R. 75.64(a)                  40 C.F.R. 75.64(b)                  40 C.F.R. 75.64(c)                  40 C.F.R. 75.64(d)                  40 C.F.R. 75.65                  40 C.F.R. 75.66(a)                  40 C.F.R. 75.66(b)                  40 C.F.R. 75.66(c)</p>	<p>40 C.F.R. 75.66(d)                  40 C.F.R. 75.66(g)                  40 C.F.R. 75.66(h)                  40 C.F.R. 76.13                  40 C.F.R. 77.3                  40 C.F.R. 77.5(b)                  40 C.F.R. 77.6                  F.A.C. 62-204.800(12)                  (state only)                  F.A.C. 62-204.800(13)                  (state only)                  F.A.C. 62-204.800(14)                  (state only)                  F.A.C. 62-204.800(7)(b)1.                  (state only)                  F.A.C. 62-204.800(7)(d)                  (state only)                  F.A.C. 62-210.650                  F.A.C. 62-210.700 (1)                  F.A.C. 62-210.700 (2)                  F.A.C. 62-210.700 (4)                  F.A.C. 62-210.700 (6)                  F.A.C. 62-214.300                  F.A.C. 62-214.330                  F.A.C. 62-214.350 (2)                  F.A.C. 62-214.350 (3)                  F.A.C. 62-214.350 (5)                  F.A.C. 62-214.350 (6)                  F.A.C. 62-214.370 (1)                  F.A.C. 62-214.370 (3)                  F.A.C. 62-214.370 (4)                  F.A.C. 62-214.370 (7)                  F.A.C. 62-214.430                  F.A.C. 62-297.310(1)                  F.A.C. 62-297.310(2)(b)                  F.A.C. 62-297.310(3)                  F.A.C. 62-297.310(4)(a)1.                  F.A.C. 62-297.310(4)(a)2.c.                  F.A.C. 62-297.310(4)(b)                  F.A.C. 62-297.310(4)(c)                  F.A.C. 62-297.310(4)(d)                  F.A.C. 62-297.310(4)(e)                  F.A.C. 62-297.310(5)                  F.A.C. 62-297.310(6)(a)                  F.A.C. 62-297.310(6)(c)                  F.A.C. 62-297.310(6)(d)                  F.A.C. 62-297.310(6)(e)                  F.A.C. 62-297.310(6)(f)                  F.A.C. 62-297.310(6)(g)                  F.A.C. 62-297.310(7)(a)1.                  F.A.C. 62-297.310(7)(a)2.                  F.A.C. 62-297.310(7)(a)3.                  F.A.C. 62-297.310(7)(a)4.                  F.A.C. 62-297.310(7)(a)5.                  F.A.C. 62-297.310(7)(a)9.                  F.A.C. 62-297.310(7)(c)                  F.A.C. 62-297.310(8)                  Table 62-297.310-1</p>
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**E. EMISSION POINT (STACK/VENT) INFORMATION  
(Regulated Emissions Units Only)**

**Emission Point Description and Type**

Information for Facility-ID 1 Emission Unit # : 2

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1. Identification of Point on Plot Plan or Flow Diagram: EU-2
2. Emission Point Type Code (1,2,3,4) : 1
3. Descriptions of Emissions Points Comprising this Emissions Unit (limit to 100 characters): NA
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: Not applicable
5. Discharge Type Code (D, F, H, P, R, V, W) : v
6. Stack Height: 499 ft
7. Exit Diameter: 36 ft
8. Exit Temperature: 313 °F
9. Actual Volumetric Flow Rate: 2523910 acfm
10. Percent Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm
12. Nonstack Emission Point Height: ft
13. Emission Point UTM Coordinates: Zone: 17 East: 543.075 North: 2993.004
14. Emission Point Comment (limit to 200 characters): Data presented in fields 8 and 9 was collected during the emissions compliance test on July 8, 1994.



**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :1 Emission Unit #: 2 Segment #: 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Unit 2 Boiler Natural gas firing
2. Source Classification Code (SCC): 1-01-006-01
3. SCC Units: Million cubic feet burned
4. Maximum Hourly Rate: 8.61
5. Maximum Annual Rate: 75424
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: 0.0031
8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 1050
10. Segment Comment (limit to 200 characters): Permit # AO-060170567 allows Unit 2 to burn fuel containing a max. of 1.0% sulfur by weight & nat. gas in a ratio that will result in a maximum SO2 emission rate of 0.80 pounds per mmBtu heat input.

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :1 Emission Unit #: 2 Segment #: 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Unit 2 Boiler Number 6 oil firing
2. Source Classification Code (SCC): 1-01-004-01
3. SCC Units: thousand gallons burned
4. Maximum Hourly Rate: 57.3
5. Maximum Annual Rate: 501948
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: 0.7
8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 150952
10. Segment Comment (limit to 200 characters): This emission unit may burn up to 1% sulfur oil, as long as it is blended with a sufficient quantity of natural gas such that the SO2 emissions are kept below 0.8 lb/mmBtu.

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :1 Emission Unit #: 2 Segment #: 3

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Unit 2 Boiler burning Number 2 diesel oil
2. Source Classification Code (SCC): 1-01-005-01
3. SCC Units: Thousand gallons burned
4. Maximum Hourly Rate: 63.603
5. Maximum Annual Rate: 557162.3
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: 0.007
8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 136
10. Segment Comment (limit to 200 characters): Current permit (AO43-170568) contains an SO2 emission limit & a sulfur limit for the fuel. The unit is currently permitted to burn a variable combination of #6 oil, natural gas, or #2 oil.

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :1 Emission Unit #: 2 Segment #: 4

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Unit 2 Boiler burning propane
2. Source Classification Code (SCC): 1-01-006-01
3. SCC Units: Million cubic feet burned
4. Maximum Hourly Rate: 8.65
5. Maximum Annual Rate: 865
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur:
8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 1000
10. Segment Comment (limit to 200 characters): Unit 2 is currently permitted to burn a mixture of nat. gas, #6 oil, #2 fuel oil, propane, or on-spec. used oil from FPL operations. Propane is used primarily for lighting off the boiler for start-up.

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :/ Emission Unit #: 2 Segment #: 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Unit 2 Boiler On-specification used oil firing
2. Source Classification Code (SCC): 1-01-013-02
3. SCC Units: thousand gallons burned
4. Maximum Hourly Rate: 0.5
5. Maximum Annual Rate: 20
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: 1
8. Maximum Percent Ash:
9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters): Max. % sulfur given is for cofiring with natural gas. When firing 100% oil, a max.sulfur content of 0.7% is the current permit limit. FPL burns only on-specification used oil, per 40 CFR 279.72.

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :1 Emission Unit #: 2 Segment #: 6

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Unit 2 co-firing all possible combinations of natural gas, residual oil, on specification used oil, #2 fuel oil, and propane.
2. Source Classification Code (SCC): 1-01-006-01
3. SCC Units: million cubic feet and thousand gallons
4. Maximum Hourly Rate:
5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: 1
8. Maximum Percent Ash: 0.1
9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters): Air Operation Permit # AO-43-170567 allows Unit 2 to burn a mixture of the above fuels in a ratio that will result in a max. SO2 emission rate of 0.8 lbs/mmBtu.

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :/ Emission Unit #: 2 Segment #: 7

<p>1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):                  Unit 2 Boiler chemical cleaning waste evaporation. This process may be undertaken while firing natural gas or residual oil.</p>
<p>2. Source Classification Code (SCC): 1-01-013-01</p>
<p>3. SCC Units: thousand gallons burned</p>
<p>4. Maximum Hourly Rate: 3</p>
<p>5. Maximum Annual Rate: 700</p>
<p>6. Estimated Annual Activity Factor:</p>
<p>7. Maximum Percent Sulfur:</p>
<p>8. Maximum Percent Ash:</p>
<p>9. Million Btu per SCC Unit:</p>
<p>10. Segment Comment (limit to 200 characters):                  Items 6,7,8 &amp; 9 do not apply. This activity to be undertaken on a periodic basis pursuant to DARM guidance, and EPA waste rules (40 CFR 279.72). May include evap. of waste from Units 3 &amp; 4 HRSGs.</p>

**G. EMISSIONS UNIT POLLUTANTS  
(Regulated Emissions Units Only)**

Information for Facility\_ID: 1 Emission Unit #: 2

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
SO2	NA	NA	EL
NOx	025	026	EL
CO	NA	NA	NS
PM	077	NA	EL
PM10	NA	NA	NS
VOC	NA	NA	NS
H133	NA	NA	NS
H106	NA	NA	NS
H107	NA	NA	NS
SAM	NA	NA	NS
HAP	NA	NA	NS





**Information for Facility\_ID: 1 Emission Unit #: 2 Pollutant #: 1  
Basis For Allowable Emission #: 1**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.1 Units : lb/mmBtu
4. Equivalent Allowable Emissions: 905 lbs/hr 3963.9 tons/yr
5. Method of Compliance: DEP Rule 62-296.405(1)(e)2.
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): <b>183</b> The information provided is for natural gas firing. This emissions unit is a new source subject to 40 CFR 60.42(a)(1) limits and is currently permitted under FDEP permit AO 43-170568.

**Information for Facility\_ID: 1 Emission Unit #: 2 Pollutant #: 1  
Basis For Allowable Emission #: 18 18**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.1 Units : lb/mmBtu
4. Equivalent Allowable Emissions: 865 lbs/hr 3788.7 tons/yr
5. Method of Compliance: DEP Rule 62-296.405(1)(e)2.
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 55 The information provided is for #6 residual oil firing.

**Information for Facility\_ID: 1 Emission Unit #: 2 Pollutant #: 1  
Basis For Allowable Emission #: 19 19**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.1 Units : lb/mmBtu
4. Equivalent Allowable Emissions: 905 lbs/hr 3963.9 tons/yr
5. Method of Compliance: DEP Rule 62-296.405(1)(e)2.
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): <b>147</b> The information provided is for cofiring #6 residual oil and natural gas. This emissions unit is a new source subject to 40 CFR 60.42(a)(1) limits.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 2 Pollutant #: 2

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**Pollutant Detail Information**

1. Pollutant Emitted:	Sulfur Dioxide
2. Total Percent Efficiency of Control:	%
3. Potential Emissions:	6920 lbs/hr                      30309.6 tons/yr
4. Synthetically Limited? (Yes/No):	N
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3):	to    tons/yr
6. Emission Factor:	0.8                      Units    lb/mmBtu
Reference:	40 CFR 60.43(a)(1)
7. Emissions Method Code: (0, 1, 2, 3, 4, 5):	0
	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
8. Calculation of Emissions (limit to 600 characters):	0.80 lb/mmBtu x 8,650 mmBtu/hour = 6,920 lb/hour (6,920 lb/hour x 8,760 hours/year)/2,000 lb/ton = 30,309.6 tons per year
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	This emissions unit is limited to firing 0.7% sulfur oil while firing 100% oil, and is limited to firing 1.0% sulfur oil while cofiring with natural gas.

**Information for Facility\_ID: 1 Emission Unit #: 2 Pollutant #: 2  
Basis For Allowable Emission #: 4 4**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.8 Units : lb/mmBtu
4. Equivalent Allowable Emissions: 6920 lbs/hr 30309.6 tons/yr
5. Method of Compliance: Fuel sampling & analysis
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): <b>148</b> Information provided on this page is for #6 residual oil firing only. This emission unit is a new source subject to 40 CFR 60.43(a)(1) requirements.

**Information for Facility\_ID: 1 Emission Unit #: 2 Pollutant #: 2  
Basis For Allowable Emission #: 75 75**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.8 Units : lb/mmBtu
4. Equivalent Allowable Emissions: 6920 lbs/hr 30309.6 tons/yr
5. Method of Compliance: Fuel sampling & analysis
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 195 Information provided on this page is for natural gas. Default sulfur value from 40 CFR 75 Appendix D, section 2.3.2. This emission unit is a new source subject to 40 CFR 60.43(a)(1) requirements.

**Information for Facility\_ID: 1 Emission Unit #: 2 Pollutant #: 2**  
**Basis For Allowable Emission #: 76 76**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.8 Units : lb/mmBtu
4. Equivalent Allowable Emissions: 6920 lbs/hr 30309.6 tons/yr
5. Method of Compliance: Fuel sampling & analysis
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 82 Information provided on this page is for cofiring #6 residual oil and natural gas.



**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 2 Pollutant #: 38

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**Pollutant Detail Information**

1. Pollutant Emitted:	Nitrogen Oxides	
2. Total Percent Efficiency of Control:	60	%
3. Potential Emissions:	2595 lbs/hr	11366.1 tons/yr
4. Synthetically Limited? (Yes/No):	N	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3):	to tons/yr	
6. Emission Factor:	0.3	Units lb/mmBtu
Reference:	40 CFR 60.44(a)(2)	
7. Emissions Method Code: (0, 1, 2, 3, 4, 5):	0	
	<input type="checkbox"/> 0	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
8. Calculation of Emissions (limit to 600 characters):	0.3 lb/mmBtu x 8,650 mmBtu/hour = 2,595 lb/hour	
	(2,595 lb/hour x 8,760 hours/year)/2,000 lb/ton = 11,366.1 tons per year	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	This emission unit utilizes Low Nox burners, and flue gas recirculation, as well as off-stoichiometric combustion to control emissions of NOx.	

**Information for Facility\_ID: 1 Emission Unit #: 2 Pollutant #: 3**  
**Basis For Allowable Emission #: 15 15**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.3 Units : lb/mmBtu
4. Equivalent Allowable Emissions: 2595 lbs/hr 11366.1 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 7E
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 80 Information provided on this page is reflective of cofiring oil and natural gas.

**Information for Facility\_ID: 1 Emission Unit #: 2 Pollutant #: 3**  
**Basis For Allowable Emission #: 16 16**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.2 Units : lb/mmBtu
4. Equivalent Allowable Emissions: 1808 lbs/hr 7919.04 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 7E
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 70 Information provided on this page is reflective of natural gas firing.

**Information for Facility\_ID: 1 Emission Unit #: 2 Pollutant #: 3**  
**Basis For Allowable Emission #: 20 20**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.3 Units : lb/mmBtu
4. Equivalent Allowable Emissions: 2595 lbs/hr 11366.1 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 7E
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 62 Information provided on this page is reflective of oil firing.

**I. VISIBLE EMISSIONS INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 2

Visible Emissions Limitation #: 2

2

1. Visible Emissions Subtype: VE100
2. Basis for Allowable Opacity Code(R/O): RULE <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: 100                      % Exceptional Conditions:    % Maximum Period of Excess Opacity Allowed: 60    min/hr
4. Method of Compliance Code: EPA Method 9
5. Visible Emissions Comment (limit to 200 characters): DEP Rule 62-210.700(1) allows excess emissions for up to 2 hrs / 24 hrs for startup, shutdown and malfunctions.

**I. VISIBLE EMISSIONS INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 2  
Visible Emissions Limitation #: 1

1

1. Visible Emissions Subtype: VE20
2. Basis for Allowable Opacity Code(R/O):   RULE       [ ] Rule       [ ] Other
3. Allowable Opacity: Normal Conditions: 20                           % Exceptional Conditions: 27    % Maximum Period of Excess Opacity Allowed: 6   min/hr
4. Method of Compliance Code: Method 9
5. Visible Emissions Comment (limit to 200 characters): Reference Rule 40 CFR 60.42(a)(2).

**J. CONTINUOUS MONITOR INFORMATION**  
**(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 2  
Continuous Monitor #: 15 15

**Continuous Monitoring System**

1. Parameter Code:			
2. Pollutant(s):		Carbon dioxide	
3. CMS Requirement Code(R/O):		OTHER	Rule / Other
4. Monitor Information:			
Manufacturer: Milton Roy		Serial Number: N3H8184T	
Model Number: 3300			
5. Installation Date (DD-MON-YYYY): 01/31/94			
6. Performance Specification Test Date (DD-MON-YYYY): 12/09/94			
7. Continuous Monitor Comment (limit to 200 characters):			

**J. CONTINUOUS MONITOR INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 2  
Continuous Monitor #: 23 23

**Continuous Monitoring System**

1. Parameter Code:			
2. Pollutant(s):	Volumetric flow rate		
3. CMS Requirement Code(R/O):	RULE	Rule	/ Other
4. Monitor Information:			
Manufacturer: Air Monitor		Serial Number: 5745D	
Model Number: MASSTRON			
5. Installation Date (DD-MON-YYYY): 01/31/94			
6. Performance Specification Test Date (DD-MON-YYYY): 12/09/94			
7. Continuous Monitor Comment (limit to 200 characters): Required by 40 CFR 75.10(a)(1)			



**J. CONTINUOUS MONITOR INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 2  
Continuous Monitor #: 18 18

**Continuous Monitoring System**

1. Parameter Code:		
2. Pollutant(s):	Nitrogen Oxides	
3. CMS Requirement Code(R/O):	RULE	Rule / Other
4. Monitor Information:		
Manufacturer:	TECO	
Model Number:	42	Serial Number: 42-45961-275K
5. Installation Date (DD-MON-YYYY): 01/31/94		
6. Performance Specification Test Date (DD-MON-YYYY): 12/09/94		
7. Continuous Monitor Comment (limit to 200 characters): Required by 40 CFR 75.10(a)(2)		

**J. CONTINUOUS MONITOR INFORMATION**  
**(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 2  
Continuous Monitor #: 21 21

**Continuous Monitoring System**

1. Parameter Code:		
2. Pollutant(s):	Sulfur Dioxide	
3. CMS Requirement Code(R/O):	RULE	Rule / Other
4. Monitor Information:		
Manufacturer:	TECO	
Model Number:	43B	Serial Number: 43B-46556-276
5. Installation Date (DD-MON-YYYY):	01/31/94	
6. Performance Specification Test Date (DD-MON-YYYY):	12/09/94	
7. Continuous Monitor Comment (limit to 200 characters):	Required by 40 CFR 75.10(a)(1)	

**J. CONTINUOUS MONITOR INFORMATION**  
**(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 2  
Continuous Monitor #: 22 22

**Continuous Monitoring System**

1. Parameter Code:		
2. Pollutant(s):	Visible emissions (opacity)	
3. CMS Requirement Code(R/O):	RULE	Rule / Other
4. Monitor Information:		
Manufacturer:	Lear Siegler	
Model Number:	RM 41	Serial Number: 924/966
5. Installation Date (DD-MON-YYYY):	03/01/78	
6. Performance Specification Test Date (DD-MON-YYYY):	01/05/95	
7. Continuous Monitor Comment (limit to 200 characters): Note that two serial numbers are provided because each duct leading to the stack has an individual transmissometer.		

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT  
TRACKING INFORMATION  
(Regulated and Unregulated Emissions Units)**

Information for Facility-ID : 1 Emission Unit # : 2

**PSD Increment Consumption Determination**

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

Select (1-5) : 1

- [ 1 ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. Final determination is that emissions unit consumes increment.
  
- [ 2 ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 17-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
  
- [ 3 ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
  
- [ 4 ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
  
- [ 5 ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

Select (1-5) : 5

- [ 1 ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. Final determination is that emissions unit consumes increment.
- [ 2 ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 17-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 3 ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 4 ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 5 ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code: (C, E, U- unkown):

PM	C
SO2	C
NO2	E

4. Baseline Emissions:

PM	865 lbs/hr	3788.7	tons/yr
SO2	6920 lbs/hr	30309.6	tons/yr
NO2	11366.1 tons/yr		

5. PSD Comment (limit to 200 characters):

PSD baseline emissions information taken from PSD permit application (Chapter 10.1.5 of the Martin Site Certification Application - table 6-15) and calculations.

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit # : 2

**Supplemental Requirements for All Applications**

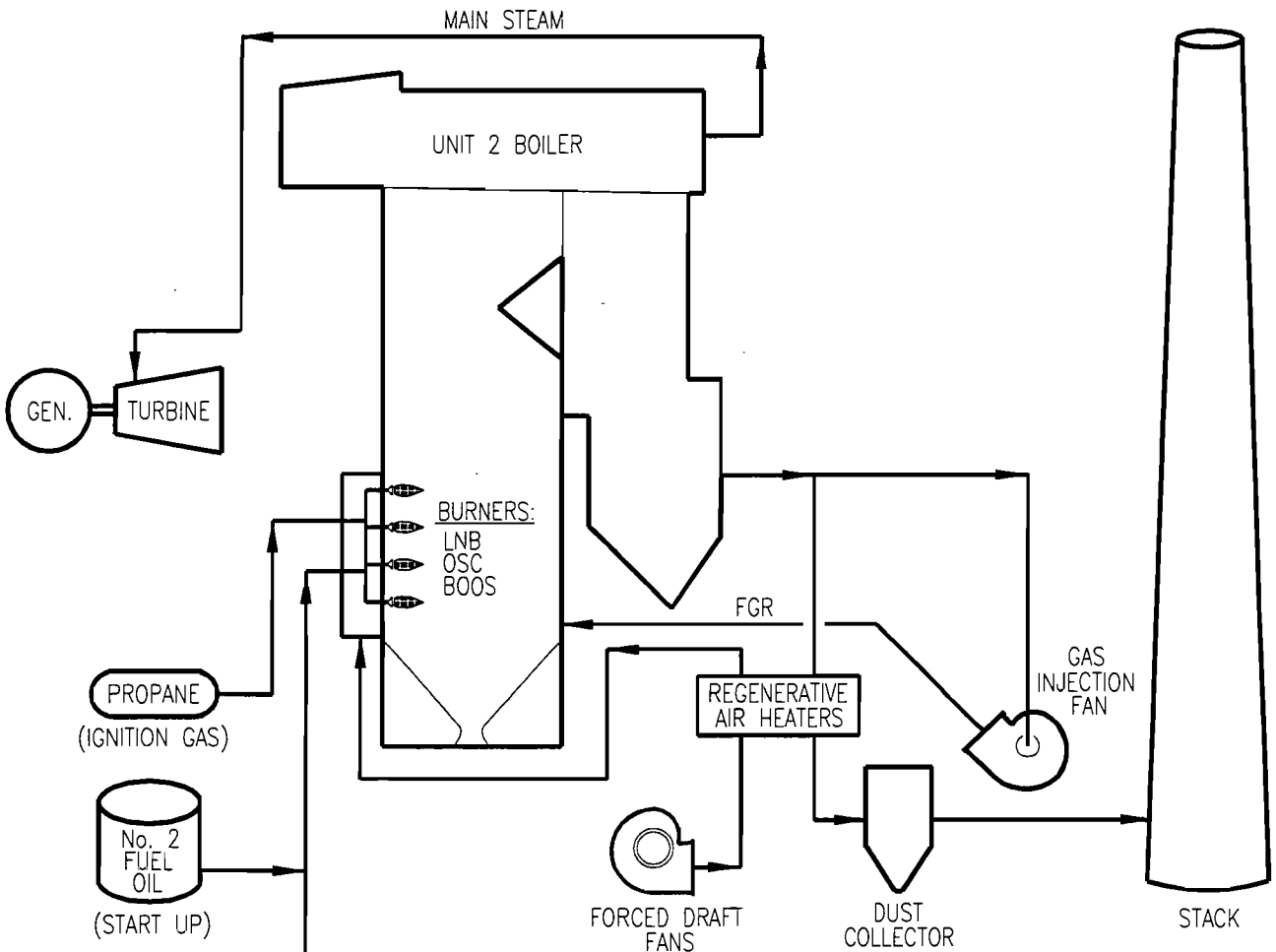
1. Process Flow Diagram : PMREU2_1.bmp Attached Document ID / Not Applicable / Waiver Requested
2. Fuel Analysis or Specification: PMRU1_2.doc Attached Document ID / Not Applicable / Waiver Requested
3. Detailed Description of Control Equipment : PMRU1_3.doc Attached Document ID / Not Applicable / Waiver Requested
4. Description of Stack Sampling Facilities : PMRU1_4.bmp Attached Document ID / Not Applicable / Waiver Requested
5. Compliance Test Report : Previously submitted, Date = July 15, 1994 Attached Document ID / Previously submitted, Date / Not Applicable
6. Procedures for Startup and Shutdown : PMRU1_6.doc Attached Document ID / Not Applicable
7. Operation and Maintenance Plan : NA Attached Document ID / Not Applicable
8. Supplemental Information for Construction Permit Application : NA Attached Document ID / Not Applicable
9. Other Information Required by Rule or Statute : NA Attached Document ID / Not Applicable

**Additional Supplemental Requirements for Category I Applications Only**

10. Alternative Methods of Operation : PMRU1_10.doc Attached Document ID / Not Applicable
11. Alternative Modes of Operation (Emissions Trading) : NA Attached Document ID / Not Applicable
12. Identification of Additional Applicable Requirements : PMRU1_13.txt Attached Document ID / Not Applicable
13. Enhanced Monitoring Plan : Not Applicable Attached Document ID / Not Applicable
14. Acid Rain Permit Application  Acid Rain Application - Phase II (Form No. 17-210.900(1)(a)) Attached Document ID: Not Applicable  Repowering Extension Plan (Form No. 17-210.900(1)(b)) Attached Document ID: Not Applicable  New Unit Exemption (Form No. 17-210.900(1)(c)) Attached Document ID: Not Applicable  Retired Unit Exemption (Form No. 17-210.900(1)(c)) Attached Document ID: Not Applicable  Not Applicable



TECHNICAL ACCEPTANCE		
ORG	BY	DATE
WALKDOWN INFORMATION		
ORG	BY	DATE
AS-BUILT INFORMATION		
ORG	BY	DATE



PERMITTED FUEL OPTIONS

LEGEND:

- LNB: LOW NOx BURNERS
- OSC: OFF-STOICHIOMETRIC COMBUSTION
- BOOS: BURNERS OUT OF SERVICE
- FGR: FLUE GAS RECIRCULATION

BAR CODE

	SYSTEM YY	DISCIPLINE M	PLANT/UNIT MARTIN PLANT
	SCALE N/A	CAD FILE NAME MR001738	TITLE EMISSION UNIT PROCESS FLOW DIAGRAM STEAM GENERATOR/BOILER ATTACHMENT NO. EU2
	DRAWING SIZE A (8.5X11)	FPL ARCHIVE NAME MR001738	

0	7/13/95	ISSUED FOR TITLE V PERMIT	PWB	PWB	CSP	CSP	ETS
REV	DATE	REVISION DESCRIPTION	BY	CH	COR	APR	ORG

DRAWING NUMBER	SHEET	REV
PMR1-M0103-YY	1 OF 1	0

## Attachment PMRU2\_12.txt

### Identification of Additional Applicable Requirements

Applicable Requirements as defined in Rule 62-210.200(29) not identified in Section D of this emission unit section are included in this attachment of the application. Any air operation permit issued by the Department (or local program designee) and included in this attachment is provided for information purposes. The specific conditions of the operating permit are not Applicable Requirements as defined in Rule 62-210.200(29) unless implementing a specific Applicable Requirement of the Department's rules (e.g. emission limitations and consent orders).

Martin Unit 2 is currently operating under DEP permit number AO43 170567. However, this is not a federally-enforceable permit. Permit number AC-73045, is federally-enforceable, and was issued to FPL on March 20, 1973. A renewal of the initial construction permit was issued to FPL on June 30, 1977 (Permit number AC43-4038 - also federally-enforceable).

The following specific conditions were taken from permit AC43-73045:

Description of facility: #2 Steam Generator Unit producing  $13.38 \times 10^{10}$  BTU/DAY burning 0.7% sulfur Bunker "C" oil.

*The description of the facility should match that of the current air operating permit.*

1. Construction of this installation shall be completed by 6/30/77.

*(This specific condition is related to initial construction and startup of this unit and is requested to be deleted.)*

2. This construction permit expires on 12/30/77 following an initial period of operation for appropriate testing to determine compliance with the Rule of the Florida Pollution Control Board.

*(This specific condition is related to initial construction and startup of this unit and is requested to be deleted.)*

3. All applicable rules of the Department including design discharge limitations specified in the application shall be adhered to. The permit holder may also need to comply with county, municipal, federal, or other state regulations prior to construction.

*(This specific condition is related to initial construction and startup of this unit and is requested to be deleted.)*

4. The applicant shall continue the retention of the engineer of record for the inspection of the construction of this project. Upon completion the engineer shall inspect for conformity to construction permit applications and associated documents. A report of such inspection shall be submitted by the engineer to the Department of Environmental Regulation for consideration toward the issuance of an operation permit.

*(This specific condition is related to initial construction and startup of this unit and is requested to be deleted.)*

5. The operation of this installation shall be observed for visible emissions in accordance with Method 9 - Visible Determination of the Opacity of Emissions from Stationary Sources (Federal Register, December 23, 1971). The observation results are required prior to our issuance of an operation permit, and shall be submitted in duplicate to the DPC Southeast Florida Regional Office, 200 S.E. 6th Street, Suite 500, Fort Lauderdale, Florida 33301.

***(This specific condition is related to initial construction and startup of this unit and is requested to be deleted.)***

6. Satisfactory ladders, platforms, and other safety devices shall be provided/available as well as necessary ports to facilitate the carrying out of an adequate sampling program.

***FPL has installed sampling platforms with appropriate sampling ports, and has tested this unit repeatedly over the years. This specific condition is requested to be deleted.***

7. The following items are required prior to our issuance of an operation permit in addition to the engineer of record's report of inspection:

- a) An emission report for total particulates based upon actual operations.
- b) A tabular summary of fuels used & sulfur content (as received basis).
- c) A tabular summary of actual records of frequencies and durations of soot blowing as well as boiler blowdown characteristics and disposal practices.

These items are required prior to our issuance of an operation permit and shall be submitted to the DPC Southeast Florida Regional Office, 200 S.E. 6th Street, Suite 504, Ft. Lauderdale Florida 33301.

***(This specific condition is related to initial construction and startup of this unit and is requested to be deleted.)***

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

***FPL proposes that this condition has been adequately addressed in the facility's NPDES and IWW permits, and it is therefore requested to be deleted from the Title V permit.***

9. All fugitive dust generated at this site shall be adequately controlled.

***FPL has utilized vegetative plantings, paving, maintenance, and various other operational methods to control fugitive dust.***

The following specific conditions were taken from permit AC43-4037, which was a renewal of air construction permit AC-73044:

Description of facility: Steam Generator Unit #2, producing 5,579 MBTU//HR burning max. of 0.7% sulfur Bunker "C" oil or natural gas.

*The description of the facility should match that of the current air operating permit.*

1. Construction of this installation shall be completed by December 1, 1981. Application for permit to operate to be submitted by January 1, 1982.

*FPL completed construction on Martin Unit 1 and has operated the unit for several years. ( This requirement is requested to be deleted.)*

2. This construction permit expires on February 1, 1982 following an initial period of operation for appropriate testing to determine compliance with the Rules of the Florida Environmental Regulation Commission.

*( This requirement is requested to be deleted.)*

3. All applicable rules of the Department including design discharge limitation specified in the application shall be adhered to. The permit holder may also need to comply with county, municipal, federal, or other state regulation prior to construction.

*( This requirement is requested to be deleted.)*

4. The applicant shall continue the retention of the engineer of record for the inspection of the construction of this project. Upon completion the engineer shall inspect for conformity to construction permit applications and associated documents. A report of such inspection shall be submitted by the engineer to the Department of Environmental Regulation for consideration toward the issuance of an operation permit.

*(This specific condition is related to initial construction and startup of this unit and is requested to be deleted.)*

5. This steam generating Unit #1 shall be tested for EPA "New Source" compliance testing within 30 days after it is placed in operation.. These test results are required prior to our issuance of an operation permit and shall be submitted to the Department of Environmental Regulation, 806 S. Sixth Street, Fort Pierce, FLa. 33450- (305) 464-8525.

*(This specific condition is related to initial construction and startup of this unit and is requested to be deleted.)*

6. Stack Sampling for total particulates or other contaminant emissions shall be conducted if found by the Department of Environmental Regulation at the Fort Pierce, Florida District Office to be necessary as a basis for the issuance of an operation permit.

*(This specific condition is related to initial construction and startup of this unit and is requested to be deleted.)*

7. Satisfactory ladders, platforms, and other safety devices shall be provided/available as well as necessary ports to facilitate the carrying out of an adequate sampling program.

*FPL has installed sampling platforms with appropriate sampling ports, and has tested this unit repeatedly over the years. This specific condition is requested to be deleted.*

8. The following items are required prior to our issuance of an operation permit in addition to the engineer of record's report of inspection:

- a) An emission report for total particulates based upon actual operations.
- b) A tabular summary of fuels used & sulfur content (as received basis).
- c) A tabular summary of actual records of frequencies and durations of soot blowing as well as boiler blowdown characteristics and disposal practices.

These items are required prior to our issuance of an operation permit and shall be submitted to the Department of Environmental Regulation 806 South Sixth Street, Fort Pierce, Florida 33450, telephone (30-5) 464-8525.

*(This specific condition is related to initial construction and startup of this unit and is requested to be deleted.)*

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

*FPL proposes that this condition has been adequately addressed in the facility's NPDES and IWW permits, and it is therefore requested to be deleted from the Title V permit.*

10. All fugitive dust generated at this site shall be adequately controlled. This includes, but is not limited to, roadway dust.

*FPL has utilized vegetative plantings, paving, maintenance, and various other operational methods to control fugitive dust.*

11. Please be advised that the Department does not condone nor authorize the permittee to bypass waste materials from either air or wastewater facilities at any time that would result in a violation of the rules and regulations of the Department.

In case of breakdown or lack of proper functioning of the facility causing or likely to cause discharge of improperly treated sewage or air emissions, it shall be the duty of the owner of the facility to promptly notify the Department. In addition to notifying this Department, the permittee shall notify the local County Health Officer.

The owner of the impaired facility causing the violation shall be responsible for any and all damages which may result. If violations of State standards occur, enforcement actions may be initiated.

*FPL understands the permit condition, but questions its necessity. It is proposed to be deleted from the Title V permit.*

III. EMISSIONS UNIT INFORMATION

Information for Facility - ID : 1 Emission Unit # : 3

3

A separate Emissions Unit Information Section (including subsections A through L 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. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Units? 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 a unregulated emissions unit.

2. Single Process, Group Processes, or Fugitive Only?

Enter The Number (1-3): 1

- [ 1 ] 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).
[ 2 ] 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.
[ 3 ] 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.

**B. GENERAL EMISSIONS UNIT INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): Martin unit 3A Fossil-fuel-fired combined-cycle CT
2. Emissions Unit Identification Number: 003 (No Corresponding ID or Unknown)
3. Emission Unit Status Code: (A or C) : A
4. Acid Rain Unit? (Y/N): Y
5. Emissions Unit Major Group SIC Code: 49
6. Emissions Unit Comment (limit to 500 characters): There are four combustion turbines at the Martin facility. Each CT is directly coupled to an electric generator. Heat from the combustion turbine exhausts through a heat recovery steam generator (HRSG). Steam produced in the HRSG is sent to a steam turbine-generator for production of additional electric power. Generator nameplate rating given above is for the CT-coupled generator only. Field C1 = the commercial operation date.

**Emissions Unit Control Equipment**

**A. Control Equipment # : 1**

1. Description (limit to 200 characters): Dry Low Nox combustors
2. Control Device or Method Code: Staged Combustion

**B. Control Equipment # :**

1. Description (limit to 200 characters):

2. Control Device or Method Code:

**C. Control Equipment # :**

1. Description (limit to 200 characters):

2. Control Device or Method Code:





**D. EMISSIONS UNIT REGULATIONS  
(Regulated Emissions Units Only)**

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

**Emission Unit Information Section** \_\_\_\_\_ **of** \_\_\_\_\_  
**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

Emissions Unit ID 3

40 CFR 60.332 (a)(1)	40 C.F.R. 72.40(d)	40 C.F.R. 75.20(b)	40 C.F.R. 75.66(h)
40 CFR 60.332 (b)	40 C.F.R. 72.51	40 C.F.R. 75.20(c)	40 C.F.R. 77.3
40 CFR 60.332(f)	40 C.F.R. 72.90	40 C.F.R. 75.20(g)	40 C.F.R. 77.5(b)
40 CFR 60.332(k)	40 C.F.R. 72.9(a)(1)(iii)	40 C.F.R. 75.21(a)	40 C.F.R. 77.6
40 CFR 60.333 (b)	40 C.F.R. 72.9(a)(1)(i)	40 C.F.R. 75.21(b)	F.A.C. 62-204.800 (7)(d)
40 CFR 60.334 (a) (when firing oil)	40 C.F.R. 72.9(a)(2)	40 C.F.R. 75.21(c)	(state only)
40 CFR 60.334 (b)(1)(when firing oil)	40 C.F.R. 72.9(b)	40 C.F.R. 75.21(d)	F.A.C. 62-204.800 (b)37.
40 CFR 60.334 (b)(2)(when firing natural gas)	40 C.F.R. 72.9(c)(1)	40 C.F.R. 75.21(e)	(state only)
40 CFR 60.334 (c)(1) (when firing oil)	40 C.F.R. 72.9(c)(2)	40 C.F.R. 75.21(f)	F.A.C. 62-204.800(12)
40 CFR 60.335	40 C.F.R. 72.9(c)(3)(iii)	40 C.F.R. 75.22	(state only)
40 C.F.R. 60.11(a)	40 C.F.R. 72.9(c)(4)	40 C.F.R. 75.24	F.A.C. 62-204.800(13)
40 C.F.R. 60.11(b)	40 C.F.R. 72.9(c)(5)	40 C.F.R. 75.30(a)(3)	(state only)
40 C.F.R. 60.11(c)	40 C.F.R. 72.9(d)	40 C.F.R. 75.32	F.A.C. 62-204.800(14)
40 C.F.R. 60.11(d)	40 C.F.R. 72.9(e)	40 C.F.R. 75.33	(state only)
40 C.F.R. 60.11(e)(2)	40 C.F.R. 72.9(f)	40 C.F.R. 75.36	F.A.C. 62-210.650
40 C.F.R. 60.12	40 C.F.R. 72.9(g)(4)	40 C.F.R. 75.4(a)(4)(i)	F.A.C. 62-210.700 (1)
40 C.F.R. 60.13(a)	40 C.F.R. 73.33	40 C.F.R. 75.4(b)	F.A.C. 62-210.700 (4)
40 C.F.R. 60.13(d)(1)	40 C.F.R. 73.35	40 C.F.R. 75.4(g)	F.A.C. 62-210.700 (6)
40 C.F.R. 60.13(e)	40 C.F.R. 75 Appendix A-1	40 C.F.R. 75.5	F.A.C. 62-214.300
40 C.F.R. 60.13(h)	40 C.F.R. 75 Appendix A-2	40 C.F.R. 75.53(a)	F.A.C. 62-214.320
40 C.F.R. 60.7(b)	40 C.F.R. 75 Appendix A-3	40 C.F.R. 75.53(b)	F.A.C. 62-214.330
40 C.F.R. 60.7(f)	40 C.F.R. 75 Appendix A-4	40 C.F.R. 75.53(c)	F.A.C. 62-214.340
40 C.F.R. 60.8(c)	40 C.F.R. 75 Appendix A-5	40 C.F.R. 75.53(d)(2)	F.A.C. 62-214.350(2)
40 C.F.R. 60.8(e)	40 C.F.R. 75 Appendix A-6	40 C.F.R. 75.54(a)	F.A.C. 62-214.350(3)
40 C.F.R. 72.20(a)	40 C.F.R. 75 Appendix B	40 C.F.R. 75.54(b)	F.A.C. 62-214.350(6)
40 C.F.R. 72.20(b)	40 C.F.R. 75 Appendix C-1	40 C.F.R. 75.54(d)	F.A.C. 62-214.370
40 C.F.R. 72.20(c)	40 C.F.R. 75 Appendix C-2	40 C.F.R. 75.55(c)	F.A.C. 62-214.430
40 C.F.R. 72.21(a)	40 C.F.R. 75 Appendix D	40 C.F.R. 75.56	F.A.C. 62-296.320 (4)(b)
40 C.F.R. 72.21(b)	40 C.F.R. 75 Appendix F	40 C.F.R. 75.60(a)	(state only)
40 C.F.R. 72.21(d)	40 C.F.R. 75 Appendix G-2	40 C.F.R. 75.60(b)	F.A.C. 62-296.800(2)(a)37
40 C.F.R. 72.22(a)	40 C.F.R. 75 Appendix H	40 C.F.R. 75.60(c)(3)	(as applicable) (state only)
40 C.F.R. 72.22(c)	40 C.F.R. 75.10(a)(1)	40 C.F.R. 75.61(a)(1)	
40 C.F.R. 72.23	40 C.F.R. 75.10(a)(2)	40 C.F.R. 75.61(a)(5)	
40 C.F.R. 72.24(a)	40 C.F.R. 75.10(a)(3)(i)	40 C.F.R. 75.62	F.A.C. 62-297.310(1)
40 C.F.R. 72.30(a)	40 C.F.R. 75.10(a)(4)	40 C.F.R. 75.63	F.A.C. 62-297.310(3)
40 C.F.R. 72.30(b)(2)	40 C.F.R. 75.10(b)	40 C.F.R. 75.64(a)	F.A.C. 62-297.310(4)(a)1.
40 C.F.R. 72.30(c)	40 C.F.R. 75.10(c)	40 C.F.R. 75.64(b)	F.A.C. 62-297.310(4)(b)
40 C.F.R. 72.30(d)	40 C.F.R. 75.10(f)	40 C.F.R. 75.64(c)	F.A.C. 62-297.310(4)(c)
40 C.F.R. 72.32	40 C.F.R. 75.10(g)	40 C.F.R. 75.64(d)	F.A.C. 62-297.310(4)(d)
40 C.F.R. 72.33(b)	40 C.F.R. 75.11(d)	40 C.F.R. 75.65	F.A.C. 62-297.310(5)
40 C.F.R. 72.33(c)	40 C.F.R. 75.12(a)	40 C.F.R. 75.66(a)	F.A.C. 62-297.310(6)(a)
40 C.F.R. 72.33(d)	40 C.F.R. 75.12(b)	40 C.F.R. 75.66(b)	F.A.C. 62-297.310(6)(c)
40 C.F.R. 72.40(a)	40 C.F.R. 75.13(b)	40 C.F.R. 75.66(c)	F.A.C. 62-297.310(6)(d)
40 C.F.R. 72.40(b)	40 C.F.R. 75.14(c)	40 C.F.R. 75.66(d)	F.A.C. 62-297.310(6)(f)
40 C.F.R. 72.40(c)	40 C.F.R. 75.20(a)(5)	40 C.F.R. 75.66(g)	F.A.C. 62-297.310(6)(g)
			F.A.C. 62-297.310(7)(a)1.
			F.A.C. 62-297.310(7)(a)3.
			F.A.C. 62-297.310(7)(a)4.b.
			F.A.C. 62-297.310(7)(a)5.
			F.A.C. 62-297.310(7)(a)7.
			F.A.C. 62-297.310(7)(a)9.
			F.A.C. 62-297.310(7)(c)
			F.A.C. 62-297.310(8)

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

**Emission Point Description and Type**

Information for Facility-ID 1 Emission Unit # :3

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1. Identification of Point on Plot Plan or Flow Diagram: EU-3
2. Emission Point Type Code (1,2,3,4) : 1
3. Descriptions of Emissions Points Comprising this Emissions Unit (limit to 100 characters): NA
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: Not applicable
5. Discharge Type Code (D, F, H, P, R, V, W) : v
6. Stack Height: 213.3 ft
7. Exit Diameter: 20 ft
8. Exit Temperature: 280 °F
9. Actual Volumetric Flow Rate: 2420307 acfm
10. Percent Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm
12. Nonstack Emission Point Height: ft
13. Emission Point UTM Coordinates: Zone: 17 East: 543.266 North: 2992.61

14. Emission Point Comment (limit to 200 characters):

The volumetric flow rate given above is reflective of a 40 degree F ambient condition while firing distillate oil. The volumetric flow while firing natural gas under the same conditions is 2,352,904 acfm. The volumetric flow while firing natural gas while in power augmentation mode is 2,468,838 acfm. All flow numbers provided by KBN Engineering & Applied Sciences.

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :/ Emission Unit #: 3 Segment #: 11 11

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Natural gas burned in combustion turbine 3A
2. Source Classification Code (SCC): 2-01-002-01
3. SCC Units: million cubic feet burned
4. Maximum Hourly Rate: 1.87
5. Maximum Annual Rate: 16381.2
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: 0.0031
8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 1050
10. Segment Comment (limit to 200 characters):

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :1 Emission Unit #: 3 Segment #: 12 12

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Light distillate oil burned in combustion turbine 3A
2. Source Classification Code (SCC): 2-01-001-01
3. SCC Units: thousand gallons burned
4. Maximum Hourly Rate: 14.13
5. Maximum Annual Rate: 28260
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: 0.5
8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 130.66
10. Segment Comment (limit to 200 characters): Max. annual rate is for 2,000 hrs of operation on dist. oil, which is limited in the current PSD permit (condition 4.a.) & the current Site Certification (condition II.A.4.a.) for 4 CT units combined.

**G. EMISSIONS UNIT POLLUTANTS  
(Regulated Emissions Units Only)**

**Information for Facility\_ID: 1 Emission Unit #: 3**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
SO2	NA	NA	EL
NOx	025	NA	EL
CO	NA	NA	EL
PM	NA	NA	EL
PM10	NA	NA	EL
VOC	NA	NA	EL
SAM	NA	NA	EL
PB	NA	NA	EL
H114	NA	NA	EL
FL	NA	NA	EL
H021	NA	NA	EL



**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 25

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**Pollutant Detail Information**

1. Pollutant Emitted:	Particulate Matter - PM10
2. Total Percent Efficiency of Control:	%
3. Potential Emissions:	60.6 lbs/hr                      100 tons/yr
4. Synthetically Limited? (Yes/No):	Y
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3):	to    tons/yr
6. Emission Factor:	60.6                      Units    lb/hour
Reference:	see comment
7. Emissions Method Code: (0,1, 2, 3, 4, 5):	5
	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
8. Calculation of Emissions (limit to 600 characters):	NA - in permits
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	<p>The current PSD permit and Site certification give the same emission limit for both PM and PM-10. The hourly rate given above is reflective of distillate oil firing. The hourly rate for natural gas firing is 18 lb/hour.</p> <p>The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.</p>

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 12**  
**Basis For Allowable Emission #: 185 185**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 18 Units : lb/hour
4. Equivalent Allowable Emissions: 18 lbs/hr 78.8 tons/yr
5. Method of Compliance: Not required for natural gas firing
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 1**  
**Basis For Allowable Emission #: 182 182**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 19 Units : lb/hour
4. Equivalent Allowable Emissions: 19 lbs/hr 333 tons/yr
5. Method of Compliance: DEP Rule 62-296.405(1)(e)2. (for oil only)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 67 Information provided on this page is reflective of coal gas firing.

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 1**  
**Basis For Allowable Emission #: 180 180**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 60.6 Units : lb/hour
4. Equivalent Allowable Emissions: 60.6 lbs/hr 60.6 tons/yr
5. Method of Compliance: DEP Rule 62-296.405(1)(e)2. (for oil only)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): <b>200</b> Information given in fields 3 and 4 for lb/hour emission rate reflects distillate oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for #2 oil firing.

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 12**  
**Basis For Allowable Emission #: 213 213**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 100 Units : TPY
4. Equivalent Allowable Emissions: lbs/hr 100 tons/yr
5. Method of Compliance: Annual operating report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information on this page represents the annual tpy limit for PM-10 for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 combustion turbines.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 15

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**Pollutant Detail Information**

1. Pollutant Emitted: Sulfur Dioxide	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 920 lbs/hr	568 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 0.5	Units % max in fuel
Reference: see comment	
7. Emissions Method Code: (0,1, 2, 3, 4, 5): 5	
<input type="checkbox"/> 1	<input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
8. Calculation of Emissions (limit to 600 characters): Not Applicable - current permit limit	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Information provided is representative of distillate oil firing, which is currently the worst-case fuel.  The potential emissions are limited by the current PSD permit and the Site Certification. Distillate oil firing is limited to 2,000 hours per year for all 4 combustion turbines combined. Sulfur content of the distillate oil is limited to 0.5% maximum and 0.3% annual average.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 2**  
**Basis For Allowable Emission #: 186 186**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 920 Units : lbs/hr
4. Equivalent Allowable Emissions: 920 lbs/hr 568 tons/yr
5. Method of Compliance: ASTM method D 2880-71 (or equivalent)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information in fields 3 and 4 above for lb/hour emission rate reflects #2 oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for distillate oil firing.

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 2  
Basis For Allowable Emission #: 188 188**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 834 Units : lb/hr
4. Equivalent Allowable Emissions: 834 lbs/hr 3652.92 tons/yr
5. Method of Compliance: ASTM method D 2880-71 (or equivalent)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information provided on this page reflects coal gas firing. Note that this facility does not currently have coal gas available as a fuel, however.



**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 2  
Basis For Allowable Emission #: 203 203**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 91.5 Units : lb/hour
4. Equivalent Allowable Emissions: 91.5 lbs/hr 400.77 tons/yr
5. Method of Compliance: ASTM methods: D 1072-80, D 3031-87, D 4084-82, or D 3246-81 (or equivalent)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 2  
Basis For Allowable Emission #: 205 205**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 568 Units : tons per year
4. Equivalent Allowable Emissions: lbs/hr 568 tons/yr
5. Method of Compliance: Annual Operating Report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information on this page represents the annual tpy limit for SO2 for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 combustion turbines.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 1

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**Pollutant Detail Information**

1. Pollutant Emitted:	Particulate Matter - Total
2. Total Percent Efficiency of Control:	%
3. Potential Emissions:	60.6 lbs/hr                      100 tons/yr
4. Synthetically Limited? (Yes/No):	Y
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) :	to    tons/yr
6. Emission Factor:	60.6                      Units    lb per hour
Reference:	Permit limits
7. Emissions Method Code: (0,1, 2, 3, 4, 5):	5
	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
8. Calculation of Emissions (limit to 600 characters):	Not Applicable
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	<p>The potential emission rate given is for distillate oil operation, for which the combustion turbines have an annual aggregate limit of 2,000 hours of operation. The hourly potential emission rate for natural gas fuel is 18 lb/hour. The 100 tons per year potential emission given above is an aggregate emission limit for all four combustion turbines (Units 3 &amp; 4).</p> <p>The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.</p>

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 1**  
**Basis For Allowable Emission #: 180 180**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 60.6 Units : lb/hour
4. Equivalent Allowable Emissions: 60.6 lbs/hr 60.6 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 5 or 17 (for oil only)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information given in fields 3 and 4 for lb/hour emission rate reflects distillate oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for #2 oil firing.

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 1  
Basis For Allowable Emission #: 181 181**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 18 Units : lb/hour
4. Equivalent Allowable Emissions: 18 lbs/hr 78.84 tons/yr
5. Method of Compliance: None required on natural gas
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 1  
Basis For Allowable Emission #: 182 182**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 19 Units : lb/hour
4. Equivalent Allowable Emissions: 19 lbs/hr 333 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 5 or 17 (for oil only)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information provided on this page is reflective of coal gas firing.

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 1**  
**Basis For Allowable Emission #: 204 204**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code:      Rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 100      Units : tons per year
4. Equivalent Allowable Emissions:    lbs/hr      100    tons/yr
5. Method of Compliance:    Annual Operating Report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information given on this page is meant to represent the annual tpy limit for PM for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 CT's.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: / Emission Unit #: 3 Pollutant #: 3

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**Pollutant Detail Information**

1. Pollutant Emitted: Nitrogen Oxides
2. Total Percent Efficiency of Control: %
3. Potential Emissions: 461 lbs/hr                      3108 tons/yr
4. Synthetically Limited? (Yes/No): Y
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr
6. Emission Factor: 461 <b>Units</b> lbs/hour Reference: Permit derived
7. Emissions Method Code: (0,1, 2, 3, 4, 5): 5 [ ] 1                      [ ] 2                      [ ] 3                      [ ] 4                      [ ] 5
8. Calculation of Emissions (limit to 600 characters):
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): The potential emission rates are based on oil firing (worst-case). The allowable hourly emission rate while firing natural gas is 177 pounds per hour at 40 degrees Fahrenheit. Note that emissions at other ambient temperatures may vary from these values.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.



**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 3**  
**Basis For Allowable Emission #: 200 200**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 461 Units : lb/hr
4. Equivalent Allowable Emissions: 461 lbs/hr 461 tons/yr
5. Method of Compliance: Annual stack testing using EPA Method 20 or modified EPA Method 7E
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information given in fields 3 and 4 above for lb/hour emission rate reflects #2 oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for #2 oil firing.

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 3**  
**Basis For Allowable Emission #: 201 201**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 177 Units : lb/hour
4. Equivalent Allowable Emissions: 177 lbs/hr 775.26 tons/yr
5. Method of Compliance: Annual Stack testing using EPA method 20 or modified EPA Method 7E
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 3  
Basis For Allowable Emission #: 202 202**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 3018 Units : tons per year
4. Equivalent Allowable Emissions: lbs/hr 3108 tons/yr
5. Method of Compliance: Annual Operating Report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information on this page represents the annual tpy limit for NOx for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 combustion turbines.

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 3**  
**Basis For Allowable Emission #: 208 208**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 392 Units : lb/hour
4. Equivalent Allowable Emissions: 392 lbs/hr 1716.96 tons/yr
5. Method of Compliance: Annual stack testing EPA method 20 or modified EPA Method 7E
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information provided on this page reflects coal gas firing. Please note that this facility does not currently have coal gas available as a fuel, however.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 4

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**Pollutant Detail Information**

1. Pollutant Emitted: Volatile Organic Compounds	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 11 lbs/hr	57 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3): to tons/yr	
6. Emission Factor: 11	Units lb/hour
Reference: Permit derived	
7. Emissions Method Code: (0,1, 2, 3, 4, 5): 5	
[ ] 1	[ ] 2
[ ] 3	[ ] 4
[ ] 5	
8. Calculation of Emissions (limit to 600 characters):	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	
<p>The potential emissions are limited by the PSD permit and the Site Certification. The emission rates given above are for distillate oil (worst-case). the current allowable hourly emission rate for natural gas firing is 3 lb/hour.</p> <p>The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.</p>	

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 4**  
**Basis For Allowable Emission #: 191 191**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 3 Units : lb/hour
4. Equivalent Allowable Emissions: 3 lbs/hr 13.14 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 18 or 25A
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 4**  
**Basis For Allowable Emission #: 192 192**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 57 Units : tons per year
4. Equivalent Allowable Emissions: lbs/hr 57 tons/yr
5. Method of Compliance: Annual Operating Report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information on this page represents the annual tpy limit for VOC for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 combustion turbines.

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 4**  
**Basis For Allowable Emission #: 206 206**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 21.4 Units : lb/hour
4. Equivalent Allowable Emissions: 21.4 lbs/hr 93.73 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 18 or 25A
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information provided on this page is reflective of coal gas firing. Please note that this facility does not currently have coal gas available as a fuel, however.



**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 18

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**Pollutant Detail Information**

1. Pollutant Emitted: Carbon Monoxide	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 105.8 lbs/hr	871 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 105.8	Units lb/hour
Reference: see comment	
7. Emissions Method Code: (0,1, 2, 3, 4, 5): 5	
<input type="checkbox"/> 1	<input type="checkbox"/> 2
<input type="checkbox"/> 3	<input type="checkbox"/> 4
<input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters):	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	
<p>The potential emissions are limited by the PSD permit and the Site Certification. The values given above are representative of oil firing (worst-case). The maximum allowable hourly emission rate while firing natural gas is 94.3 lb/hour.</p> <p>Emission Factor Reference is PSD-FL-146 and Site Certification PA-89-27.</p> <p>The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.</p>	

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 5**  
**Basis For Allowable Emission #: 176 176**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 105.8 Units : lb/hour
4. Equivalent Allowable Emissions: 105.8 lbs/hr 105.8 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 10
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information in fields 3 and 4 above for lb/hour emission rate reflects #2 oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for distillate oil firing.

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 5  
Basis For Allowable Emission #: 177 177**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 94.3 Units : lb/hour
4. Equivalent Allowable Emissions: 94.3 lbs/hr 413.034 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 10
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 5**  
**Basis For Allowable Emission #: 178 178**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 871 Units : tons per year
4. Equivalent Allowable Emissions: lbs/hr 871 tons/yr
5. Method of Compliance: Annual Operating Report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information on this page represents the annual tpy limit for CO for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 combustion turbines.

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 5**  
**Basis For Allowable Emission #: 207 207**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 134 Units : lb/hour
4. Equivalent Allowable Emissions: 134 lbs/hr 586.92 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 10
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information provided on this page reflects coal gas firing. Please note that this facility does not currently have coal gas available as a fuel, however.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 10**

**10**

**Pollutant Detail Information**

1. Pollutant Emitted: Mercury Compounds 0	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 0.021 lbs/hr	0.34 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 0.021	Units lb/hour
Reference: see comment	
7. Emissions Method Code: (0, 1, 2, 3, 4, 5): 5 <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters): NA - in current operating permits	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): The TPY value of 0.34 is a combined number for all four CT's (3A, 3B, 4A, and 4B). Emissions of mercury are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 10**  
**Basis For Allowable Emission #: 173 173**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: Units :
4. Equivalent Allowable Emissions: lbs/hr tons/yr
5. Method of Compliance:
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 97 Limit requested to be deleted pursuant to May 19, 1995 DARM Guidance Memorandum (DARM-PER/GEN-18)

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 6**

**19**

**Pollutant Detail Information**

1. Pollutant Emitted:     Lead - Total	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 0.015 lbs/hr	0.015 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to    tons/yr	
6. Emission Factor:	<b>Units</b>
Reference:	Not applicable
7. Emissions Method Code: (0, 1, 2, 3, 4, 5): 5 [ ] 0     [ ] 1     [ ] 2     [ ] 3     [ ] 4     [ ] 5	
8. Calculation of Emissions (limit to 600 characters):	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Information provided is for both natural gas and distillate oil firing.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	



**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 6**  
**Basis For Allowable Emission #: 194 194**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: Units :
4. Equivalent Allowable Emissions: lbs/hr tons/yr
5. Method of Compliance:
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 97 Limit requested to be deleted pursuant to May 19, 1995 DARM Guidance Memorandum (DARM-PER/GEN-18)

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 7

20

**Pollutant Detail Information**

1. Pollutant Emitted: Sulfuric Acid Mist	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 113 lbs/hr	70 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 113	Units lb/hour
Reference: permit-derived	
7. Emissions Method Code: (0, 1, 2, 3, 4, 5): 5 <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters): In permit  Emission rates given are reflective of operation on number 2 distillate fuel (worst-case fuel, at present) .  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 7**  
**Basis For Allowable Emission #: 195 195**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: Units :
4. Equivalent Allowable Emissions: lbs/hr tons/yr
5. Method of Compliance:
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 97 Limit requested to be deleted pursuant to May 19, 1995 DARM Guidance Memorandum (DARM-PER/GEN-18)

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 8

21

**Pollutant Detail Information**

1. Pollutant Emitted: Beryllium Compounds 0	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 0.004 lbs/hr	0.004 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 0.004	Units lb/hour
Reference: See comment	
7. Emissions Method Code: (0, 1, 2, 3, 4, 5): 5 <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters): NA - In permit  These emission calculations represent operation on all fuels.  Reference for emission factor is current PSD permit and Site Certification.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 8**  
**Basis For Allowable Emission #: 198 198**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: Units :
4. Equivalent Allowable Emissions: lbs/hr tons/yr
5. Method of Compliance:
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 97 Limit requested to be deleted pursuant to May 19, 1995 DARM Guidance Memorandum (DARM-PER/GEN-18)

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 9

22

**Pollutant Detail Information**

1. Pollutant Emitted: Fluorides - Total	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 0.055 lbs/hr	0.055 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 0.055	Units lb/hour
Reference: See Comment	
7. Emissions Method Code: (0, 1, 2, 3, 4, 5): 5 <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters): NA - In permit  Emission rates given represent operation on all fuels. Fluoride is reported because it is included in the facilities' current PSD and Site Certification permits.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	

**Information for Facility\_ID: 1 Emission Unit #: 3 Pollutant #: 9**  
**Basis For Allowable Emission #: 179 179**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: Units :
4. Equivalent Allowable Emissions: lbs/hr tons/yr
5. Method of Compliance:
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 97 Limit requested to be deleted pursuant to May 19, 1995 DARM Guidance Memorandum (DARM-PER/GEN-18)







**I. VISIBLE EMISSIONS INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 3  
Visible Emissions Limitation #: 7

7

1. Visible Emissions Subtype: VE100
2. Basis for Allowable Opacity Code(R/O):   RULE       [ ] Rule       [ ] Other
3. Allowable Opacity: Normal Conditions: 100                   % Exceptional Conditions:    % Maximum Period of Excess Opacity Allowed:   min/hr
4. Method of Compliance Code: EPA Method 9
5. Visible Emissions Comment (limit to 200 characters): DEP Rule 62-210.700(1) allows excess emissions for up to 2 hrs / 24 hrs for startup, shutdown and malfunctions.

**J. CONTINUOUS MONITOR INFORMATION**  
**(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 3  
Continuous Monitor #: 19 19

**Continuous Monitoring System**

1. Parameter Code:		
2. Pollutant(s):	Carbon dioxide	
3. CMS Requirement Code(R/O):	RULE	Rule / Other
4. Monitor Information:		
Manufacturer:	Milton Roy	
Model Number:	3300	Serial Number: N4CO320T
5. Installation Date (DD-MON-YYYY):	12/09/94	
6. Performance Specification Test Date (DD-MON-YYYY):	12/28/94	
7. Continuous Monitor Comment (limit to 200 characters):	The CO2 monitor gives %O2 data to the NOx monitoring system per 40 CFR 75 Appendix E, equation E-3. There is no flow monitor at this emission unit.	

**J. CONTINUOUS MONITOR INFORMATION**  
**(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 3  
Continuous Monitor #: 2 2

**Continuous Monitoring System**

1. Parameter Code:		
2. Pollutant(s):	Nitrogen Oxides	
3. CMS Requirement Code(R/O):	RULE	Rule / Other
4. Monitor Information:		
Manufacturer:	TECO	
Model Number:	42	Serial Number: 42D-49806-284
5. Installation Date (DD-MON-YYYY):	12/09/94	
6. Performance Specification Test Date (DD-MON-YYYY):	12/28/94	
7. Continuous Monitor Comment (limit to 200 characters):	This emission unit is classified as a "gas-fired" unit under the 40 CFR 75 definitions, therefore opacity and SO2 monitors are not required.	

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT  
TRACKING INFORMATION  
(Regulated and Unregulated Emissions Units)**

Information for Facility-ID : 1 Emission Unit # : 3

**PSD Increment Consumption Determination**

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

Select (1-5) : 1

- [ 1 ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. Final determination is that emissions unit consumes increment.
  
- [ 2 ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 17-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
  
- [ 3 ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
  
- [ 4 ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
  
- [ 5 ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

Select (1-5) : 1

- [ 1 ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. Final determination is that emissions unit consumes increment.
- [ 2 ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 17-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 3 ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 4 ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 5 ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code: (C, E, U- unkown):

PM	C
SO2	C
NO2	C

4. Baseline Emissions:

PM	lbs/hr	tons/yr
SO2	lbs/hr	tons/yr
NO2	tons/yr	

5. PSD Comment (limit to 200 characters):  
Emissions associated with this emission unit are as follows:

PM 60.6 lb/hour	100 tons per year
SO2 920 lb/hour	568 tons per year
NOx 3,108 tons per year	

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit # : 3

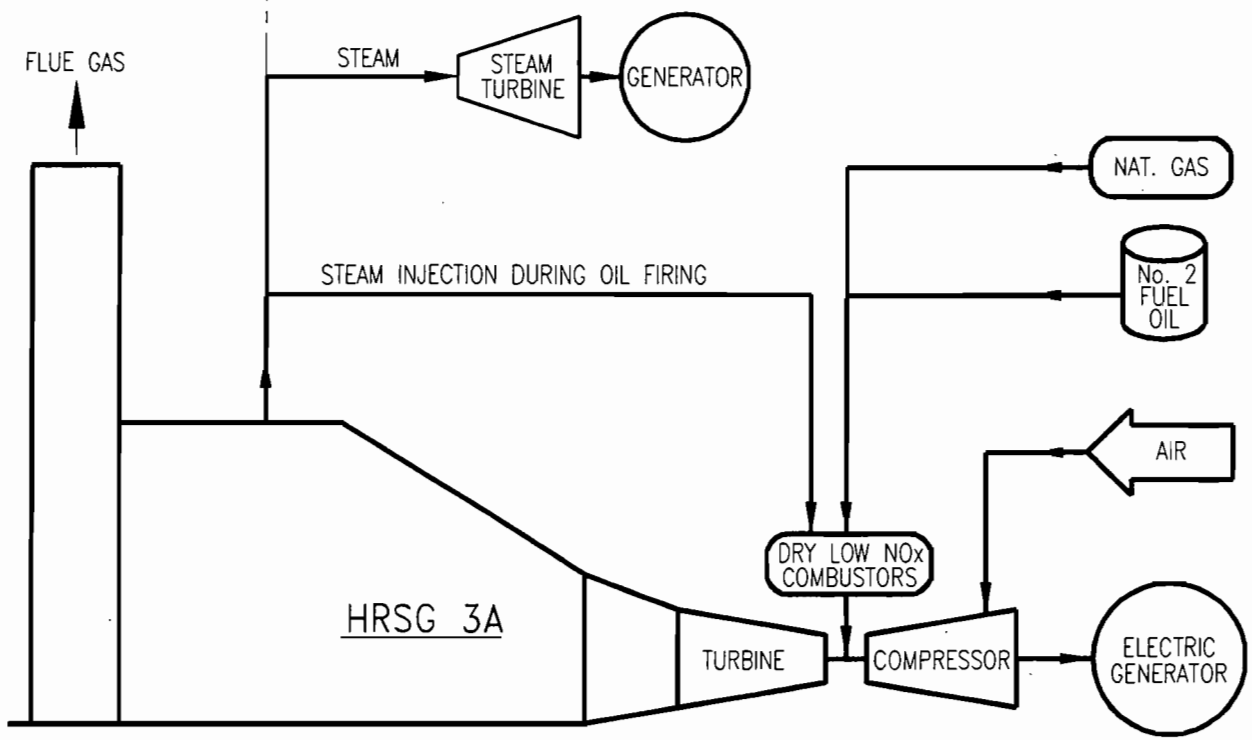
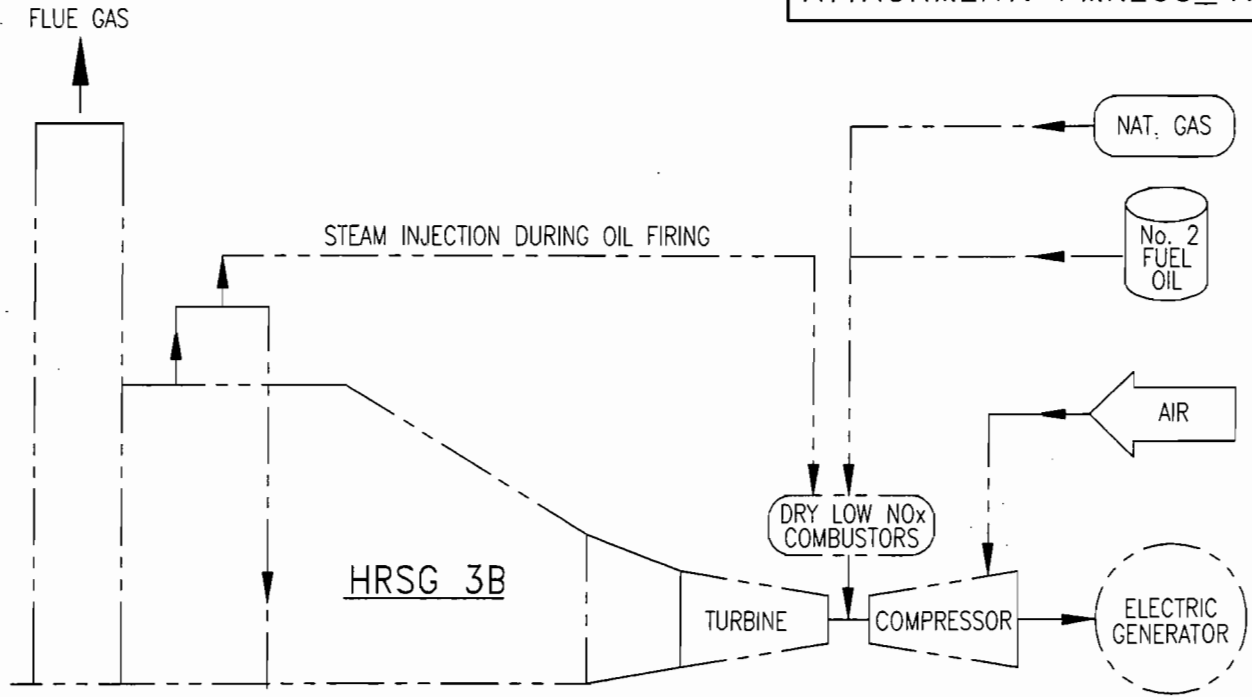
**Supplemental Requirements for All Applications**

1. Process Flow Diagram : PMRU3_1.bmp Attached Document ID / Not Applicable / Waiver Requested
2. Fuel Analysis or Specification: PMRU3_2.doc Attached Document ID / Not Applicable / Waiver Requested
3. Detailed Description of Control Equipment : PMRU3_3.doc Attached Document ID / Not Applicable / Waiver Requested
4. Description of Stack Sampling Facilities : PMRU3_4.bmp Attached Document ID / Not Applicable / Waiver Requested
5. Compliance Test Report : Previously submitted Date: February 7, 1994 Attached Document ID / Previously submitted, Date / Not Applicable
6. Procedures for Startup and Shutdown : PMRU3_6.doc Attached Document ID / Not Applicable
7. Operation and Maintenance Plan : NA Attached Document ID / Not Applicable
8. Supplemental Information for Construction Permit Application : NA Attached Document ID / Not Applicable
9. Other Information Required by Rule or Statute : NA Attached Document ID / Not Applicable



**Additional Supplemental Requirements for Category I Applications Only**

10. Alternative Methods of Operation : PMRU3_10.doc Attached Document ID / Not Applicable
11. Alternative Modes of Operation (Emissions Trading) : Not Applicable Attached Document ID / Not Applicable
12. Identification of Additional Applicable Requirements : PMRU3_13.doc Attached Document ID / Not Applicable
13. Enhanced Monitoring Plan : Not Applicable Attached Document ID / Not Applicable
14. Acid Rain Permit Application  Acid Rain Application - Phase II (Form No. 17-210.900(1)(a)) Attached Document ID: Not Applicable  Repowering Extension Plan (Form No. 17-210.900(1)(b)) Attached Document ID: Not Applicable  New Unit Exemption (Form No. 17-210.900(1)(c)) Attached Document ID: Not Applicable  Retired Unit Exemption (Form No. 17-210.900(1)(c)) Attached Document ID: Not Applicable  Not Applicable



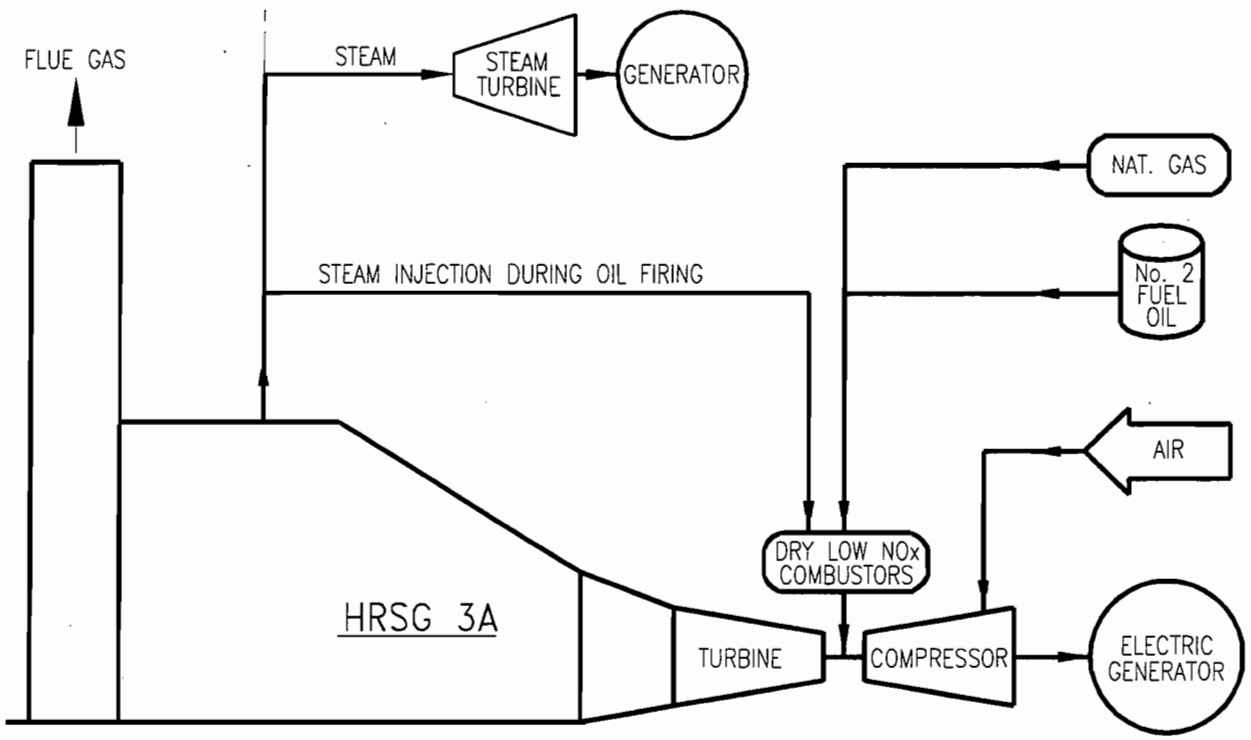
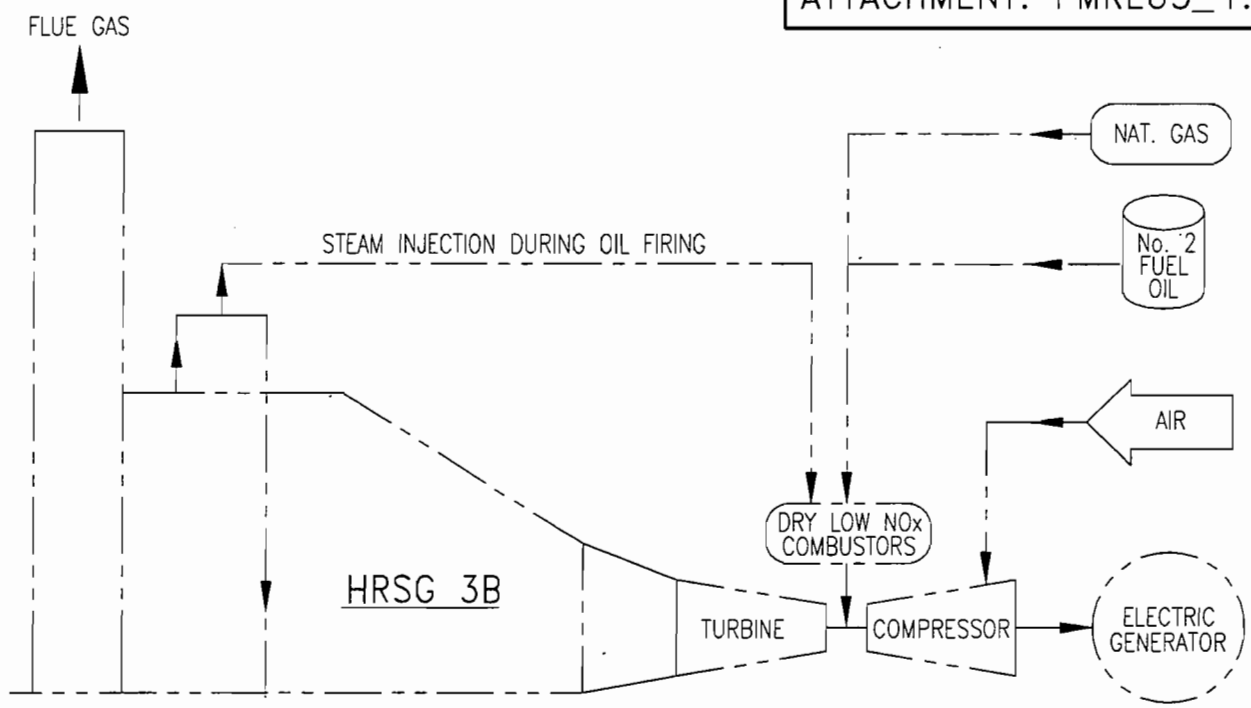
WALKDOWN INFORMATION				TECHNICAL ACCEPTANCE			
ORG	BY	DATE	AS-BUILT INFORMATION	ORG	BY	DATE	ENGINEERING ORGANIZATION

BAR CODE

	SYSTEM	YY	DISCIPLINE	M	PLANT/UNIT	MARTIN PLANT
	SCALE	N/A	CAD FILE NAME	MFD-4A	TITLE	EMISSION UNIT FLOW DIAGRAM COMBUSTION TURBINES ATTACHMENT NO. EU3
	DRAWING SIZE	A (8.5X11)	FPL ARCHIVE NAME			

0	7/13/95	ISSUED FOR TITLE V PERMIT	PWB	PWB	CSP	CSP	ETS
REV	DATE	REVISION DESCRIPTION	BY	CH	COR	APR	ORG

DRAWING NUMBER	SHEET	REV
	1 OF 1	0



TECHNICAL ACCEPTANCE	ORG	BY	DATE
	ENGINEERING ORGANIZATION		
WALKDOWN INFORMATION	ORG	BY	DATE
	AS-BUILT INFORMATION		

BAR CODE

	SYSTEM	YY	DISCIPLINE	M	PLANT/UNIT	MARTIN PLANT
	SCALE	N/A	CAD FILE NAME	MRO01739	TITLE	EMISSION UNIT FLOW DIAGRAM COMBUSTION TURBINES ATTACHMENT NO. EU3
	DRAWING SIZE	A (8.5X11)	FPL ARCHIVE NAME	MRO01739		

0	7/13/95	ISSUED FOR TITLE V PERMIT	PWB	PWB	CSP	CSP	ETS
REV	DATE	REVISION DESCRIPTION	BY	CH	COR	APR	ORG

DRAWING NUMBER	PMR1-M0104-YY	SHEET	1 OF 1	REV	0
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Fuel Analysis  
Natural Gas Analysis (typical)<sup>3</sup>

<u>Parameter</u>	<u>Typical value</u>	<u>Max value</u>
Specific gravity(@ 60° F)	0.887	none
Heat content (Btu/cu ft)	950 - 1124 <sup>2</sup>	none
% sulfur (grains/CCF)	0.43 <sup>1</sup>	1.00
% nitrogen (by volume)	0.8	none
% ash	negligible	none

\*Note: The values listed are "typical" values based upon information supplied to FPL by Florida Gas Transmission (FGT). However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

- (1) Data from laboratory analysis
- (2) Data from FPL fuel purchasing specifications
- (3) The values are "typical" based upon the following:
  - Information gathered by FPL through laboratory analysis, and
  - FPL's fuel purchasing specifications. It should be noted that the analytical results obtained from grab samples taken at any given time may vary from those listed.

## Attachment PMRU3\_2.txt

Fuel Analysis  
No. 2 Distillate oil (typical)<sup>5</sup>

<u>Parameter</u>	<u>Typical value</u>	<u>Specifications</u>
API gravity (@ 60 F)	35.0 <sup>2</sup>	30 - 40 <sup>1</sup>
Heat content (MBtu/bbl)	5,700 - 5,800 <sup>2</sup>	none
% sulfur	0.2 <sup>3</sup>	0.3 maximum <sup>4</sup>
% nitrogen	no specification	none
% ash	<0.01 <sup>2</sup>	0.01 <sup>1</sup>

Footnotes:

- (1) Data taken from FPL fuel specifications.
- (2) Data taken from laboratory analysis.
- (3) Data from current air permit - max hourly concentration.
- (4) Data from current air permit - max annual concentration.
- (5) The values are "typical" based upon the following:
  - Information gathered by FPL through laboratory analysis, and
  - FPL's fuel purchasing specifications. It should be noted that the analytical results obtained from grab samples taken at any given time may vary from those listed.

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

(There are 16 pages in  
this section)



***GE Power Generation***

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# **Dry Low NO<sub>x</sub> Combustion Systems For GE Heavy-Duty Gas Turbines**

3

L.B. Davis  
GE Company  
Schenectady, NY



**L.B. Davis**

Dr. Davis has worked on gas turbine combustion systems since his graduation from the University of Kentucky in 1972. Until 1980, he developed a number of different combustors, including the original low smoke combustors for the MS7000 machines, and also created nearly 20 new combustion design practices. Since 1980 he has been responsible for directing the development and field deployment of combustion systems for General Electric's advanced MS7001F/9001F machines and of dry-low-NOx combustors for the entire heavy duty gas turbine product line. He is currently the head of Combustion Engineering for General Electric's Gas Turbine Design and Development Engineering.

*A List of Figures appears at the end of this paper.*

# DRY LOW NO<sub>x</sub> COMBUSTION SYSTEMS FOR GE HEAVY-DUTY GAS TURBINES

L.B. Davis  
GE Company  
Schenectady, NY

## INTRODUCTION

Over the past ten years there has been a dramatic increase in the regulatory requirements for low emissions from gas turbine power plants. Environmental agencies throughout the world are now requiring even lower rates of emissions of NO<sub>x</sub> and other pollutants from both new and existing gas turbines. Traditional methods of reducing NO<sub>x</sub> emissions from combustion turbines (water and steam injection) are limited in their ability to reach the extremely low levels required in many localities. GE's involvement in the development of both the traditional methods as well as the newer Dry Low NO<sub>x</sub> (DLN) technology has been well documented in the past (References 1-5). This paper will briefly discuss emission control methods, the theories and design philosophies employed in the GE Dry Low NO<sub>x</sub> development program for our line of heavy duty gas turbines, and will conclude with an update on the status of this program.

## EMISSIONS CONTROL METHOD

There are three principal methods for controlling gas turbine emissions: (1) injection of a diluent such as water or steam into the burning zone of a conventional (diffusion flame) combustor; (2) catalytic clean-up of NO<sub>x</sub> and CO from the gas turbine exhaust (usually used in conjunction with the other two methods); and (3) design of the combustor to limit the formation of pollutants in the burning zone by utilizing "lean-premixed" combustion technology. The last method includes both "Dry Low NO<sub>x</sub>" or "DLN" combustors and catalytic combustors. General Electric has considerable experience with each of these three methods.

Since September 1979 when regulations in the US required that NO<sub>x</sub> emissions be limited to 75 ppmvd (parts per million by volume, dry),

more than 300 GE heavy-duty gas turbines have accumulated over 2.5 million operating hours using either steam or water-injection to meet or exceed these required NO<sub>x</sub> emissions levels. The amount of water required to accomplish this is approximately one-half of the fuel flow. However, there is a 1.8 percent heat-rate penalty associated with using water to control NO<sub>x</sub> emissions for oil-fired simple-cycle gas turbines. Output, on the other hand, increases by approximately 3.0 percent, making water (or steam) injection for power augmentation economically attractive in some circumstances (such as peaking applications).

Single nozzle combustors using water or steam injection are generally limited in their ability to reduce NO<sub>x</sub> levels below 42 ppmvd on gas fuel and 65 ppmvd on oil fuel. GE developed multi-nozzle quiet combustors (MNQC) for the MS7001EA and MS7001FA capable of achieving 25 ppmvd on gas fuel and 42 ppmvd on oil using either water or steam injection. Since October 1987, more than twenty-six MNQC-equipped MS7001's using water or steam injection have been placed in service. One such unit using steam injection has operated over 40,000 hours at 25 ppmvd NO<sub>x</sub> (at 15% O<sub>2</sub>).

More frequent combustion inspections and decreased hardware life are undesirable side effects that can result from the use of diluent injection to reduce NO<sub>x</sub> emissions from combustion turbines. For applications requiring NO<sub>x</sub> emissions below 42 ppmvd (or 25 ppmvd in the case of the MS7001EA or MS7001FA MNQC), or to avoid the significant cycle efficiency penalties incurred when water or steam injection are used for NO<sub>x</sub> control, one of the other two principal methods of NO<sub>x</sub> control mentioned above must be utilized.

Selective catalytic reduction (SCR) is a method for converting NO and NO<sub>2</sub> in the gas turbine exhaust stream to molecular nitrogen



and oxygen by reacting the  $\text{NO}_x$  with ammonia in the presence of a catalyst. Conventional SCR technology requires that the temperature of the exhaust stream remain in a narrow range (550 F to 750 F, 290C to 400 C), and is thus generally restricted to applications with a heat recovery system installed in the exhaust. The SCR is installed at a location in the boiler where the exhaust gas temperature has decreased to the 550 F to 750 F range mentioned above. New high-temperature SCR technology which may allow SCRs to be utilized for applications without heat recovery boilers is currently under development.

For a MS7001EA gas turbine, an SCR designed to remove 90 percent of the  $\text{NO}_x$  from the gas turbine exhaust stream has a volume of approximately 175 cubic meters and weighs 111 tons. It is comprised of segments stacked in the exhaust duct. Each segment has a honeycomb pattern, with passages which are aligned in the direction of the exhaust gas flow. A catalyst material, such as vanadium pentoxide, is deposited on the surface of the honeycomb.

SCR systems are sensitive to fuels containing more than 1,000 ppm of sulfur (light distillate oils may have up to 0.8 percent sulfur). There are two reasons for this sensitivity: first, sulfur poisons the catalyst now generally being used in SCRs. Secondly, the ammonia will react with sulfur in the presence of the catalyst to form ammonium bisulfate, which is extremely corrosive, particularly near the discharge of a heat recovery boiler. Special catalyst materials that are less sensitive to sulfur have been identified, and there are some theories as to how to inhibit the formation of ammonium bisulfate. This, however, remains an open issue with SCRs.

There are more than 100 GE units that have accumulated a total of well over 100,000 operating hours with SCRs installed. Twenty of the units are in Japan, while others are located in California, New Jersey, New York and several other eastern U.S. states. Units operating with SCRs include MS9000s, MS7000s, MS6000s, LM2500s, and LM5000s.

Lean premixed combustion is the basis for achieving low emissions from both Dry Low  $\text{NO}_x$  and catalytic combustors. GE has been

active in the development of catalytic combustors for many years. These systems use a catalytic reactor bed mounted within the combustor to burn a very lean fuel-air mixture. They have the potential to achieve extremely low emissions levels without resorting to exhaust gas cleanup. There are technical challenges (not only in the combustor, but also in the catalyst and reactor bed materials) that must be overcome in order to develop an operational catalytic combustor. GE has development programs in place with both ceramic and catalyst manufacturers to address these challenges. We do not believe commercial systems employing this technology will be available in the near term.

## GAS TURBINE COMBUSTION SYSTEMS

A gas turbine combustor is essentially a device used for mixing large quantities of fuel and air and burning the resulting mixture. In concept the combustor is comprised of a fuel injector and a wall to contain the flame. There are three fundamental factors (as well as practical concerns) which complicate the design of the combustor: equivalence ratio, flame stability, and ability to operate from ignition through full load.

*Equivalence ratio* – a flame burns best when there is just enough fuel to react with all of the available oxygen. With this stoichiometric mixture (equivalence ratio of 1.0) the flame temperature is the highest and the chemical reactions are the fastest, compared to cases where there is either more oxygen ("fuel lean", < 1.0) or less oxygen ("fuel rich", > 1.0) for the amount of fuel present. In a gas turbine, the maximum temperature of the hot gases exiting the combustor is limited by what the turbine nozzles and buckets can tolerate. This temperature typically corresponds to an equivalence ratio of 0.4 to 0.5 (40 to 50 percent of the stoichiometric fuel flow). In the kinds of combustors used on modern gas turbines, this fuel-air mixture would be too lean for stable and efficient burning. Therefore, only a portion of the compressor discharge air is introduced directly into the combustor reaction zone (flame zone) to be mixed with the fuel and burned. The balance of the airflow serves either to quench the



as designed across all load ranges before it is actually installed and tested in a machine.

## GAS TURBINE EMISSIONS

The significant products of combustion in gas turbine emissions are: oxides of nitrogen ( $\text{NO}$  and  $\text{NO}_2$ , collectively called  $\text{NO}_x$ ), carbon monoxide ( $\text{CO}$ ), unburned hydrocarbons or UHCs (which are usually expressed as equivalent methane ( $\text{CH}_4$ ) particles and arise from incomplete combustion), oxides of sulfur ( $\text{SO}_2$  and  $\text{SO}_3$ ), and particulates. Unburned hydrocarbons include both volatile organic compounds (VOC's), which contribute to the formation of atmospheric ozone, and compounds (such as methane) which do not. The latter three classes are of little significance in natural gas combustion and will not be dealt with here. Carbon monoxide will be discussed in the context of controlling oxides of nitrogen.

There are two sources of  $\text{NO}_x$  emissions in the exhaust of a gas turbine. Most of the  $\text{NO}_x$  is generated by the fixation of atmospheric nitrogen in the flame. This is called thermal  $\text{NO}_x$ . Nitrogen oxides are also generated by the conversion of a fraction of any nitrogen chemically bound in the fuel (called fuel-bound nitrogen or FBN). Lower quality distillates and low Btu coal gases from gasifiers with hot gas cleanup carry varying amounts of fuel-bound nitrogen which must be taken into account when emissions calculations are made. The methods described below to control thermal  $\text{NO}_x$  emissions are generally ineffective in controlling the conversion of FBN to  $\text{NO}_x$ .

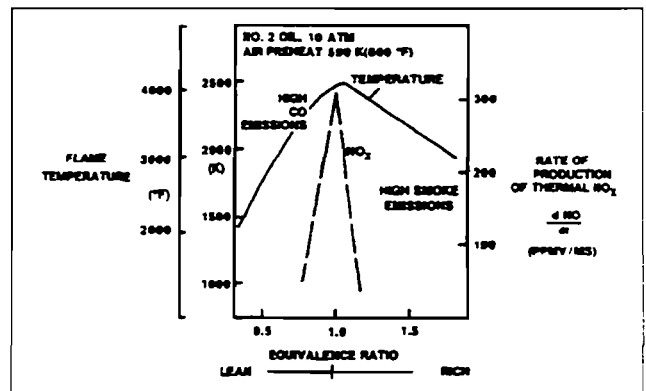
Thermal  $\text{NO}_x$  is generally considered to be generated by a chemical reaction sequence called the Zeldovich Mechanism (Reference 6). This set of well verified chemical reactions postulates that the rate of generation of thermal  $\text{NO}_x$  is an exponential function of the temperature of the flame. It follows that the amount of  $\text{NO}_x$  generated is a function not only of the flame temperature but also of the time the hot gas mixture is at flame temperature. This turns out to be a linear function of time. Thus, temperature and residence time determine thermal  $\text{NO}_x$  emissions levels and are the principal vari-

ables that a gas turbine designer can adjust to control emission levels.

For a given fuel, since the flame temperature is a unique function of the equivalence ratio, the rate of  $\text{NO}_x$  generation can be cast as a function of the equivalence ratio. This is illustrated in Figure 3, which shows that the highest rate of  $\text{NO}_x$  production occurs at an equivalence ratio of 1.0, when the temperature is equal to the stoichiometric, adiabatic flame temperature.

To the left of the maximum temperature point (referring to Figure 3), there is more oxygen available than fuel (the equivalence ratio is less than 1.0) and the resulting flame temperature is lower. This is fuel-lean operation. Since the rate of  $\text{NO}_x$  formation is a function of temperature and time, it follows that some difference in  $\text{NO}_x$  emissions can be expected when different fuels are burned in a given combustion system. Since distillate oil and natural gas have approximately a 100 F (38 C) flame temperature difference, a significant difference in  $\text{NO}_x$  emissions can be expected, all other things (reaction zone equivalence ratio, water injection rate, etc.) being equal.

As can be seen from Figure 3, the rate of  $\text{NO}_x$  production falls off dramatically as flame temperature decreases (i.e., the flame becomes fuel lean). This is because of the exponential effect of temperature in the Zeldovich Mechanism and



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Figure 3. Rate of thermal  $\text{NO}_x$  production

is the reason why diluent injection (usually water or steam) into a gas turbine combustor flame zone reduces  $\text{NO}_x$  emissions. For the same reason, very lean dry combustors can be used to control emissions. This is desirable for

reaching the lower  $\text{NO}_x$  levels now required in many applications. There are, however, two design challenges associated with very lean combustors. First, care must be taken to ensure that the flame is stable at the design operating point. Secondly, it is necessary to have turndown capability since a gas turbine must ignite, accelerate, and operate over the load range. At lower loads, as fuel flow to the combustors is decreased, the flame will be very lean and will not burn well, or it can become unstable and blow out.

In response to these challenges, combustion system designers use staged combustors so that only a portion of the flame zone air is allowed to mix with the fuel at lower loads or during start-up. There are two types of staged combustors: fuel-staged or air staged (illustrated in Figure 4). In its simplest and most common configuration, a fuel-staged combustor has two flame zones, each receiving a constant fraction of the combustor airflow. Fuel flow is divided between the two zones so that, at each machine operating condition, the amount of fuel fed to a stage is matched to the amount of air available. An air-staged combustor utilizes a mechanism for diverting a fraction of the airflow from the flame

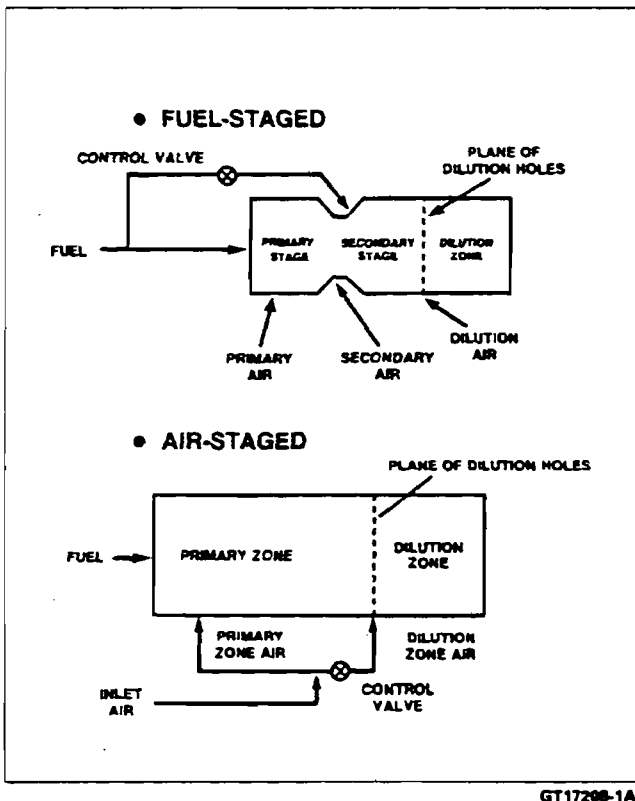


Figure 4. Staged combustors

zone to the dilution zone at low load to increase turndown. Both of these methods can be combined.

## DRY LOW $\text{NO}_x$ SYSTEMS

The GE Dry Low  $\text{NO}_x$  systems require close integration of a staged premixed combustor, the gas turbine's SPEEDTRONIC<sup>TM</sup> controls, and the fuel and associated systems. There are two principal measures of performance. The first one is meeting the emissions levels required at base load levels on both gas and oil fuel and controlling the variation of these levels across the load range of the gas turbine. The second measure is system operability, with emphasis placed on the smoothness and reliability of combustor mode changes, ability to load and unload the machine without restriction, capability to switch from one fuel to another and back again, and system response to rapid transients (e.g., generator breaker open events or rapid swings in load). GE's design goal is to make the DLN system operate such that the gas turbine operator does not know whether a DLN or conventional combustion system is installed (i.e., its operation is "transparent to the user."). To date, a significant portion of the DLN design and development effort has focused on system operability.

### DLN-1 System

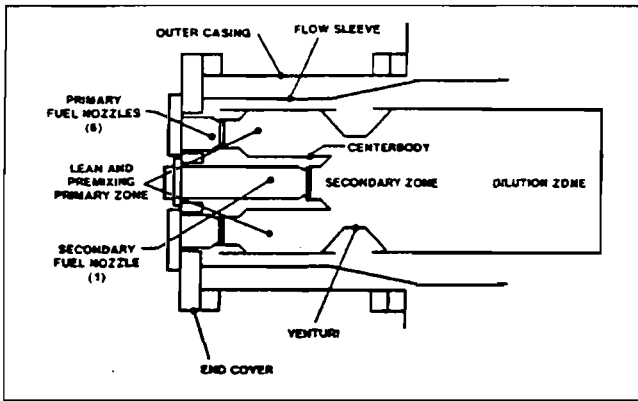
DLN-1 development first began in the 1970's with the goal of producing a dry oil system to meet the USEPA New Source Performance Standards of 75 ppmvd  $\text{NO}_x$  at 15%  $\text{O}_2$ . As noted in Reference 7, this system was tested on both oil and gas fuel at Houston Lighting & Power in 1980 and met its emissions goals. Subsequent to this, the goals of the DLN program changed in response to stricter environmental regulations and the pace of the program accelerated in the late 1980's.

### DLN-1 Combustor

The GE DLN-1 combustor (shown in cross section in Figure 5 and described in Reference 8) is a two stage premixed combustor designed for use with natural gas fuel and capable of operation on liquid fuel. As shown, the combus-

tion system includes four major components:

- Fuel injection system
- Liner
- Venturi
- Cap/centerbody assembly



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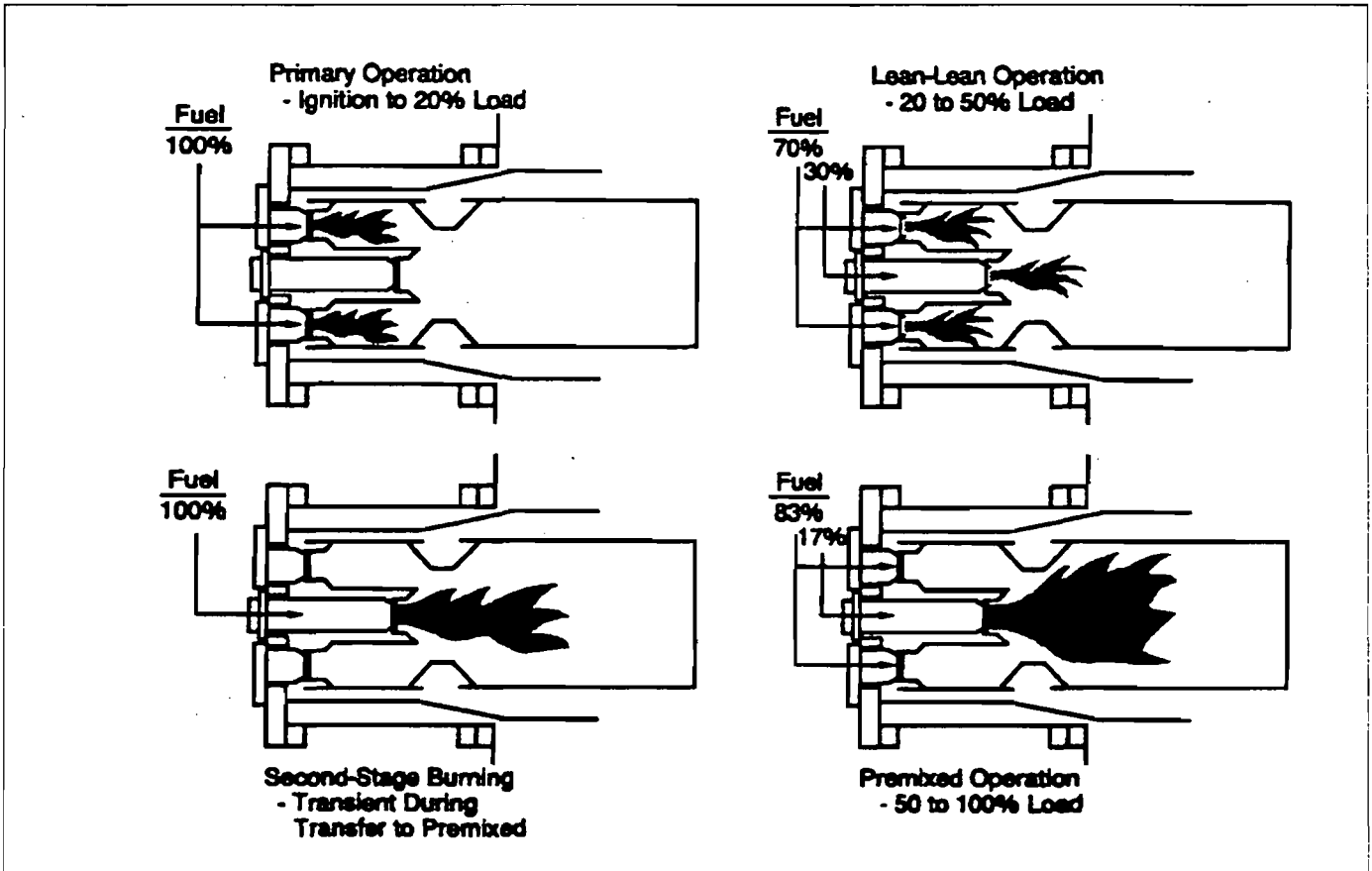
Figure 5. DLN-1 combustor schematic

These components are arranged to form two stages in the combustor. In the premixed mode, the first stage serves to thoroughly mix the fuel and air and to deliver a uniform, lean,

unburned fuel-air mixture to the second stage.

The GE DLN-1 combustion system operates in four distinct modes, illustrated in Figure 6, during natural gas fuel operation:

<u>Mode</u>	<u>Operating Range</u>
Primary	Fuel only to the primary nozzles. Flame is only in the primary stage. This mode of operation is used to ignite, accelerate, and operate the machine over low to mid loads, up to a preselected combustion reference temperature.
Lean-Lean	Fuel to both the primary and secondary nozzles. Flame is in both the primary and secondary stages. This mode of operation is used for intermediate loads, between two preselected combustion reference temperatures.
Secondary	Fuel to the secondary nozzle only. Flame is in the secondary zone only. This mode is a transi-



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Figure 6. Fuel-staged Dry Low NO<sub>x</sub> operating modes

tion state between lean-lean and premix modes. This mode is necessary to extinguish the flame in the primary zone, before fuel is reintroduced into what becomes the primary premixing zone.

#### Premix

Fuel to both primary and secondary nozzles. Flame is in the secondary stage only. This mode of operation is achieved at and near the combustion reference temperature design point. Optimum emissions are generated in premix mode.

The load range associated with these modes will vary with the degree of inlet guide vane modulation, and to a smaller extent, with the ambient temperature. Nominally, the premix operating range above 50 percent load is with IGV modulation down to 42 degrees, and 75 percent load is with IGV modulation down to 57 degrees. The 42 degree IGV minimum requires an inlet bleed heat system.

If required, both the primary and secondary fuel nozzles can be dual-fuel nozzles, thus allowing automatic transfer from gas to oil throughout the load range. When burning distillate oil, the combustor operates in the primary mode below approximately 50 percent load and will operate in the lean-lean mode from 50 percent to 100 percent load (the system does not utilize the premixed mode during operation on liquid fuels). Diluent injection is used for NO<sub>x</sub> abatement when burning distillate oil.

The spark plug and flame detector arrangements in a DLN-1 combustor are different from those used in a conventional combustor. Since it is necessary to re-ignite the first stage at high load (to transfer from the premixed mode back to lean-lean operation), the spark plugs do not retract. One plug is mounted in a primary zone cup in each of two combustors. The system uses flame detectors to view the primary stage of selected chambers (similar to conventional systems), and secondary flame detectors that look through the centerbody and into the second stage.

The primary fuel injection system is used during ignition and part load operation, as well as for injecting most of the fuel during pre-

mixed operation. It must be capable of stabilizing the flame. For this reason, the DLN-1 primary fuel nozzle is similar to GE's MS7001EA multi-nozzle combustor with multiple swirl-stabilized fuel injectors. The GE DLN-1 system uses five primary fuel nozzles for the MS6001B and smaller machines and six primary fuel nozzles for the larger machines. This design is capable of providing a well-stabilized diffusion flame which burns efficiently at ignition and during part load operation. In addition, the multi-nozzle fuel injection system provides a satisfactory spatial distribution of fuel flow entering the first-stage mixer. The primary fuel-air mixing section is bounded by the combustor first-stage wall, the cap/centerbody, and the forward cone of the venturi. This volume is used as a combustion zone when the combustor is operating in the primary and lean-lean modes. Since ignition occurs in this stage, crossfire tubes are installed to propagate flame and to balance pressures between adjacent chambers. Film slots on the liner walls provide cooling (as they do in a standard combustor).

In order to achieve good emissions performance in premixed operation, the fuel-air equivalence ratio of the mixture exiting the first-stage mixer must be very lean. Efficient and stable burning in the second stage is achieved by providing continuous ignition sources at both the inner and outer surfaces of this flow. The three elements of this stage comprise a piloting flame, an associated aerodynamic device to force interaction between the pilot flame and the inner surface of the main stage flow, and an aerodynamic device to create a stable flame zone on the outer surface of the main stage flow exiting the first stage.

The piloting flame is generated by the secondary fuel nozzle, which premixes a portion of the fuel and air (about 17 percent of the fuel at full-load operation) and injects the mixture through a swirler into a cup where it is burned. This flame is stabilized by burning an even smaller amount of fuel (less than two percent of the total fuel flow) as a diffusion flame in the cup. The secondary nozzle, which is mounted in the cap centerbody, is simple and highly effec-

tive in creating a stable flame. A swirler mounted on the downstream end of the cap/centerbody surrounds the secondary nozzle. This creates a swirling flow which stirs the interface region between the piloting flame and the main-stage flow and ensures that flame is continuously propagated from the pilot to the inner surface of the fuel-air mixture exiting the first stage.

The sudden expansion at the throat of the venturi creates a toroidal recirculation zone over the downstream conical surface of the venturi. This zone, which entrains a portion of the venturi cooling air, is a stable-burning zone which acts as an ignition source for the main stage fuel-air mixture. The cone angle and axial location of the venturi cooling air dump have significant effects on the efficacy of this ignition source. Finally, the dilution zone (that region of the combustor immediately downstream of the flame zone in the secondary) provides a region for CO burnout and for shaping of the gas temperature profile exiting the combustion system.

The DLN system (which includes the combustor described above as well as the controls and accessories described below) must be designed to balance the requirements for low  $\text{NO}_x$  with equally demanding needs for low CO, low noise or "dynamics," and stable combustion with a wide turndown range in premixed operation. The combustion designers have described this technological balancing act as trying to fit everything into a four sided box (Figure 7).

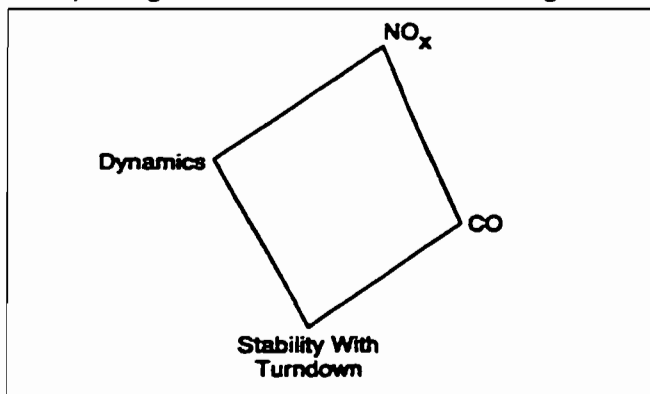


Figure 7. DLN technology - a four-sided box

GE's DLN development plan has been to focus initially on those challenges which are most difficult ( $\text{NO}_x$ , dynamics, and stability with wide turndown), and to design a system which will

satisfy those requirements. Then the simplest possible methods are used to achieve the remaining goals (CO). This approach has worked well.

### DLN-1 Controls and Accessories

The gas turbine accessories and control systems are configured so that operation on a DLN-equipped turbine will be essentially identical to that of a turbine equipped with a conventional combustor. This is accomplished by controlling the turbines in identical fashions, with the exhaust temperature, speed, and compressor discharge pressure establishing the fuel flow and compressor inlet guide vane position.

A turbine with a conventional (diffusion) combustor using diluent injection for  $\text{NO}_x$  control will utilize an underlying algorithm to control steam or water injection. This algorithm will use top level control variables (exhaust temperature, speed, etc.) to establish a steam-to-fuel or water-to-fuel ratio to control  $\text{NO}_x$ . In a similar fashion, the same variables are used to divide the total turbine fuel flow between the primary and secondary stages of a DLN combustor. The fuel division is accomplished by commanding a calibrated splitter valve to move to a set position based on the calculated combustion reference temperature (Figure 8). Figure 9 shows a schematic of the gas fuel system for a DLN equipped turbine. The only special control sequences required are concerned with protecting the turbine during a generator breaker-open trip, or flashback from the second stage to the first stage during premixed operation. When either the breaker opens at load or flashback is

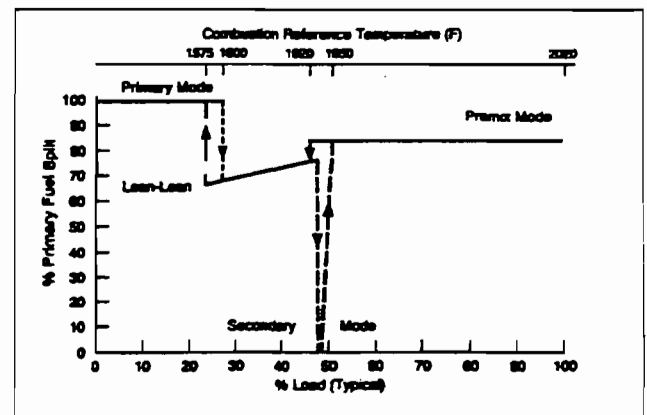
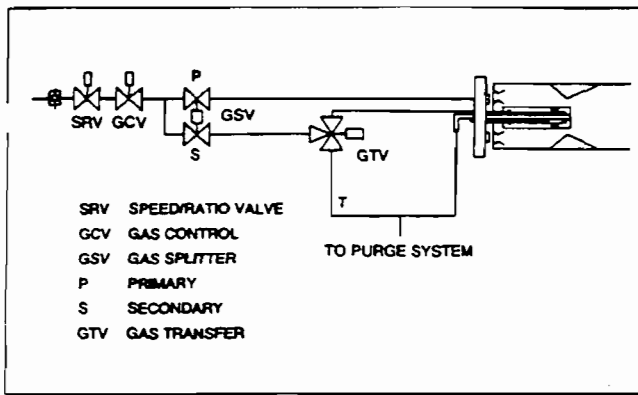


Figure 8. Typical Dry Low  $\text{NO}_x$  fuel gas split schedule



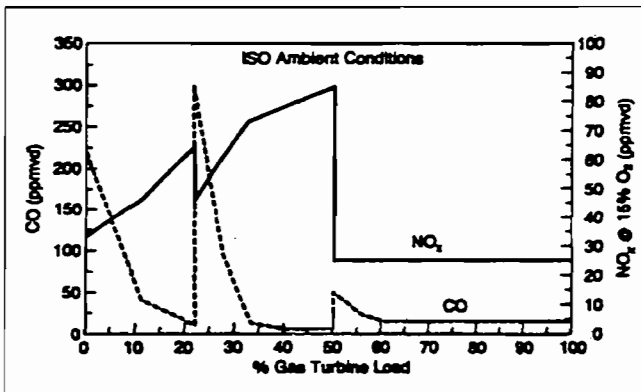
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Figure 9. DLN-1 gas fuel system

sensed by ultraviolet flame detectors looking into the first stage, the splitter valve is commanded to move to a pre-determined position. In the case of a flashback, the control system can execute an automatic sequence to return to pre-mixed, full-load operation.

**DLN-1 Emissions**

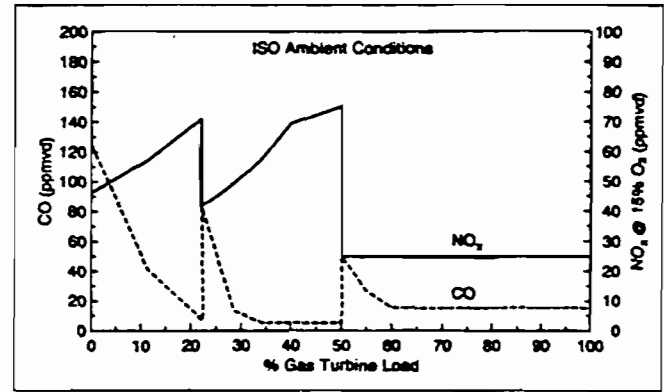
The emissions performance of the GE DLN system can be illustrated as a function of load for a given ambient temperature and turbine configuration. Figures 10 and 11 show the NO<sub>x</sub>



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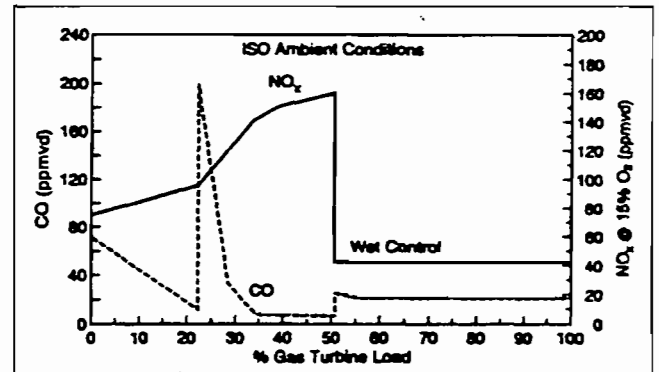
Figure 10. MS7001EA/9E DLN-1 combustion system performance on natural gas fuel

and CO emissions from typical MS7001EA and MS6001B DLN systems designed for 25 ppmvd NO<sub>x</sub> and 15 ppm CO when operated on natural gas fuel. Figures 12 and 13 show NO<sub>x</sub> and CO emissions for the same systems operated on oil fuel with water injection. These figures are for units equipped with inlet bleed heat and extended IGV modulation. NO<sub>x</sub> and CO emissions from the DLN combustor at loads less than 20 percent of base load are similar to those from



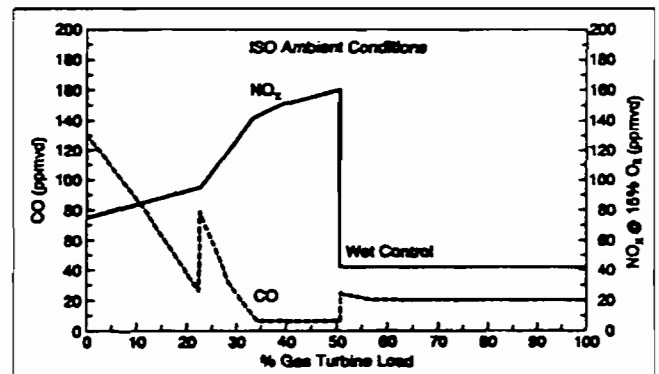
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Figure 11. MS6001B DLN-1 emissions performance on natural gas fuel



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Figure 12. MS7001EA/9E DLN-1 combustion system performance on distillate oil



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Figure 13. MS6001B DLN-1 emissions performance on distillate oil fuel

standard combustion systems. This result is to be expected since both systems are operating as diffusion flame combustors in this range. Between 20 and 50 percent load, the DLN system is operated in the lean-lean mode, and the flow split between the primary fuel nozzles and secondary nozzle is being varied to give the decreasing NO<sub>x</sub> characteristic shown. From 50 to 100 percent load, the DLN system operates as a lean premixed combustor. As shown in the figures,



there is a significant reduction in  $\text{NO}_x$  emissions, while CO emissions are comparable to those from the standard system.

### DLN-1 Experience

GE's first DLN-1 system was tested at Houston Lighting & Power in 1980 (reference 7). More recently, a prototype DLN system using the combustor design discussed above was tested on a MS9001E at the Electricity Supply Board's (ESB) Northwall Station in Dublin, Ireland between October 1989 and July 1990. A comprehensive engineering test of the prototype DLN combustor, controls, and associated systems was conducted with  $\text{NO}_x$  levels of 32 ppmvd (at 15%  $\text{O}_2$ ) obtained at base load. The results of the MS9001E DLN testing at ESB were then incorporated into the design of prototype systems for the MS7001E and MS6001B. The 7E DLN-1 prototype was tested at Anchorage Municipal Light and Power (AMLP) in early 1991, and entered commercial service shortly thereafter. Since that time, development tests of a number of advanced prototype combustor configurations have been done at AMLP. Also in early 1991, the MS6001B prototype system was first operated at Jersey Central Power & Light's Forked River Station. A series of additional tests culminated in the demonstration of a 9 ppm combustor at Jersey Central in November 1993.

There are currently twenty-three MS6001B machines equipped with DLN-1 systems. In total, they have accumulated more than 125,000 hours of operation. There are, in addition, two MS7001E, two MS7001B-E, eight MS7001EA, five MS9001E, and three MS3002J DLN-1 machines that have collectively operated for more than 15,000 hours. Excellent emissions results have been obtained in all cases, with single digit  $\text{NO}_x$  and CO achieved on two MS7001EA's. Several of the MS7001E/EA machines have the capability to power augment with massive water injection.

Starting in early 1992, eight MS7001F machines equipped with GE DLN systems were placed in service at Korea Electric Power Company's Seoinchon site. These "F" technology machines have achieved better than 55% (gross) efficiency in combined cycle operation, and the DLN systems are currently operating between 30 and 40 ppmvd  $\text{NO}_x$  (the guarantee

level is 50 ppmvd). These units have operated more than 25,000 hours in premixed operation. Four additional F class DLN-1 systems have begun commissioning at Scottish Hydro's Keadby site and at National Power's Little Barford site. These 9F machines are guaranteed to operate at less than 60 ppm  $\text{NO}_x$ .

The combustion laboratory testing and field operation has shown that the DLN-1 system can achieve single digit  $\text{NO}_x$  and CO levels on "E" technology machines. Current DLN-1 development activity is focused on three goals: application of single digit technology to the MS6001B, MS7001EA, and MS9001E; application of DLN-1 technology for retrofitting existing field machines (including MS3002s and MS5000s, some of which will require upgrade before DLN retrofit); and on completing the development of steam and water power augmentation as needed by the market.

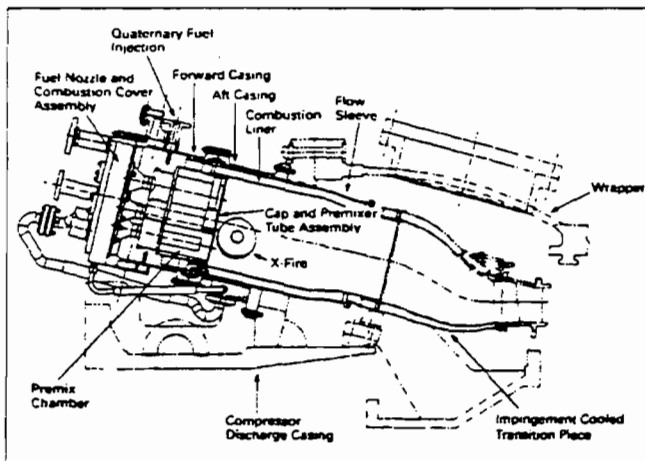
### DLN-2 SYSTEM

As the "F" technology gas turbines became available in the late 1980's, studies were conducted to establish what type of dry low  $\text{NO}_x$  combustor would be needed for these new higher firing temperature machines. The conclusions of these studies were that air usage in the combustor (e.g., for cooling) other than for mixing with fuel would have to be strictly limited. A team of engineers from GE Power Generation, GE Corporate Research and Development, and GE Aircraft Engine proposed a design which repackaged premixing DLN-1 technology but eliminated both the venturi and centerbody assemblies which require cooling air. The resulting combustor is called DLN-2. The DLN-2 combustor is the standard system for the 6FA, 7FA, and 9FA, as well as the 7EC and 9EC. There are fourteen combustors installed in the 7FA and 9EC, eighteen in the 9FA, six in the 6FA, and 10 on the 7EC. All of these combustors are not scaled, but are full size 9FA combustors.

### DLN-2 Combustion System

The DLN-2 combustion system shown in Figure 14 is a single stage, dual mode combustor capable of operation on both gaseous and liquid fuel. On gas, the combustor operates in a diffu-

sion mode at low loads (<50% load), and a pre-mixed mode at high loads (>50% load). While the combustor is capable of operating in the diffusion mode across the load range, diluent injection would be required for  $\text{NO}_x$  abatement. Oil operation on this combustor is in the diffusion mode across the entire load range, with diluent injection used for  $\text{NO}_x$ .



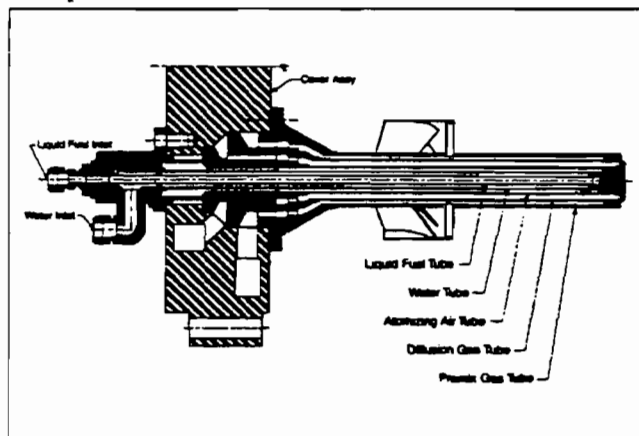
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Figure 14. DLN-2 combustion system

Each DLN-2 combustor system has a single burning zone formed by the combustor liner and the face of the cap. In low emissions operation, ninety percent of the gas fuel is injected through radial gas injection spokes in the pre-mixer, and combustion air is mixed with that fuel in tubes surrounding each of the five fuel nozzles. The pre-mixer tubes are part of the cap assembly. The fuel and air are thoroughly mixed and flow out of the five tubes at high velocity and enter the burning zone where lean, low  $\text{NO}_x$  combustion occurs. The vortex breakdown from the swirling flow exiting the pre-mixers, along with the sudden expansion in the liner, are mechanisms for flame stabilization. The DLN-2 fuel nozzle/premixer tube arrangement is similar in design and technology to the secondary nozzle/centerbody of a DLN-1. There are five nozzle/premixer tube assemblies located on the head end of the combustor. A quaternary fuel manifold is located on the circumference of the combustion casing to bring the remaining fuel flow to casing injection pegs located radially around the casing.

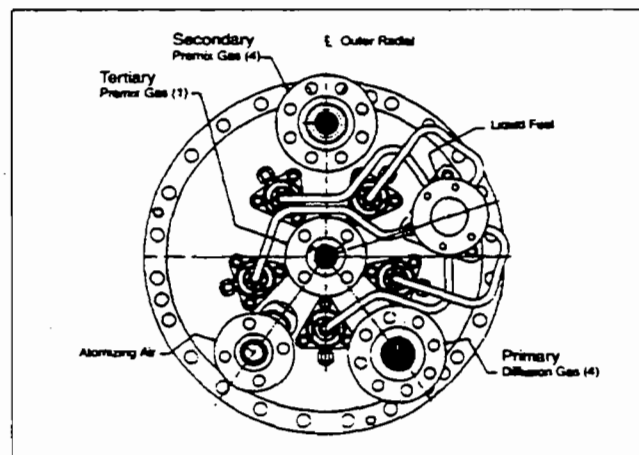
Figure 15 shows a cross-section of a DLN-2 fuel nozzle. As noted, the nozzle has passages

for diffusion gas, premixed gas, oil, and water. When mounted on the endcover, as shown in Figure 16, the diffusion passages of four of the fuel nozzles are fed from a common manifold, called the primary, that is built into the endcover. The premixed passage of the same four nozzles are fed from another internal manifold called the secondary. The premixed passages of the remaining nozzle is supplied by the tertiary fuel system; the diffusion passage of that nozzle is always purged with compressor discharge air and passes no fuel.



GT24,550

Figure 15. Cross-section of a DLN-2 fuel nozzle



GT24551

Figure 16. External view of DLN-2 fuel nozzles mounted on end cover

Figure 16 shows the fuel nozzles installed on the combustion chamber end cover and the connections for the primary, secondary, and tertiary fuel systems. In summary, DLN-2 fuel streams are:

- Primary fuel - fuel gas entering through

the diffusion gas holes in the swirler assembly of each of the outboard four fuel nozzles.

- Secondary fuel - premix fuel gas entering through the gas metering holes in the fuel gas injector spokes of each of the outboard four fuel nozzles.
- Tertiary fuel - premix fuel gas delivered by the metering holes in the fuel gas injector spokes of the inboard fuel nozzle.
- The quaternary system - used to inject a small amount of fuel into the airstream just upstream of the fuel nozzle swirlers.

The DLN-2 combustion system can operate in several different modes.

**Primary:**

Fuel only to the primary side of the four fuel nozzles, diffusion flame. Primary mode is used from ignition to 81% corrected speed.

**Lean-lean:**

Fuel to the primary (diffusion) fuel nozzles and single tertiary (premixing) fuel nozzle. This mode is used from 81% corrected speed to a preselected combustion reference temperature. The percentage of primary fuel flow is modulated throughout the range of operation as a function of combustion reference temperature. If necessary, lean-lean mode can be operated throughout the entire load range of the turbine. Selecting "lean-lean base on" will lock out premix operation and enable the machine to be taken to base load in lean-lean.

**Premix Transfer:**

This mode is a transition state between lean-lean and premix modes. Throughout this mode the primary and secondary gas control valves are modulating to their final position for the next mode. The premix splitter valve arrangement is also modulated to hold a constant tertiary flow split.

**Piloted Premix:**

Fuel is directed to the primary, secondary, and tertiary fuel nozzles. This mode exists while operating with temperature control off, as an intermediate mode between lean-lean and premix mode. This mode also exists as a default mode out of premix mode, and in the event that premix operating is not desired, piloted premix can be selected and operated to base load. Primary, secondary and tertiary fuel split are

constant during this mode of operation.

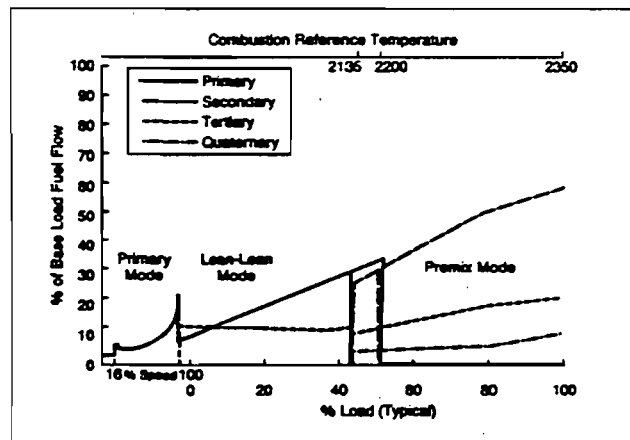
**Premix:**

Fuel is directed to the secondary, tertiary and quaternary fuel passages and premixed flame exists in the combustor. The minimum load for premixed operation is set by the combustion reference temperature and IGV position. It typically ranges from fifty percent with inlet bleed heat on to sixty-five percent with inlet bleed heat off. Mode transition from premix to piloted premix or piloted premix to premix, can occur whenever the combustion reference temperature is greater than 2200 F. Optimum emissions are generated in premix mode.

**Secondary Full Speed No Load:**

This mode is initiated upon a breaker open event from any load greater than 12.5 percent. Fuel is directed to the tertiary nozzle only and the unit will operate in secondary FSNL mode for minimum of 20 seconds, and then transfers to lean-lean mode.

Figures 17 illustrates the fuel flow scheduling associated with DLN-2 operation. As shown, fuel staging is dependent upon combustion reference temperature and IGV temperature control operation mode.



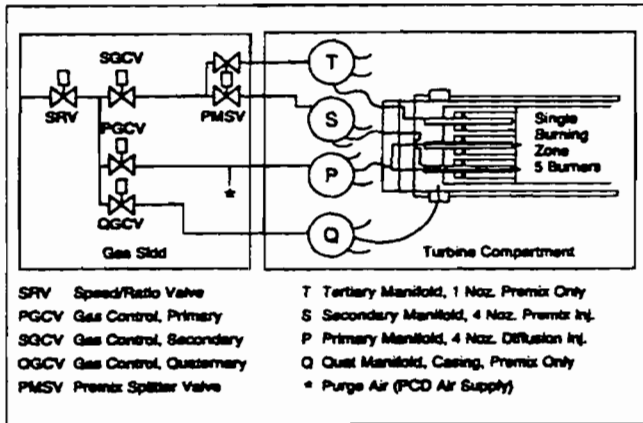
GT24671

Figure 17. Fuel flow scheduling associated with DLN-2 operation

## DLN-2 Controls and Accessories

The DLN-2 control system regulates the distribution of fuel delivered to the primary, secondary, tertiary, and quaternary fuel system. The fuel flow distribution to each combustion fuel system is a function of combustion reference temperature and IGV temperature control

mode. Diffusion, piloted premix, and premix flame are established by changing the distribution of fuel flow in the combustor. The gas fuel system shown in Figure 18 consists of the gas fuel stop/ratio valve, primary gas control valve, secondary gas control valve, premix splitter valve, and quaternary gas control valve. The stop/ratio valve is designed to maintain a predetermined pressure at the control valve inlet. The primary, secondary, and quaternary gas control valves regulate the desired gas fuel flow delivered to the turbine in response to the fuel command from the SPEEDTRONIC™ controls. The premix splitter valve controls the fuel flow split between the secondary and tertiary fuel system.

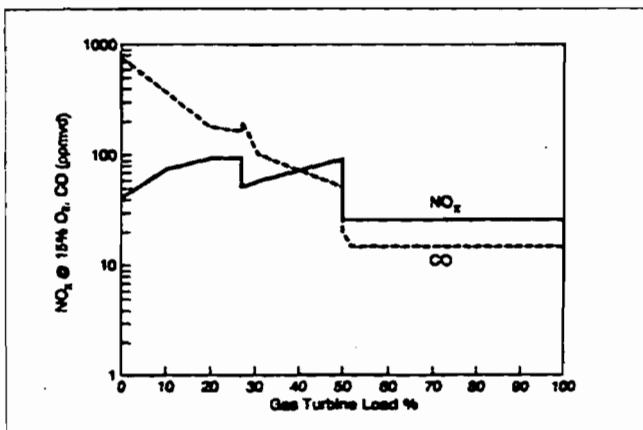


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Figure 18. DLN-2 gas fuel system

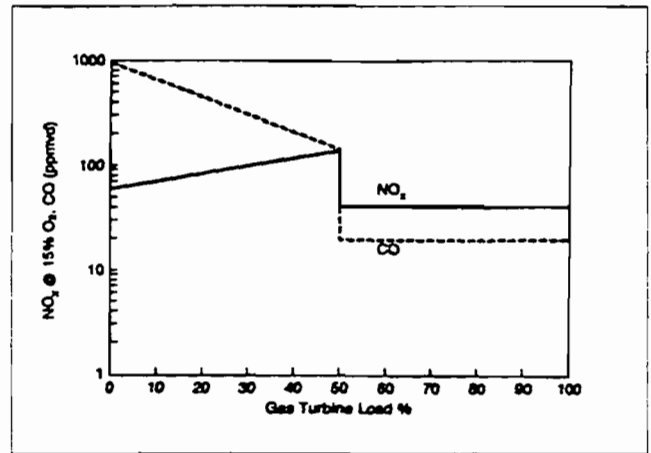
### DLN-2 Emissions Performance

Figures 19 and 20 show the emissions performance for a DLN-2 equipped 7FA/9FA for gas fuel and for oil fuel with water injection.



GT24554

Figure 19. Emissions performance for DLN-2 equipped 7FA/9FA for gas fuel



GT24555

Figure 20. Emissions performance for DLN-2 equipped 7FA/9FA for oil fuel with water injection

### DLN-2 Experience

The first DLN-2 systems were placed in service at Florida Power and Light's Martin Station with commissioning beginning in September, 1993, and the first two (of four) units entering commercial service in February 1994. During commissioning, quaternary fuel was added and other combustor modifications were made to control dynamic pressure oscillations in the combustor. All four FPL units are currently in commercial service, and are achieving the emissions goals of less than 25 ppm NO<sub>x</sub> and 15 ppm CO. They have accumulated nearly 15,000 hours of premixed operation. Five additional units are being commissioned and will enter commercial service in 1994.

### SUMMARY

GE's Dry Low NO<sub>x</sub> development program is focused on the development of systems capable of the extremely low NO<sub>x</sub> levels required to meet today's stringent regulations and to prepare for more stringent requirements in the future. New unit production needs, as well as the requirement for existing machines, are being addressed. GE DLN systems are currently in operation on more than sixty machines and have accumulated nearly 200,000 hours in service. As of this writing, over 200 DLN systems have been either put into service, shipped, or placed on order. GE is the only manufacturer with 2350 F (1288 C) class machines operating below 25ppmvd.

## REFERENCES

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- 2) Hilt, M. B., and Waslo, J., "Evolution of NO<sub>x</sub> Abatement Techniques Through Combustor Design for Heavy-Duty Gas Turbines," Journal of Engineering for Gas Turbines and Power, Vol. 106, October 1984, pp 825-83
3. Dibelius, N.R., Hilt, M.B., and Johnson, R.H., "Reduction of Nitrogen Oxides from Gas Turbines by Steam Injection," ASME Paper No. 71-GT-58, Dec. 1970
4. Miller, H. E., "Development of the Quiet Combustor and Other Design Changes to Benefit Air Quality," American Cogeneration Association, San Francisco, March, 1988
5. Cutrone, M. B., Hilt, M. B., Goyal, A., Ekstedt, E. E., and Notardonato, J., "Evaluation of Advanced Combustor for Dry NO<sub>x</sub> Suppression with Nitrogen Bearing Fuels in Utility and Industrial Gas Turbines," ASME Paper 81-GT-125, Mar. 1981
6. Zeldovich, J., "The Oxidation of Nitrogen in Combustion and Explosions," Acta Physicochimica USSR, Vol. 21, No. 4, 1946, pp 577-628
7. Washam, R. M., "Dry Low NO<sub>x</sub> Combustion System for Utility Gas Turbine," ASME Paper 83-JPGC-GT-13, Sept. 1983
8. Davis, L. B., and Washam, R. M., "Development of a Dry Low NO<sub>x</sub> Combustor," ASME Paper No. 89-GT-255, June 1989

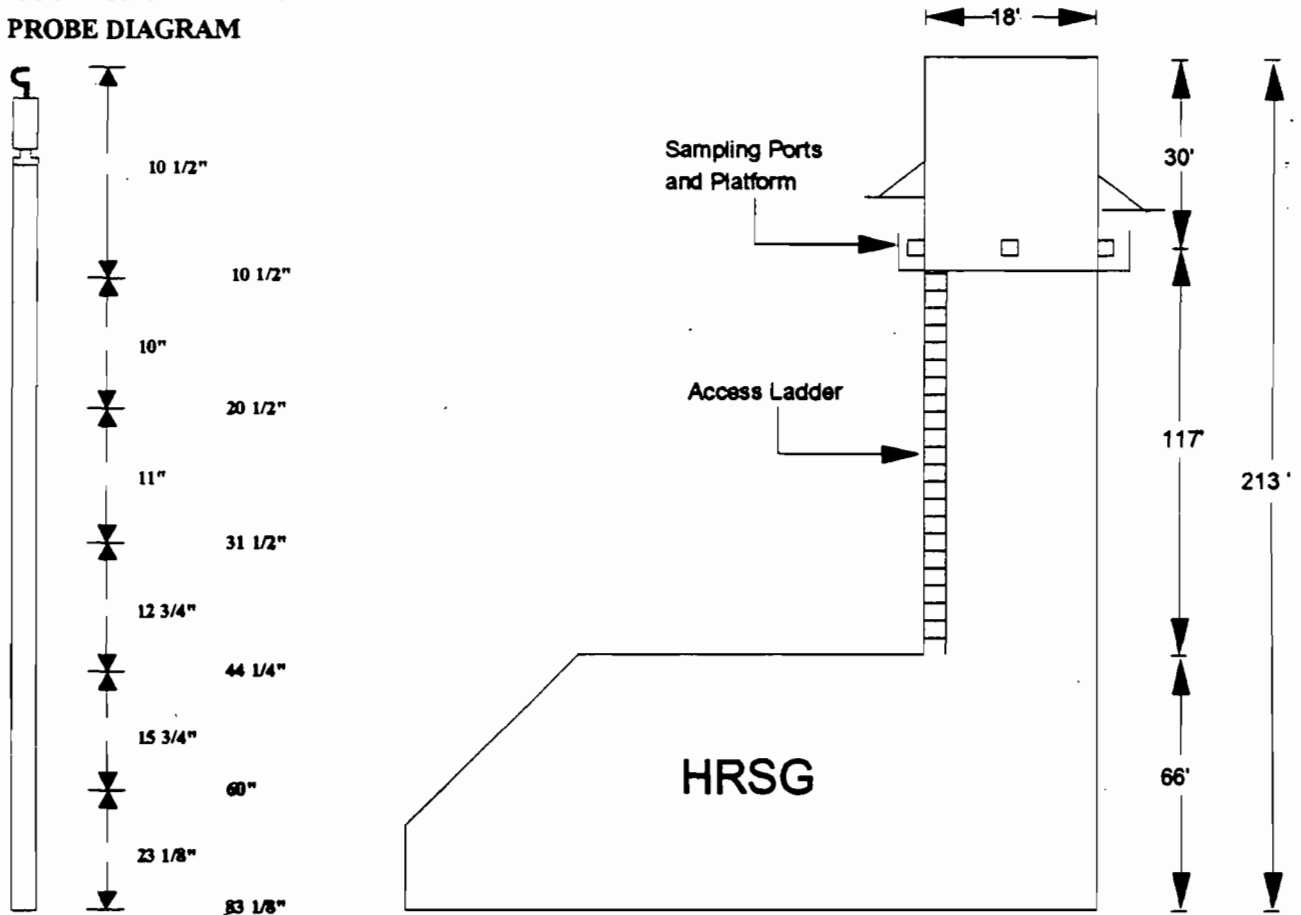
**FLORIDA POWER & LIGHT CO.  
STACK SAMPLING FACILITIES  
MARTIN SITE**

**Gas & Distillate Oil Fired Combined Cycle  
Units 3 & 4**

**STACK SPECIFICATIONS**

SAMPLING DIAMETER: 216 in.  
 SAMPLING AREA: 254.5 sq. ft.  
 SAMPLING PORT DEPTH: 6.0 in.  
 No. OF PORTS: 4, 4" diameter  
 No. OF POINTS PER TRAVERSE: 6  
 TOTAL No. OF POINTS : 24  
 SAMPLING TIME PER POINT: 2.5 min.  
 TOTAL SAMPLING TIME: 60.0 min.  
 NOTE: DRAWING IS NOT TO SCALE

**PARTICULATE SAMPLING  
PROBE DIAGRAM**



Probe support above each port is provided by a 15' channel iron beam with a trolley system. Lighting and 15 amp 110 V standard plugs are provided on the platform. Additional power is available at the base of the stack.

## Attachment PMRU3\_6.txt

### Procedures for Startup / Shutdown

Startup for the combustion turbines begins with "lighting off" of the machines on either natural gas or light distillate oil. A period of from two to several hours is required to allow metal temperatures in the heat recovery steam generator (HRSG) and in the steam turbine to equilibrate without undue metal stress, before putting the unit "on the line" and sending electrical power to the grid.

The combustion turbines (CT's) utilize dry-low-NOx combustors for NOx control. Emissions are continuously monitored by Continuous Emission Monitors (CEM's) for O<sub>2</sub> and NOx. Best Operating Practices are adhered to and all efforts to minimize both the level and duration of excess emissions are undertaken.

[This emission unit is allowed up to four hours of excess emissions in a 24-hour period if it is the first combustion turbine (of the two in a unit) to start up when the steam turbine is cold. Otherwise, it is allowed up to 2 hours of excess emissions in 24 hours, pursuant to 62-210.700(1).]

Shutdown is performed by reducing the unit load (electrical production) to a minimum level, opening the breaker (which disconnects the unit from the system electrical grid), shutting off the fuel and coasting down to stop. The CT is then put "on turning gear" to prevent possible disfiguration of the turbine components.

### Alternative Methods of Operation - Combustion turbines

This combustion turbine (CT) emission unit will operate primarily on natural gas fuel, with light distillate oil as a backup fuel. Each CT will be operated independently of each other, and can operate from 0 to 1966 MMBtu/hour on gas fuel, from 0 to 1846 MMBtu/hour on distillate oil, and from 1 to 2100 mmBtu/hour on coal gas fuel.

Emissions from the combustion turbines are affected by ambient temperature, type of fuel, and megawatt load on the unit. Ambient temperature is a factor because at cooler ambient temperatures the air is more dense; therefore more air can be forced through the unit, with a correspondingly higher fuel usage (and therefore higher emissions) than at higher ambient temperatures. Higher megawatt production is also possible at lower ambient temperatures.

The type of fuel combusted affects emissions due to the variability of contaminants contained in the fuel and differences in the combustion process for different fuels. Please refer to Emission Unit Supplemental Information Question #3 for fuel analytical information.

Megawatt load on the unit affects emissions primarily due to differences in combustion efficiency. With some parameters, megawatt load and emission rate are directly related; with others, an inverse relationship exists.

The combustion turbine may also be operated in "power augmentation" mode, which involves the introduction of steam into the combustion chamber, along with slightly higher fuel and air injection rates. Please note that the original PSD permitting and Site Certification permitting was undertaken in consideration of power augmentation; current permit limits are reflective of the power augmentation method of operation.

Following is a list of current emissions limitations which the combustion turbine must meet during operation:

Pollutant	Fuel	Basis	Emissions Limitations <sup>d</sup>						
			Units 3&4 lb/hr/CT      TPY <sup>a</sup>			Units 5&6 lb/hr/CT      TPY <sup>a</sup>			
NOx	Gas	25 ppmvd @ 15% O <sub>2</sub>	177	comb.	3,108	177	comb.	3,108	
	Oil	65 ppmvd @ 15% O <sub>2</sub>	461	tot.		461	tot.		
	CG	42 ppmvd @ 15% O <sub>2</sub>	392		6,868		392	6,868	
VOC <sup>b</sup>	Gas	1.6 ppmvd	3	comb.	57		3	comb.	57
	Oil	6 ppmvd	11	tot.		11	tot.		
	CG	9 ppmvd	21.4		375		21.4	375	
CO	Gas	30 ppmvd	94.3	comb.	871		94.3	comb.	871
	Oil	33 ppmvd	105.8	tot.		105.8	tot.		
	CG	33 ppmvd	134		2,311		134	2,311	

(continued on next page)



## Alternative Methods of Operation - Combustion turbines

Pollutant	Fuel Basis	Emissions Limitations <sup>d</sup>			
		Units 3&4		Units 5&6	
		lb/hr/CT	TPY <sup>a</sup>	lb/hr/CT	TPY <sup>a</sup>
PM/PM <sub>10</sub>	Gas	18	comb. 100	18	comb. 100
	Oil	60.6	tot.	60.6	tot.
	CG	19	333	19	333
Pb	Gas	neg.	comb. 0.015	neg.	comb. 0.015
	Oil	0.015	tot.	0.015	tot.
	CG	0.3	5.3	0.3	5.3
SO <sub>2</sub>	Gas	91.5	comb. 568	91.5	comb. 568
	Oil <sup>c</sup>	920	tot.	920	tot.
	CG	834	14612	834	14612

a Tons per year (TPY) emission limits listed for natural gas and oil combined apply as an emission cap based on limiting oil firing to an annual aggregate of 2,000 hours for the 4 CTs, with compliance to be demonstrated in annual operation reports.

Exclusive of background concentrations

c Sulfur dioxide emissions based on a maximum of 0.5 percent sulfur in oil for hourly emissions and an average sulfur content of 0.3 percent for annual emissions.

d These limitations for Units 5 and 6 and coal gasification shall not be binding for subsequent BACT determinations.

Note that in several cases, the annual emission limits are given in terms of a combined limit for 4 CTs. This allows FPL the flexibility to operate any of the combustion turbines on an as-needed basis, so long as both the hourly and annual emission limitations are complied with.

## Attachment PMRU3\_12.txt

### Identification of Additional Applicable Requirements

Applicable Requirements as defined in Rule 62-210.200(29) not identified in Section D of this emission unit section are included in this attachment of the application. Any air operation permit issued by the Department (or local program designee) and included in this attachment is provided for information purposes. The specific conditions of the operating permit are not Applicable Requirements as defined in Rule 62-210.200(29) unless implementing a specific Applicable Requirement of the Department's rules (e.g. emission limitations and consent orders).

The Martin combined-cycle units are currently governed by two federally-enforceable permits - the PSD permit (PSD-FL-146) and the Site Certification (PA89-27). Following is a list of the permit conditions contained in each, and a description of how FPL is currently complying with each condition. Note that the specific conditions related to air emissions are identical in each permit. FPL has included a request to delete certain permit conditions, if they are obsolete or no longer applicable.

The following specific conditions were taken from the PSD permit:

The construction and operation of Martin CG/CC Project shall be in accordance with all applicable provisions of Chapters 17-2, F.A.C. In addition to the foregoing, the Project shall comply with the following Conditions of Certification as indicated.

(The following emission limitations and conditions reflect final BACT determinations for Units 3 and 4 firing natural gas and oil. Emission Limitations and conditions concerning Phases II and III of the Project are preliminary based on information furnished by the Permittee in order to support certification of ultimate site capacity and shall be determined finally upon review of supplemental applications.)

1. The maximum heat input to each CT shall neither exceed 1966 MMBtu/hr while firing natural gas, nor 1846 MMBtu/hr while firing fuel oil (@40°F). For coal derived gas firing the maximum heat input to each CT shall not exceed 2100 MMBtu/hr (@75°F). These heat input limitations are subject to change. Any changes shall be provided at least 90 days before commercial operation for each fuel available to the site which a unit is capable of firing, at which time this condition may be modified to reflect those parameters. Each combined cycle unit's fuel consumption shall be continuously determined and recorded.

*FPL has installed equipment to continuously monitor and record the heat input and fuel flow to each combustion turbine. FPL is in compliance with the heat input restrictions given in the permit condition.*

2. Each of the eight combustion turbines (CTs) may operate continuously, i.e., 8,760 hours per year.

*FPL has to date only installed four of the eight combustion turbines.*

3. Only natural gas, light distillate fuel oil, or coal derived gas shall be fired in the combustion turbines.

FPL has not yet installed the coal gasification equipment, but requests to retain the permit condition as is.

4. The maximum allowable emissions from each CT in accordance with the BACT determination, shall not exceed the following, at 40°F (except during periods of startup and shutdown):

Emission Limitations <sup>d</sup>						
			Units 3 and 4		Units 5 and 6	
Pollutant	Fuel	Basis	lb/hr/CT	TPY <sup>a</sup>	lb/hr/CT	TPY <sup>a</sup>
NO <sub>x</sub>	Gas	25 ppmvd @ 15% O <sub>2</sub>	177	comb. tot. 3108	177	comb. tot. 3108
	Oil	65 ppmvd @ 15% O <sub>2</sub>	461		461	
	CG	42 ppmvd @ 15% O <sub>2</sub>	392	6868	392	6868
VOC <sup>b</sup>	Gas	1.6 ppmvd	3	comb. tot. 57	3	comb. tot. 57
	Oil	6 ppmvd	11		11	
	CG	9 ppmvd	21.4	375	21.4	375
CO	Gas	30 ppmvd	94.3	comb. tot. 871	94.3	comb. tot. 871
	Oil	33 ppmvd	105.8		105.8	
	CG	33 ppmvd	134	2348	134	2348
PM/PM <sub>10</sub>	Gas		18	comb. tot. 100	18	comb. tot. 100
	Oil		60.6		60.6	
	CG		19	333	19	333
Pb	Gas		neg.	comb. tot. 0.015	neg.	comb. tot. 0.015
	Oil		0.015		0.015	
	CG		0.3	5.3	0.3	5.3
SO <sub>2</sub>	Gas		91.5	comb. tot. 568	91.5	comb. tot. 568
	Oil <sup>c</sup>		920		920	
	CG		834	14612	834	14612

- a) Tons per year (TPY) emission limits listed for natural gas and oil combined apply as an emission cap based on limiting oil firing to an annual aggregate of 2000 hours for the 4 CTs, with compliance to be demonstrated in annual operation reports.
- b) Exclusive of background concentrations
- c) Sulfur dioxide emissions based on a maximum of 0.5 percent sulfur in oil for hourly emissions and an average sulfur content of 0.3 percent for annual emissions. These sulfur content limitations are subject to change based on the analysis required in Condition 12.
- d) These limitations for Units 5 and 6 and coal gasification shall not be binding for subsequent BACT determinations.
- e) The excess emissions authorized under Rule 62-210.700(1) F.A.C., shall be extended an additional two hours (four hours total) for a cold steam turbine start for the first CT of a unit. The second CT of each unit shall comply with established emission limits in accordance with Rule 62-210.700(1), F.A.C. (permit revision July 19,1993)

***FPL has demonstrated compliance with the emission limits given in the table above. The emission limits for sulfuric acid mist (SAM), mercury (Hg), fluoride (F) and beryllium (Be) are requested to be deleted pursuant to DARM guidance memorandum of May 19, 1995 and February 8, 1996. These pollutants were listed for inventory purposes and are limited by the quality of fuel required by other applicable requirements (i.e., natural gas and light distillate fuel oil, < / = 3% sulfur)***

5. The following emissions, determined by BACT, are tabulated for PSD and inventory purposes:

Maximum Allowable Emissions (@ 40°F)					
		Units 3 and 4		Units 5 and 6	
Pollutant	Fuel	lb/hr/CT	TPY <sup>a</sup>	lb/hr/CT	TPY <sup>a</sup>
H <sub>2</sub> SO <sub>4</sub> <sup>b</sup> Acid Mist	Gas	11.2	comb. 70 tot.	11.2	comb. 70 tot.
	Oil	113		113	
	CG	102	1787	102	1787
Mercury	Gas	0.021	comb. 0.34 tot.	0.021	comb. 0.34 tot.
	Oil	0.0052		0.0052	
	CG	0.024	0.42	0.024	0.42
Fluoride	Oil	0.055	0.055	0.055	0.055
Beryllium	Oil	0.004	0.004	0.004	0.004

- a) Tons per year (TPY) emission limits listed for natural gas and oil combined apply as an emission cap based on limiting oil firing to an annual aggregate of 2000 hours for the 4 CTs, with compliance to be demonstrated in annual operation reports.
- b) Sulfuric acid mist emissions assume a maximum of 0.5 percent sulfur in fuel oil for hourly emissions and an average sulfur content of 0.3 percent for annual emissions.

***FPL has demonstrated compliance with the emission limits given above.***

6. The maximum allowable emissions from each gasifier incinerator stack shall not exceed the following at 75°F:

Pollutant	Lb/hr/stack	TPY / Stack	4 Stacks
NOx	61	268	1069
VOC	Negligible	Negligible	Negligible
CO	Negligible	Negligible	Negligible
PM / PM <sub>10</sub>	Negligible	Negligible	Negligible
SO <sub>2</sub>	32	140.2	555
Beryllium	0.0005	0.002	0.008
Mercury	0.008	0.035	0.140
Lead	0.05	0.22	0.88

*FPL has not yet installed coal gasification equipment at the Martin facility, but requests that this permit condition remain in the Title V permit.*

7. Auxiliary steam boilers and diesel generators shall operate only during startup and shutdown, and for emergency power generation, respectively. NOx emissions for the auxiliary steam boilers shall not exceed 0.3 lb/mmBtu for natural gas firing or oil firing. NOx emissions for the diesel generators shall not exceed 15 grams/hp-hr. (permit revision July 19,1993)

*FPL has operated the auxiliary boiler and diesel generator associated with the combined-cycle units in accordance with the permit condition.*

8. Visible emissions shall neither exceed 10 percent opacity while burning natural gas or coal derived gas, nor 20 percent opacity while burning distillate oil.

*FPL has performed several visible emission evaluations on the combined-cycle combustion turbines, and has demonstrated compliance with the opacity limitations.*

9. Nitrogen oxide emissions from each gas turbine/heat recovery steam generator unit shall be controlled by using dry low NOx combustors for natural gas with steam injection for fuel oil firing. The Permittee shall install duct module(s) suitable for future installation of SCR equipment on each combined cycle generating unit.

FPL is using the dry low NOx combustors for the control of NOx while firing natural gas. As of this writing, fuel oil has not yet been fired in the combustion turbines. FPL has installed the duct modules as specified in the permit condition, **and requests that the second sentence of specific condition 9 be deleted from the permit as a completed item.**

10. Initial (I) compliance tests shall be performed on each combustion turbine using both fuels. The stack test for each turbine shall be performed within 10% of the maximum heat rate input for the tested operating temperature. Annual (A) compliance tests shall be performed on each Combustion Turbine with the fuel(s) combusted for more than 400 hours in the preceding 12-month period. Tests shall be conducted using EPA reference methods in accordance with the November 2, 1989, version of 40 CFR 60 Appendix A:

- a. 5 or 17 for PM (I,A, for oil only)
- b) 8 for sulfuric acid mist (I, for oil only)
- c. 9 for VE (I,A)
- d. 10 for CO (I,A)
- e. 20 for NOx (I,A)
- f. 18 for VOC (I,A)
- g. Trace elements of lead (Pb) and Beryllium (Be) shall be tested (I, for oil only) using EMTIC Interim Test Method. As an alternative, Method 104 for Beryllium (Be) may be used; or Be and Pb may be determined from fuel analysis using either Method 7090 or 7091, and sample extraction using Method 3040 as described in the EPA solid waste regulations SW 846.
- h. ASTM D 2880-71 (or equivalent) for sulfur content of distillate oil (I,A)
- i. ASTM D 1072-80, D 3031-81, D 4084-82, or D 3246-81 (or equivalent) for sulfur content of natural gas (I, A if deemed necessary by DEP).
- j. Mercury (Hg) shall be tested using EPA Method 101 (40 CFR 61, Appendix B) (I)

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

*FPL has completed the initial testing on natural gas fuel for all items above, as of this writing.*

11. The average annual sulfur content of the light distillate fuel oil shall not exceed 0.3% by weight. The maximum sulfur content of the light distillate fuel oil shall not exceed 0.5%. Compliance shall be demonstrated in accordance with the requirements of 40 CFR 60.334 by testing for sulfur content of oil storage tanks once per day when firing oil using ASTM D 2880-71, testing for nitrogen content, and testing for heating value.

*FPL has not yet fired distillate oil in the combustion turbines.*

12. In the supplemental application for approval of Phase II of the Project, the applicant shall include a cumulative air quality impact analysis and a PSD increment consumption analysis for the Everglades National Park Class I area.

*FPL has not yet prepared the supplemental application referenced above.*

13. Continuous emission monitoring shall be installed, operated, and maintained in accordance with 40 CFR 60, Appendix F, for each combined cycle unit to monitor nitrogen oxides.

a. Each continuous emission monitoring system (CEMs) shall meet performance specifications of 40 CFR 60, Appendix B.

b. CEMs data shall be recorded and reported in accordance with Chapter 17-2, F.A.C., and 40 CFR 60. The record shall include periods of startup, shutdown and malfunction.

c. A malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation of any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

d. The procedures under 40 CFR 60.13 shall be followed for the installation, evaluation and operation of all CEMs.

e. For purposes of reports required under this certification, excess emissions are defined as any calculated average emission concentration, as determined pursuant to Condition NO. II.A.18 herein, which exceeds the applicable emission limits on Condition No. II.A.4.

*FPL has installed, operated and maintained the continuous monitoring equipment as required. In view of the effects of the Acid Rain rules under Title IV, FPL requests that the Department delete this permit condition, as duplicative.*

14. To determine compliance with the oil firing heat input limitation, the Permittee shall maintain daily records of fuel oil consumption and hourly usage for each turbine and heating value for such fuel. All records shall be maintained for a minimum of three years after the date of each record and shall be made available to representatives of the Department upon request.

*FPL has not yet fired distillate oil in the combustion turbines as of this writing. When distillate oil is fired, FPL will comply with the permit condition.*

15. The project shall comply with all the applicable requirements of Chapter 17-2, Florida Administrative Code (F.A.C.) and the June 27, 1989, version of 40 CFR 60 Subpart GG, Gas Turbines.

*FPL understands and will comply with the referenced regulations.*

16. Any change in the method of operation, fuels, or equipment, shall be submitted for approval to DEP's Bureau of Air Regulation (BAR).

*FPL understands and will comply with the referenced regulations.*

17. The Permittee shall have required sampling tests of the emissions performed within 60 days after achieving the maximum turbine firing rate, but not later than 180 days from the start of operation. Thirty (30) days notice prior to the initial sampling test and fifteen (15) days notice before subsequent annual testing shall be provided to the Southeast District office. Written reports of the tests shall be submitted to the Southeast District Office within 45 days of test completion.

*FPL did complete the required sampling tests as specified in the permit condition for natural gas fuel only. It is FPL's understanding that the firing of distillate oil constitutes a separate 180 timeframe in which to perform required testing of emissions while firing that fuel.*

18. If construction does not commence on Phase I within 18 months of issuance of this certification/permit, then the Permittee shall obtain from DER a review and, if necessary, a modification of the control technology and allowable emissions for the unit(s) on which construction has not commenced (40 CFR 52.21(r)(2)). Units to be constructed or modified in later phases of the project will be reviewed and limitations revisited under the supplementary review process of the Power Plant Siting Act.

*FPL has completed construction on Phase I of this project. Therefore, this condition is considered to be obsolete, and is requested to be deleted from the permit.*

19. Quarterly excess emission reports, in accordance with the November 2, 1989, version 40 CFR 60.7(c) and 60.334(c) shall be submitted to DEP's Southeast District office. Annual reports shall be submitted to the District office in accordance with F.A.C., Rule 17-2.700(7).

*FPL has submitted the required information to the DEP.*

20. Literature on equipment selected shall be submitted as it becomes available. A CT-specific graph of ambient temperature and heat inputs to the CT shall be submitted to DEP's Southeast District office and the BAR.

*FPL has submitted the required information to the DEP. This specific condition is therefore completed and is requested to be deleted from the permit.*

21. Stack sampling facilities shall be provided for each of the CT and incinerator stacks.

*FPL has not yet begun final licensing or construction of the coal gasification equipment for the next phase of the Martin project. Stack sampling facilities have been provided for the CT stacks, and stack testing has been performed.*

22. Construction period fugitive dust emissions shall be minimized by covering or watering dust generation areas.

*FPL has not yet begun final licensing or construction of the coal gasification equipment for the next phase of the Martin project. This specific condition is therefore not applicable at the present time.*

23. The materials handling and storage operations may be continuous, i.e. 8760 hours per year.

*FPL has not yet begun final licensing or construction of the coal gasification equipment for the next phase of the Martin project. This specific condition is therefore not applicable at the present time.*

24. The material handling/usage rates shall not exceed the following:

Material	Handling/Usage Rate TPY
Coal	6,935,000
Slag and Fly Slag	1,700,000
Sulfur	310,000
Spent Solvent	80
Spent Claus Catalyst	80
Deminerlizer Resin Beds	70

*FPL has not yet begun final licensing or construction of the coal gasification equipment for the next phase of the Martin project. This specific condition is therefore not applicable at the present time.*



25. The maximum particulate matter emissions from the material handling and storage activities shall not exceed 1,566 tons per year. Emissions from these sources shall be controlled using the following measures:

<u>Fugitive Dust Source</u>	<u>Control Technology</u>
Coal Unloading	Enclosed with Dry Collection System
Limestone Unloading	Wet Suppression System <sup>1</sup>
Conveyors and Transfer Points (coal, limestone, slag)	Transfer Points Enclosed with Dry Collection System. Conveyors covered
Coal Storage (inactive)	Crusting Agent Application (60% Control)
Coal Storage (active)	Surfactant Application <sup>1</sup>
Coal Storage (Active) and Reclaiming	Surfactant Application <sup>1</sup>
Limestone Storage	Crusting Agent Application <sup>1</sup>
Slag Transport to By-Product Storage Area	Paved Road Covered Conveyor (95% Control)
Slag By-Product Storage Area (Inactive)	Topsoil Covered and Seeded (100 % Control)
Slag By-Product Storage Area (Active)	Compaction, Temporary cover (Natural or synthetic)
Sulfur Storage	Stored in molten state in tanks or in crystalline slab arrangement.

<sup>1</sup> Undefined rate of fugitive dust control.

The emissions from the above listed sources where baghouses are used are subject to the particulate emission limitation requirements of 0.03 gr/dscf. However, DEP will not require particulate tests in accordance with EPA Method 5 unless the VE limit of 5% opacity is exceeded for a given source or unless DEP, based on other information, has reason to believe the particulate emission limits are being violated.

*FPL has not yet begun final licensing or construction of the coal gasification equipment for the next phase of the Martin project. This specific condition is therefore not applicable at the present time.*

26. Visible Emissions (VE) shall not exceed 5% opacity from any source in the material handling and treatment area, in accordance with F.A.C., Chapter 17-2.

*FPL has not yet begun final licensing or construction of the coal gasification equipment for the next phase of the Martin project. This specific condition is therefore not applicable at the present time.*

27. Initial and annual Visible Emission compliance tests for all the emissions points in the material handling and treatment area, including, but not limited to, the sources specified in this permit, shall be conducted in accordance with the November 2, 1989, version of 40 CFR 60, using EPA Method 9 or DER approved method.

*FPL has not yet begun final licensing or construction of the coal gasification equipment for the next phase of the Martin project. This specific condition is therefore not applicable at the present time.*

28. Compliance test reports shall be submitted to DER within 45 days of test completion in accordance with Chapter 17-2.700(7) of the F.A.C.

*FPL has not yet begun final licensing or construction of the coal gasification equipment for the next phase of the Martin project. This specific condition is therefore not applicable at the present time.*

29. Any changes in the method of operation, raw materials processed, equipment, or operating hours or any other changes pursuant to F.A.C. Rule 17-2.100, defining modification, shall be submitted for approval to DER's BAR.

*FPL has not yet begun final licensing or construction of the coal gasification equipment for the next phase of the Martin project. This specific condition is therefore not applicable at the present time.*

- - - - -

Attached please find FPL's Customized Fuel Monitoring Schedule, (referenced in 40 CFR 60.334(b)(2)), and related correspondence, which is an additional applicable condition for the combined-cycle units.

***Note: Please also refer to Attachment PFLU6\_13.txt for Additional Applicable Requirements that relate to the simple-cycle Gas Turbines, fuel storage tanks and solvent useage.***



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.  
ATLANTA, GEORGIA 30365

**JUN - 2 1993**

4APT-AEB

Mr. Wayne C. Ondler  
Environmental Licensing Project Manager  
Florida Power & Light Company  
P.O. Box 088801  
North Palm Beach, Florida 33408-8801

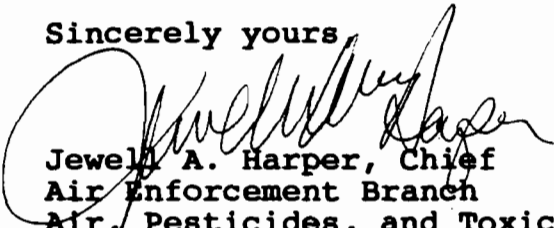
RE: FPL Martin Customized Fuel Monitoring Schedule

Dear Mr. Ondler:

This letter is in response to your request for approval of a customized fuel monitoring schedule at the Florida Power & Light-Martin site, as outlined to EPA Region IV in your correspondence dated April 28, 1993. We are presently reviewing the schedule for adherence to the requirements of 40 CFR Part 60, Subpart GG (Standards of Performance for Stationary Gas Turbines). Our comments regarding the proposal will be forwarded to the Florida Department of Environmental Regulation (DER). Since the Florida DER has been granted authority to implement 40 CFR Part 60, a final decision regarding the proposal will be provided to you by the DER.

If you have any questions or comments, please contact Mr. Scott Davis of my staff at (404) 347-5014.

Sincerely yours,

  
Jewel A. Harper, Chief  
Air Enforcement Branch  
Air, Pesticides, and Toxics  
Management Division

RECEIVED

JUN 04 1993

ENVIRONMENTAL AFFAIRS



April 28, 1993

FPL-JEN-EPA-170-93-18

Ms. Jewell A. Harper, Chief  
Air Enforcement Branch, Region IV  
Environmental Protection Agency  
345 Courtland Street, N.E.  
Atlanta, GA 30365

**RE: FPL Martin CG/CC Project  
PA89-27, PSD-FL-146  
Customized Fuel Monitoring Schedule**

Dear Ms. Harper:

The Martin CG/CC Project at the FPL Martin site has been permitted under the Power Plant Siting Act (Chp 403 Part II F.S.) and a corresponding PSD permit. These Units consist of 4 dual fuel fired "advanced" combustion turbines, with heat recovery steam generators (HRSG). The combustion turbines are subject to New Source Performance Standards (NSPS- 40 CFR 60, Subpart GG). 40 CFR 60.334(b) requires the owner/operator of any combustion turbine to monitor the sulfur and nitrogen content of the fuel as follows: 1) If the turbine fuel is supplied by a bulk storage tank then the sulfur and nitrogen content are to be determined whenever new fuel is transferred into the bulk storage tank and 2) If the turbine fuel is supplied without an intermediate bulk storage tank then daily monitoring of the sulfur and nitrogen content of the fuel is required. FPL has an intermediate bulk storage tank(s) for the light distillate oil and will test the sulfur and nitrogen content of the fuel oil as required by 40 CFR 60.334(b)(2).

Since the natural gas used by the combustion turbines does not pass through an intermediate bulk storage tank, FPL is hereby requesting a customized fuel monitoring schedule as allowed by 40 CFR 60.334(b)(2) for the Martin CG/CC Project. While firing natural gas, FPL requests the following customized fuel monitoring schedule which was developed based on an EPA guidance memorandum (Attachment A):

1. Monitoring of natural gas nitrogen content shall not be required in accordance with page 2 of the EPA guidance memorandum and the attached enclosure.

2. Sulfur Monitoring

a. Analysis for sulfur content of the natural gas shall be conducted using one of the EPA approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternate method. The reference methods are: ASTM D1072-80; ASTM D3031-81; ASTM D3245-81; and ASTM D4084-82 as referenced in 40 CFR 60.335(b)(2).

b. Effective on the commercial operation date of the CTs or the approval date of the customized fuel monitoring schedule which ever is later, sulfur monitoring shall be conducted twice a month for six months. If this monitoring shows little variability in the sulfur content and indicates consistent compliance with 40 CFR 60.333, then sulfur monitoring shall be conducted once per quarter for six quarters.

c. If the monitoring required by 2(b), above, of the sulfur content of the natural gas shows little variability and the calculated sulfur dioxide emissions, represents consistent compliance with the sulfur dioxide emission limits specified under 40 CFR 60.333, sample analysis shall be conducted twice per year. This monitoring shall be conducted during the first and third quarter of each calendar year.

d. Should any sulfur analysis as required by items 2(b) or 2(c) above indicate noncompliance with 40 CFR 60.333, FPL will notify the Department of Environmental Regulation of such excess emission and the customized fuel monitoring schedule shall be reexamined. The sulfur content of the natural gas will be monitored weekly during the interim period while this monitoring schedule is being reexamined.

3. FPL will notify the Department of Environmental Regulation of any change in natural gas supply for reexamination of this monitoring schedule. A substantial change in natural gas quality (i.e. sulfur content varying greater than 10 grains/1000 cf gas) shall be considered as a change in natural gas supply. Sulfur content of the natural gas will be monitored weekly during the interim period when this monitoring schedule is being reexamined.

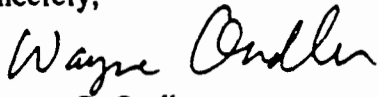
4. Records of sampling analysis and natural gas supply pertinent to this monitoring schedule shall be retained by FPL for a period of three years, and be available for inspection by appropriate regulatory personnel.

5. FPL will obtain the sulfur content of the natural gas from Florida Gas Transmission Company at its Brooker Lab.

Data from natural gas at the Brooker Lab site is considered representative of the sulfur content of the natural gas at the Martin site since there is no additional entry point for sulfur or other elements/compounds which may affect the quality of the natural gas. The data presented in Attachment B is based upon representative samples of natural gas taken by Florida Gas Transmission.

If you or your staff have any question about this request please call Dan MacDougall at (407) 625-7661.

Sincerely,



Wayne C. Ondler  
Environmental Licensing Project Manager  
Florida Power & Light Company

cc: Doug Neeley-EPA/Atlanta  
Clair Fancy-DER/TAL  
H. S. Oven-DER/TAL  
Tom Title-DER/WPB



BEST AVAILABLE COPY  
 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
 WASHINGTON, D.C. 20460

AUG 14 1987

OFFICE OF  
AIR AND WATERMEMORANDUM

**SUBJECT:** Authority for Approval of Custom Fuel Monitoring Schedules Under NSPS Subpart GG

**FROM:** John B. Rasnic, Chief *John B. Rasnic*  
Compliance Monitoring Branch

**TO:** Air Compliance Branch Chiefs  
Regions II, III, IV, V, VI and IX

Air Programs Branch Chiefs  
Regions I-X

The NSPS for Stationary Gas Turbines (Subpart GG) at 40 CFR 60.334(b)(2) allows for the development of custom fuel monitoring schedules as an alternative to daily monitoring of the sulfur and nitrogen content of fuel fired in the turbines. Regional Offices have been forwarding custom fuel monitoring schedules to the Stationary Source Compliance Division (SSCD) for consideration since it was understood that authority for approval of these schedules was not delegated to the Regions. However, in consultation with the Emission Standards and Engineering Division, it has been determined that the Regional Offices do have the authority to approve Subpart GG custom fuel monitoring schedules. Therefore it is no longer necessary to forward these requests to Headquarters for approval.

Over the past few years, SSCD has issued over twenty custom schedules for sources using pipeline quality natural gas. In order to maintain national consistency, we recommend that any schedules Regional Offices issue for natural gas be no less stringent than the following: sulfur monitoring should

be bimonthly, followed by quarterly, then semiannual, given at least six months of data demonstrating little variability in sulfur content and compliance with §60.113 at each monitoring frequency; nitrogen monitoring can be waived for pipeline quality natural gas, since there is no fuel-bound nitrogen and since the free nitrogen does not contribute appreciably to NO<sub>x</sub> emissions. Please see the attached sample custom schedule for details. Given the increasing trend in the use of pipeline quality natural gas, we are investigating the possibility of amending Subpart CC to allow for less frequent sulfur monitoring and a waiver of nitrogen monitoring requirements where natural gas is used.

Where sources using oil request custom fuel monitoring schedules, Regional Offices are encouraged to contact SSCD for consultation on the appropriate fuel monitoring schedule. However, Regions are not required to send the request itself to SSCD for approval.

If you have any questions, please contact Sally N. Farrell at FTS 382-2873.

**Attachment**

cc: John Crenshaw  
George Walsh  
Robert Ajax  
Earl Sale



**Conditions for Custom Fuel Sampling Schedule for Stationary Gas Turbines**

1. Monitoring of fuel nitrogen content shall not be required while natural gas is the only fuel fired in the gas turbine.
2. Sulfur Monitoring
  - a. Analysis for fuel sulfur content of the natural gas shall be conducted using one of the approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternative method. The reference methods are: ASTM D1072-80; ASTM D3031-81; ASTM D3246-81; and ASTM D4084-82 as referenced in 40 CFR 60.335(b)(2).
  - b. Effective the date of this custom schedule, sulfur monitoring shall be conducted twice monthly for six months. If this monitoring shows little variability in the fuel sulfur content, and indicates consistent compliance with 40 CFR 60.333, then sulfur monitoring shall be conducted once per quarter for six quarters.
  - c. If after the monitoring required in item 2(b) above, or herein, the sulfur content of the fuel shows little variability and, calculated as sulfur dioxide, represents consistent compliance with the sulfur dioxide emission limits specified under 40 CFR 60.333, sample analysis shall be conducted twice per annum. This monitoring shall be conducted during the first and third quarters of each calendar year.
  - d. Should any sulfur analysis as required in items 2(b) or 2(c) above indicate noncompliance with 40 CFR 60.333, the owner or operator shall notify the State Air Control Board of such excess emissions and the custom schedule shall be re-examined by the Environmental Protection Agency. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
3. If there is a change in fuel supply, the owner or operator must notify the State of such change for re-examination of this custom schedule. A substantial change in fuel quality shall be considered as a change in fuel supply. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
4. Records of sample analysis and fuel supply pertinent to this custom schedule shall be retained for a period of three years, and be available for inspection by personnel of federal, state, and local air pollution control agencies.

## ATTACHMENT B

## Sulfur Content of Natural Gas

Date	Sulfur Content (gr/1000 cf)
------	--------------------------------

---

02/06/90	3.0
02/13/90	0.5
02/20/90	3.5
02/27/90	4.5
03/06/90	4.5
03/13/90	3.0
03/20/90	3.5
03/27/90	3.5
04/03/90	6.0
04/10/90	2.5
04/17/90	4.0
04/24/90	3.0
05/01/90	4.0
05/08/90	2.5
05/15/90	2.0
06/05/90	4.5
06/12/90	4.0
06/19/90	7.0
06/26/90	4.5
07/03/90	5.5
07/10/90	3.5
07/17/90	4.5
07/30/90	3.0
08/07/90	5.0
08/14/90	4.5
08/21/90	4.0
08/28/90	7.0
09/04/90	5.5
09/11/90	4.0
09/18/90	4.5
09/25/90	4.0
10/02/90	4.5
10/09/90	4.5
10/16/90	7.0
10/28/90	8.0

<b>Average</b>	<b>4.3</b>
<b>Maximum</b>	<b>8.0</b>
<b>Minimum</b>	<b>0.5</b>

Source: Florida Gas Transmission Company, 1990

**III. EMISSIONS UNIT INFORMATION**

Information for Facility - ID : 1 Emission Unit # : 4  
4

A separate Emissions Unit Information Section (including subsections A through L 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. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

**A. TYPE OF EMISSIONS UNIT  
(Regulated and Unregulated Emissions Units)**

**Type of Emissions Unit Addressed in This Section**

1. Regulated or Unregulated Emissions Units? 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 a unregulated emissions unit.

2. Single Process, Group Processes, or Fugitive Only?

Enter The Number (1-3): 1

- [ 1 ] 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).
- [ 2 ] 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.
- [ 3 ] 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.

**B. GENERAL EMISSIONS UNIT INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): Martin unit 3B Fossil-fuel-fired combined-cycle CT
2. Emissions Unit Identification Number: 004 (No Corresponding ID or Unknown)
3. Emission Unit Status Code: (A or C) : A
4. Acid Rain Unit? (Y/N): Y
5. Emissions Unit Major Group SIC Code: 49
6. Emissions Unit Comment (limit to 500 characters): There are four combustion turbines at the Martin facility. Each CT is directly coupled to an electric generator. Heat from the combustion turbine exhausts through a heat recovery steam generator (HRSG). Steam produced in the HRSG is sent to a steam turbine-generator for production of additional electric power. Generator nameplate rating given above is for the CT-coupled generator only. Field C1 = the commercial operation date.

**Emissions Unit Control Equipment**

**A. Control Equipment # : 1**

1. Description (limit to 200 characters): Dry Low Nox combustors
2. Control Device or Method Code: Staged Combustion

**B. Control Equipment # :**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C. Control Equipment # :**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C. EMISSIONS UNIT DETAIL INFORMATION  
(Regulated Emissions Units)**

**Emissions Unit Details**

1. Initial Startup Date (DD-MON-YYYY): 02/16/94
2. Long-term Reserve Shutdown Date (DD-MON-YYYY):
3. Package Unit: Manufacturer: GE <span style="float: right;">Model Number: MS7001FA</span>
4. Generator Nameplate Rating: 204 MW
5. Incinerator Information: <div style="text-align: right; margin-left: 100px;">Dwell Temperature: °F</div> <div style="text-align: right; margin-left: 100px;">Dwell Time: seconds</div> <div style="text-align: right; margin-left: 100px;">Incinerator Afterburner Temperature: °F</div>

**Emissions Unit Operating Capacity**

1. Maximum Heat Input Rate: 1966 mmBtu/hr
2. Maximum Incineration Rate:    lbs/hr <div style="text-align: right; margin-left: 100px;">tons/day</div>
3. Maximum Process or Throughput Rate:    Units:
4. Maximum Production Rate:                    Units:
5. Operating Capacity Comment (limit to 200 characters): Heat input (HI) rate above = current max. for nat. gas fuel @ 40 deg. F. Max. HI for dist. oil = 1,846 mmBtu/hr. Max. HI for coal gas = 2100 mmBtu/hr. Compliance method for HI = fuel samp. & analysis.

**Emissions Unit Operating Schedule**

Requested Maximum Operating Schedule:	
hours/day	days/week
weeks/yr	8760 hours/yr

**D. EMISSIONS UNIT REGULATIONS  
(Regulated Emissions Units Only)**

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

Emission Unit Information Section \_\_\_\_\_ of \_\_\_\_\_  
**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

Emissions Unit ID 4

40 CFR 60.332 (a)(1)	40 C.F.R. 72.40(d)	40 C.F.R. 75.20(b)	40 C.F.R. 75.66(h)
40 CFR 60.332 (b)	40 C.F.R. 72.51	40 C.F.R. 75.20(c)	40 C.F.R. 77.3
40 CFR 60.332(f)	40 C.F.R. 72.90	40 C.F.R. 75.20(g)	40 C.F.R. 77.5(b)
40 CFR 60.332(k)	40 C.F.R. 72.9(a)(1)(iii)	40 C.F.R. 75.21(a)	40 C.F.R. 77.6
40 CFR 60.333 (b)	40 C.F.R. 72.9(a)(1)(i)	40 C.F.R. 75.21(b)	F.A.C. 62-204.800 (7)(d)
40 CFR 60.334 (a) (when firing oil)	40 C.F.R. 72.9(a)(2)	40 C.F.R. 75.21(c)	(state only)
40 CFR 60.334 (b)(1)(when firing oil)	40 C.F.R. 72.9(b)	40 C.F.R. 75.21(d)	F.A.C. 62-204.800 (b)37.
40 CFR 60.334 (b)(2)(when firing natural gas)	40 C.F.R. 72.9(c)(1)	40 C.F.R. 75.21(e)	(state only)
40 CFR 60.334 (c)(1) (when firing oil)	40 C.F.R. 72.9(c)(2)	40 C.F.R. 75.21(f)	F.A.C. 62-204.800(12)
40 CFR 60.335	40 C.F.R. 72.9(c)(3)(iii)	40 C.F.R. 75.22	(state only)
40 C.F.R. 60.11(a)	40 C.F.R. 72.9(c)(4)	40 C.F.R. 75.24	F.A.C. 62-204.800(13)
40 C.F.R. 60.11(b)	40 C.F.R. 72.9(c)(5)	40 C.F.R. 75.30(a)(3)	(state only)
40 C.F.R. 60.11(c)	40 C.F.R. 72.9(d)	40 C.F.R. 75.32	F.A.C. 62-204.800(14)
40 C.F.R. 60.11(d)	40 C.F.R. 72.9(e)	40 C.F.R. 75.33	(state only)
40 C.F.R. 60.11(e)(2)	40 C.F.R. 72.9(f)	40 C.F.R. 75.36	F.A.C. 62-210.650
40 C.F.R. 60.12	40 C.F.R. 72.9(g)(4)	40 C.F.R. 75.4(a)(4)(i)	F.A.C. 62-210.700 (1)
40 C.F.R. 60.13(a)	40 C.F.R. 73.33	40 C.F.R. 75.4(b)	F.A.C. 62-210.700 (4)
40 C.F.R. 60.13(d)(1)	40 C.F.R. 73.35	40 C.F.R. 75.4(g)	F.A.C. 62-210.700 (6)
40 C.F.R. 60.13(e)	40 C.F.R. 75 Appendix A-1	40 C.F.R. 75.5	F.A.C. 62-214.300
40 C.F.R. 60.13(h)	40 C.F.R. 75 Appendix A-2	40 C.F.R. 75.53(a)	F.A.C. 62-214.320
40 C.F.R. 60.7(b)	40 C.F.R. 75 Appendix A-3	40 C.F.R. 75.53(b)	F.A.C. 62-214.330
40 C.F.R. 60.7(f)	40 C.F.R. 75 Appendix A-4	40 C.F.R. 75.53(c)	F.A.C. 62-214.340
40 C.F.R. 60.8(c)	40 C.F.R. 75 Appendix A-5	40 C.F.R. 75.53(d)(2)	F.A.C. 62-214.350(2)
40 C.F.R. 60.8(e)	40 C.F.R. 75 Appendix A-6	40 C.F.R. 75.54(a)	F.A.C. 62-214.350(3)
40 C.F.R. 72.20(a)	40 C.F.R. 75 Appendix B	40 C.F.R. 75.54(b)	F.A.C. 62-214.350(6)
40 C.F.R. 72.20(b)	40 C.F.R. 75 Appendix C-1	40 C.F.R. 75.54(d)	F.A.C. 62-214.370
40 C.F.R. 72.20(c)	40 C.F.R. 75 Appendix C-2	40 C.F.R. 75.55(c)	F.A.C. 62-214.430
40 C.F.R. 72.21(a)	40 C.F.R. 75 Appendix D	40 C.F.R. 75.56	F.A.C. 62-296.320 (4)(b)
40 C.F.R. 72.21(b)	40 C.F.R. 75 Appendix F	40 C.F.R. 75.60(a)	(state only)
40 C.F.R. 72.21(d)	40 C.F.R. 75 Appendix G-2	40 C.F.R. 75.60(b)	F.A.C. 62-296.800(2)(a)37
40 C.F.R. 72.22(a)	40 C.F.R. 75 Appendix H	40 C.F.R. 75.60(c)(3)	(as applicable) (state only)
40 C.F.R. 72.22(c)	40 C.F.R. 75.10(a)(1)	40 C.F.R. 75.61(a)(1)	
40 C.F.R. 72.23	40 C.F.R. 75.10(a)(2)	40 C.F.R. 75.61(a)(5)	F.A.C. 62-297.310(1)
40 C.F.R. 72.24(a)	40 C.F.R. 75.10(a)(3)(i)	40 C.F.R. 75.62	F.A.C. 62-297.310(3)
40 C.F.R. 72.30(a)	40 C.F.R. 75.10(a)(4)	40 C.F.R. 75.63	F.A.C. 62-297.310(4)(a)1.
40 C.F.R. 72.30(b)(2)	40 C.F.R. 75.10(b)	40 C.F.R. 75.64(a)	F.A.C. 62-297.310(4)(b)
40 C.F.R. 72.30(c)	40 C.F.R. 75.10(c)	40 C.F.R. 75.64(b)	F.A.C. 62-297.310(4)(c)
40 C.F.R. 72.30(d)	40 C.F.R. 75.10(f)	40 C.F.R. 75.64(c)	F.A.C. 62-297.310(4)(d)
40 C.F.R. 72.32	40 C.F.R. 75.10(g)	40 C.F.R. 75.64(d)	F.A.C. 62-297.310(5)
40 C.F.R. 72.33(b)	40 C.F.R. 75.11(d)	40 C.F.R. 75.65	F.A.C. 62-297.310(6)(a)
40 C.F.R. 72.33(c)	40 C.F.R. 75.12(a)	40 C.F.R. 75.66(a)	F.A.C. 62-297.310(6)(c)
40 C.F.R. 72.33(d)	40 C.F.R. 75.12(b)	40 C.F.R. 75.66(b)	F.A.C. 62-297.310(6)(d)
40 C.F.R. 72.40(a)	40 C.F.R. 75.13(b)	40 C.F.R. 75.66(c)	F.A.C. 62-297.310(6)(e)
40 C.F.R. 72.40(b)	40 C.F.R. 75.14(c)	40 C.F.R. 75.66(d)	F.A.C. 62-297.310(6)(f)
40 C.F.R. 72.40(c)	40 C.F.R. 75.20(a)(5)	40 C.F.R. 75.66(g)	F.A.C. 62-297.310(6)(g)
			F.A.C. 62-297.310(7)(a)1.
			F.A.C. 62-297.310(7)(a)3.
			F.A.C. 62-297.310(7)(a)4.b.
			F.A.C. 62-297.310(7)(a)5.
			F.A.C. 62-297.310(7)(a)7.
			F.A.C. 62-297.310(7)(a)9.
			F.A.C. 62-297.310(7)(c)
			F.A.C. 62-297.310(8)



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

**Emission Point Description and Type**

Information for Facility-ID 1 Emission Unit # : 4

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1. Identification of Point on Plot Plan or Flow Diagram: EU-4
2. Emission Point Type Code (1,2,3,4) : 1
3. Descriptions of Emissions Points Comprising this Emissions Unit (limit to 100 characters):
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: Not applicable
5. Discharge Type Code (D, F, H, P, R, V, W) : v
6. Stack Height: 213.3 ft
7. Exit Diameter: 20 ft
8. Exit Temperature: 280 °F
9. Actual Volumetric Flow Rate: 1149823 acfm
10. Percent Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm
12. Nonstack Emission Point Height: ft
13. Emission Point UTM Coordinates: Zone: 17 East: 543.226 North: 2992.61
14. Emission Point Comment (limit to 200 characters): The volumetric flow rate given above is reflective of a 40 degree F ambient condition while firing distillate oil. The volumetric flow while firing natural gas under the same conditions is 2,352,904 acfm. The volumetric flow while firing natural gas while in power augmentation mode is 2,468,838 acfm. All flow numbers provided by KBN Engineering & Applied Sciences.

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :/ Emission Unit #: 4 Segment #: 14 14

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Natural gas burned in combustion turbine 3B
2. Source Classification Code (SCC): 2-01-002-01
3. SCC Units: million cubic feet burned
4. Maximum Hourly Rate: 1.87
5. Maximum Annual Rate: 16381.2
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: 0.0031
8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 1050
10. Segment Comment (limit to 200 characters):

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :/ Emission Unit #: 4 Segment #: 13 13

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Light distillate oil burned in combustion turbine 3B
2. Source Classification Code (SCC): 2-01-001-01
3. SCC Units: thousand gallons burned
4. Maximum Hourly Rate: 14.13
5. Maximum Annual Rate: 28260
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: 0.5
8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 130.66
10. Segment Comment (limit to 200 characters): Max. annual rate is for 2,000 hrs of operation on dist. oil, which is limited in the current PSD permit (condition 4.a.) & the current Site Certification (condition II.A.4.a.) for 4 CT units combined.

**G. EMISSIONS UNIT POLLUTANTS  
(Regulated Emissions Units Only)**

**Information for Facility\_ID: 1 Emission Unit #: 4**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
SO2	NA	NA	EL
NOx	025	NA	EL
CO	NA	NA	EL
PM	NA	NA	EL
PM10	NA	NA	EL
VOC	NA	NA	EL
SAM	NA	NA	EL
PB	NA	NA	EL
H114	NA	NA	EL
FL	NA	NA	EL
H021	NA	NA	EL

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 82

82

**Pollutant Detail Information**

1. Pollutant Emitted: Particulate Matter - Total	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 60.6 lbs/hr	100 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 60.6	Units lb per hour
Reference: Permit limits	
7. Emissions Method Code: (0,1, 2, 3, 4, 5): 5	
<input type="checkbox"/> 1	<input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
8. Calculation of Emissions (limit to 600 characters): Not Applicable	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): The potential emission rate given is for distillate oil operation, for which the combustion turbines have an annual aggregate limit of 2,000 hours of operation. The hourly potential emission rate for natural gas fuel is 18 lb/hour. The 100 tons per year potential emission given above is an aggregate emission limit for all four combustion turbines (Units 3 & 4).  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 1**  
**Basis For Allowable Emission #: 180 180**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 60.6 Units : lb/hour
4. Equivalent Allowable Emissions: 60.6 lbs/hr 60.6 tons/yr
5. Method of Compliance: DEP Rule 62-296.405(1)(e)2.(for oil only)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 200 Information given in fields 3 and 4 for lb/hour emission rate reflects distillate oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for #2 oil firing.

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 1  
Basis For Allowable Emission #: 181 181**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 18 Units : lb/hour
4. Equivalent Allowable Emissions: 18 lbs/hr 78.84 tons/yr
5. Method of Compliance: None required on natural gas
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 1**  
**Basis For Allowable Emission #: 182 182**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 19 Units : lb/hour
4. Equivalent Allowable Emissions: 19 lbs/hr 333 tons/yr
5. Method of Compliance: DEP Rule 62-296.405(1)(e)2. (for oil only)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 67 Information provided on this page is reflective of coal gas firing.



**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 1  
Basis For Allowable Emission #: 204 204**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code:      Rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 100      Units : tons per year
4. Equivalent Allowable Emissions:    lbs/hr      100    tons/yr
5. Method of Compliance:    Annual Operating Report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information given on this page is meant to represent the annual tpy limit for PM for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 CT's.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 59

59

**Pollutant Detail Information**

1. Pollutant Emitted: Particulate Matter - PM10	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 60.6 lbs/hr	100 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 60.6	Units lb/hour
Reference: see comment	
7. Emissions Method Code: (0,1, 2, 3, 4, 5): 5	
<input type="checkbox"/> 1	<input type="checkbox"/> 2
<input type="checkbox"/> 3	<input type="checkbox"/> 4
<input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters): NA - in permits	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): The current PSD permit and Site certification give the same emission limit for both PM and PM-10. The hourly rate given above is reflective of distillate oil firing. The hourly rate for natural gas firing is 18 lb/hour.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 12**  
**Basis For Allowable Emission #: 185 185**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 18 Units : lb/hour
4. Equivalent Allowable Emissions: 18 lbs/hr 78.8 tons/yr
5. Method of Compliance: Not required for natural gas firing
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 12**  
**Basis For Allowable Emission #: 187 187**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 19 Units : lb/hour
4. Equivalent Allowable Emissions: 19 lbs/hr 83.22 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 5 or 17 (for oil only)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information provided on this page is reflective of coal gas firing. Please note that this facility does not currently have coal gas available as a fuel, however.

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 12**  
**Basis For Allowable Emission #: 189 189**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 60.6 Units : lb/hour
4. Equivalent Allowable Emissions: 60.6 lbs/hr 100 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 5 or 17 (for oil only)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information given in fields 3 & 4 for lb/hour emission rate reflects distillate oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for #2 oil firing.

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 12**  
**Basis For Allowable Emission #: 213 213**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 100 Units : TPY
4. Equivalent Allowable Emissions: lbs/hr 100 tons/yr
5. Method of Compliance: Annual operating report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information on this page represents the annual tpy limit for PM-10 for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 combustion turbines.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 49

49

**Pollutant Detail Information**

1. Pollutant Emitted: Sulfur Dioxide
2. Total Percent Efficiency of Control: %
3. Potential Emissions: 920 lbs/hr      568 tons/yr
4. Synthetically Limited? (Yes/No): Y
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr
6. Emission Factor: 0.5      Units    % max in fuel Reference: see comment
7. Emissions Method Code: (0,1, 2, 3, 4, 5): 5 [ ] 1      [ ] 2      [ ] 3      [ ] 4      [ ] 5
8. Calculation of Emissions (limit to 600 characters): Not Applicable - current permit limit
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Information provided is representative of distillate oil firing, which is currently the worst-case fuel.  The potential emissions are limited by the current PSD permit and the Site Certification. Distillate oil firing is limited to 2,000 hours per year for all 4 combustion turbines combined. Sulfur content of the distillate oil is limited to 0.5% maximum and 0.3% annual average.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 2**  
**Basis For Allowable Emission #: 186 186**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 920 Units : lbs/hr
4. Equivalent Allowable Emissions: 920 lbs/hr 568 tons/yr
5. Method of Compliance: ASTM method D 2880-71 (or equivalent)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information in fields 3 and 4 above for lb/hour emission rate reflects #2 oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for distillate oil firing.



**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 2**  
**Basis For Allowable Emission #: 188 188**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 834 Units : lb/hr
4. Equivalent Allowable Emissions: 834 lbs/hr 3652.92 tons/yr
5. Method of Compliance: ASTM method D 2880-71 (or equivalent)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information provided on this page reflects coal gas firing. Note that this facility does not currently have coal gas available as a fuel, however.

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 2**  
**Basis For Allowable Emission #: 203 203**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 91.5 Units : lb/hour
4. Equivalent Allowable Emissions: 91.5 lbs/hr 400.77 tons/yr
5. Method of Compliance: ASTM methods: D 1072-80, D 3031-87, D 4084-82, or D 3246-81 (or equivalent)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 2**  
**Basis For Allowable Emission #: 205 205**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 568 Units : tons per year
4. Equivalent Allowable Emissions: lbs/hr 568 tons/yr
5. Method of Compliance: Annual Operating Report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information on this page represents the annual tpy limit for SO2 for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 combustion turbines.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 50

50

**Pollutant Detail Information**

1. Pollutant Emitted: Nitrogen Oxides	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 461 lbs/hr	3108 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 461	Units lbs/hour
Reference: Permit derived	
7. Emissions Method Code: (0,1, 2, 3, 4, 5): 5	
[ ] 1	[ ] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters):	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): The potential emission rates are based on oil firing (worst-case). The allowable hourly emission rate while firing natural gas is 177 pounds per hour at 40 degrees Fahrenheit. Note that emissions at other ambient temperatures may vary from these values.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 3**  
**Basis For Allowable Emission #: 200 200**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 461 Units : lb/hr
4. Equivalent Allowable Emissions: 461 lbs/hr 461 tons/yr
5. Method of Compliance: Annual stack testing using EPA Method 20 or modified EPA Method 7E
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information given in fields 3 and 4 above for lb/hour emission rate reflects #2 oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for #2 oil firing.

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 3**  
**Basis For Allowable Emission #: 201 201**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 177 Units : lb/hour
4. Equivalent Allowable Emissions: 177 lbs/hr 775.26 tons/yr
5. Method of Compliance: Annual Stack testing using EPA method 20 or modified EPA Method 7E
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 3  
Basis For Allowable Emission #: 202 202**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 3018 Units : tons per year
4. Equivalent Allowable Emissions: lbs/hr 3108 tons/yr
5. Method of Compliance: Annual Operating Report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information on this page represents the annual tpy limit for NOx for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 combustion turbines.

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 3**  
**Basis For Allowable Emission #: 208 208**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 392 Units : lb/hour
4. Equivalent Allowable Emissions: 392 lbs/hr 1716.96 tons/yr
5. Method of Compliance: Annual stack testing EPA method 20 or modified EPA Method 7E
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information provided on this page reflects coal gas firing. Please note that this facility does not currently have coal gas available as a fuel, however.



**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 51

51

**Pollutant Detail Information**

1. Pollutant Emitted: Volatile Organic Compounds	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 11 lbs/hr	57 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 11	Units lb/hour
Reference: Permit derived	
7. Emissions Method Code: (0,1, 2, 3, 4, 5): 5	
<input type="checkbox"/> 1	<input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
8. Calculation of Emissions (limit to 600 characters):	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	
<p>The potential emissions are limited by the PSD permit and the Site Certification. The emission rates given above are for distillate oil (worst-case). the current allowable hourly emission rate for natural gas firing is 3 lb/hour.</p> <p>The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.</p>	

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 4  
Basis For Allowable Emission #: 190 190**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 11 Units : lb/hour
4. Equivalent Allowable Emissions: 11 lbs/hr 11 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 18 or 25A
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information in fields 3 and 4 above for lb/hour emission rate reflects #2 oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for distillate oil firing.

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 4  
Basis For Allowable Emission #: 191 191**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 3 Units : lb/hour
4. Equivalent Allowable Emissions: 3 lbs/hr 13.14 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 18 or 25A
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 4  
Basis For Allowable Emission #: 192 192**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 57 Units : tons per year
4. Equivalent Allowable Emissions: lbs/hr 57 tons/yr
5. Method of Compliance: Annual Operating Report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information on this page represents the annual tpy limit for VOC for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 combustion turbines.

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 4**  
**Basis For Allowable Emission #: 206 206**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 21.4 Units : lb/hour
4. Equivalent Allowable Emissions: 21.4 lbs/hr 93.73 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 18 or 25A
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information provided on this page is reflective of coal gas firing. Please note that this facility does not currently have coal gas available as a fuel, however.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 63

63

**Pollutant Detail Information**

1. Pollutant Emitted: Carbon Monoxide	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 105.8 lbs/hr	871 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 105.8	Units lb/hour
Reference: see comment	
7. Emissions Method Code: (0,1, 2, 3, 4, 5): 5	
<input type="checkbox"/> 1	<input type="checkbox"/> 2
<input type="checkbox"/> 3	<input type="checkbox"/> 4
<input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters):	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	
<p>The potential emissions are limited by the PSD permit and the Site Certification. The values given above are representative of oil firing (worst-case). The maximum allowable hourly emission rate while firing natural gas is 94.3 lb/hour.</p> <p>Emission Factor Reference is PSD-FL-146 and Site Certification PA-89-27.</p> <p>The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.</p>	

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 5**  
**Basis For Allowable Emission #: 176 176**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 105.8 Units : lb/hour
4. Equivalent Allowable Emissions: 105.8 lbs/hr 105.8 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 10
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information in fields 3 and 4 above for lb/hour emission rate reflects #2 oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for distillate oil firing.

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 5**  
**Basis For Allowable Emission #: 177 177**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 94.3 Units : lb/hour
4. Equivalent Allowable Emissions: 94.3 lbs/hr 413.034 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 10
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.



**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 5**  
**Basis For Allowable Emission #: 178 178**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 871 Units : tons per year
4. Equivalent Allowable Emissions: lbs/hr 871 tons/yr
5. Method of Compliance: Annual Operating Report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information on this page represents the annual tpy limit for CO for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 combustion turbines.

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 5**  
**Basis For Allowable Emission #: 207 207**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 134 Units : lb/hour
4. Equivalent Allowable Emissions: 134 lbs/hr 586.92 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 10
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information provided on this page reflects coal gas firing. Please note that this facility does not currently have coal gas available as a fuel, however.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 10

57

**Pollutant Detail Information**

1. Pollutant Emitted: Mercury Compounds 0	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 0.021 lbs/hr	0.34 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 0.021	Units lb/hour
Reference: see comment	
7. Emissions Method Code: (0, 1, 2, 3, 4, 5): 5 <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters): NA - in current operating permits  Emissions given represent operation on natural gas (worst-case fuel). The tons-per-year value of 0.34 is given as a combined total number for all four combustion turbines (3A, 3B, 4A, and 4B CT's). Emissions information for mercury is provided because mercury is a parameter listed in the facility's current PSD permit and Site Certification.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 10**  
**Basis For Allowable Emission #: 173 173**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code:	Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	Units :
4. Equivalent Allowable Emissions:	lbs/hr      tons/yr
5. Method of Compliance:	
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 97 Limit requested to be deleted pursuant to May 19, 1995 DARM Guidance Memorandum (DARM-PER/GEN-18)	

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 6**

**53**

**Pollutant Detail Information**

1. Pollutant Emitted:     Lead - Total	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 0.015 lbs/hr	0.015 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to    tons/yr	
6. Emission Factor: 0.015	Units   lbs/hr
Reference: Not applicable	
7. Emissions Method Code: (0, 1, 2, 3, 4, 5): 5 <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters):	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Information provided is for both natural gas and distillate oil firing.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 6**  
**Basis For Allowable Emission #: 194 194**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code:	Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	Units :
4. Equivalent Allowable Emissions:	lbs/hr      tons/yr
5. Method of Compliance:	
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 97 Limit requested to be deleted pursuant to May 19, 1995 DARM Guidance Memorandum (DARM-PER/GEN-18)	

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 7**

**54**

**Pollutant Detail Information**

1. Pollutant Emitted:	Sulfuric Acid Mist
2. Total Percent Efficiency of Control:	%
3. Potential Emissions:	113 lbs/hr                      70 tons/yr
4. Synthetically Limited? (Yes/No):	Y
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3):	to    tons/yr
6. Emission Factor:	113 <b>Units</b> lb/hour
Reference:	permit-derived
7. Emissions Method Code: (0, 1, 2, 3, 4, 5):	5
	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
8. Calculation of Emissions (limit to 600 characters):	In permit
	Emission rates given are reflective of operation on number 2 distillate fuel (worst-case fuel, at present) .
	The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	

**Information for Facility ID: 1 Emission Unit #: 4 Pollutant #: 7**  
**Basis For Allowable Emission #: 195 195**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code:	Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	Units :
4. Equivalent Allowable Emissions:	lbs/hr      tons/yr
5. Method of Compliance:	
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 97 Limit requested to be deleted pursuant to May 19, 1995 DARM Guidance Memorandum (DARM-PER/GEN-18)	





**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 8**  
**Basis For Allowable Emission #: 198 198**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code:	Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	Units :
4. Equivalent Allowable Emissions:	lbs/hr      tons/yr
5. Method of Compliance:	
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters):	97 Limit requested to be deleted pursuant to May 19, 1995 DARM Guidance Memorandum (DARM-PER/GEN-18)

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 9

56

**Pollutant Detail Information**

1. Pollutant Emitted: Fluorides - Total	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 0.055 lbs/hr	0.055 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 0.055	Units lb/hour
Reference: See Comment	
7. Emissions Method Code: (0, 1, 2, 3, 4, 5): 5 <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters): NA - In permit  Emission rates given represent operation on all fuels. Fluoride is reported because it is included in the facilities' current PSD and Site Certification permits.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	

**Information for Facility\_ID: 1 Emission Unit #: 4 Pollutant #: 9**  
**Basis For Allowable Emission #: 179 179**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: Units :
4. Equivalent Allowable Emissions: lbs/hr tons/yr
5. Method of Compliance:
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 97 Limit requested to be deleted pursuant to May 19, 1995 DARM Guidance Memorandum (DARM-PER/GEN-18)

**I. VISIBLE EMISSIONS INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 4

Visible Emissions Limitation #: 5

5

1. Visible Emissions Subtype: VE10
2. Basis for Allowable Opacity Code(R/O): <input checked="" type="checkbox"/> RULE <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: 10 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hr
4. Method of Compliance Code: EPA Method 9
5. Visible Emissions Comment (limit to 200 characters): Allowable opacity limits above are applicable to operation on natural gas and coal-derived gas only. Refer to Site Certification specific condition II.A.8. and PSD permit specific condition 8.

**I. VISIBLE EMISSIONS INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 4  
Visible Emissions Limitation #: 6

6

1. Visible Emissions Subtype: VE20
2. Basis for Allowable Opacity Code(R/O):   RULE       [ ] Rule       [ ] Other
3. Allowable Opacity: Normal Conditions: 20                           % Exceptional Conditions:    % Maximum Period of Excess Opacity Allowed:   min/hr
4. Method of Compliance Code:   EPA Method 9
5. Visible Emissions Comment (limit to 200 characters): The allowable opacity limits listed above are applicable to operation on distillate oil only. Please refer to Site Certification specific condition II.A.8. and PSD permit specific condition 8.

**I. VISIBLE EMISSIONS INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : / Emission Unit #: 4  
Visible Emissions Limitation #: 7

7

1. Visible Emissions Subtype: VE100
2. Basis for Allowable Opacity Code(R/O):   RULE       [ ] Rule       [ ] Other
3. Allowable Opacity: Normal Conditions: 100                   % Exceptional Conditions:    % Maximum Period of Excess Opacity Allowed:    min/hr
4. Method of Compliance Code:   EPA Method 9
5. Visible Emissions Comment (limit to 200 characters): DEP Rule 62-210.700(1) allows excess emissions for up to 2 hrs / 24 hrs for startup, shutdown and malfunctions.

**J. CONTINUOUS MONITOR INFORMATION**  
**(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 4  
Continuous Monitor #: 19 19

**Continuous Monitoring System**

1. Parameter Code:		
2. Pollutant(s):	Carbon dioxide	
3. CMS Requirement Code(R/O):	RULE	Rule / Other
4. Monitor Information:		
Manufacturer:	Milton Roy	
Model Number:	3300	Serial Number: N4CO314T
5. Installation Date (DD-MON-YYYY):	12/09/94	
6. Performance Specification Test Date (DD-MON-YYYY):	12/28/94	
7. Continuous Monitor Comment (limit to 200 characters):	The CO2 monitor gives %O2 data to the NOx monitoring system per 40 CFR 75 Appendix E, equation E-3. There is no flow monitor at this emission unit.	



**J. CONTINUOUS MONITOR INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 4  
Continuous Monitor #: 2 2

**Continuous Monitoring System**

1. Parameter Code:		
2. Pollutant(s):	Nitrogen Oxides	
3. CMS Requirement Code(R/O):	RULE	Rule / Other
4. Monitor Information:		
Manufacturer:	TECO	
Model Number:	42	Serial Number: 42D-49811-284
5. Installation Date (DD-MON-YYYY):	12/09/94	
6. Performance Specification Test Date (DD-MON-YYYY):	12/28/94	
7. Continuous Monitor Comment (limit to 200 characters):	This emission unit is classified as a "gas-fired" unit under the 40 CFR 75 definitions, therefore opacity and SO2 monitors are not required.	

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT  
TRACKING INFORMATION  
(Regulated and Unregulated Emissions Units)**

Information for Facility-ID : 1 Emission Unit # : 4

**PSD Increment Consumption Determination**

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

Select (1-5) : 1

- [ 1 ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. Final determination is that emissions unit consumes increment.
- [ 2 ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 17-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 3 ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 4 ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 5 ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

Select (1-5) : 1

- [ 1 ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. Final determination is that emissions unit consumes increment.
- [ 2 ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 17-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 3 ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 4 ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 5 ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code: (C, E, U- unknown):

PM	C
SO2	C
NO2	C

4. Baseline Emissions:

PM	lbs/hr	tons/yr
SO2	lbs/hr	tons/yr
NO2	tons/yr	

5. PSD Comment (limit to 200 characters):  
Emissions associated with this emission unit are as follows:

PM 60.6 lb/hour	100 tons per year
SO2 920 lb/hour	568 tons per year
NOx 3,108 tons per year	

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : / Emission Unit # : 4

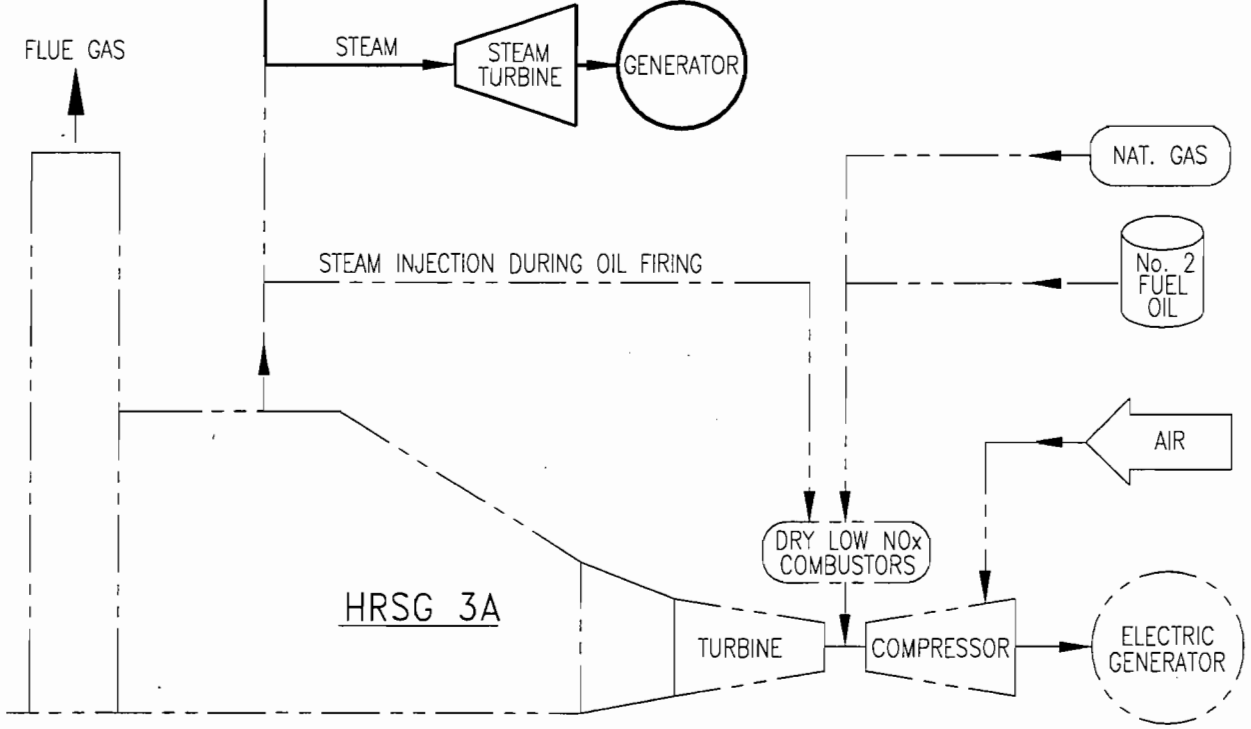
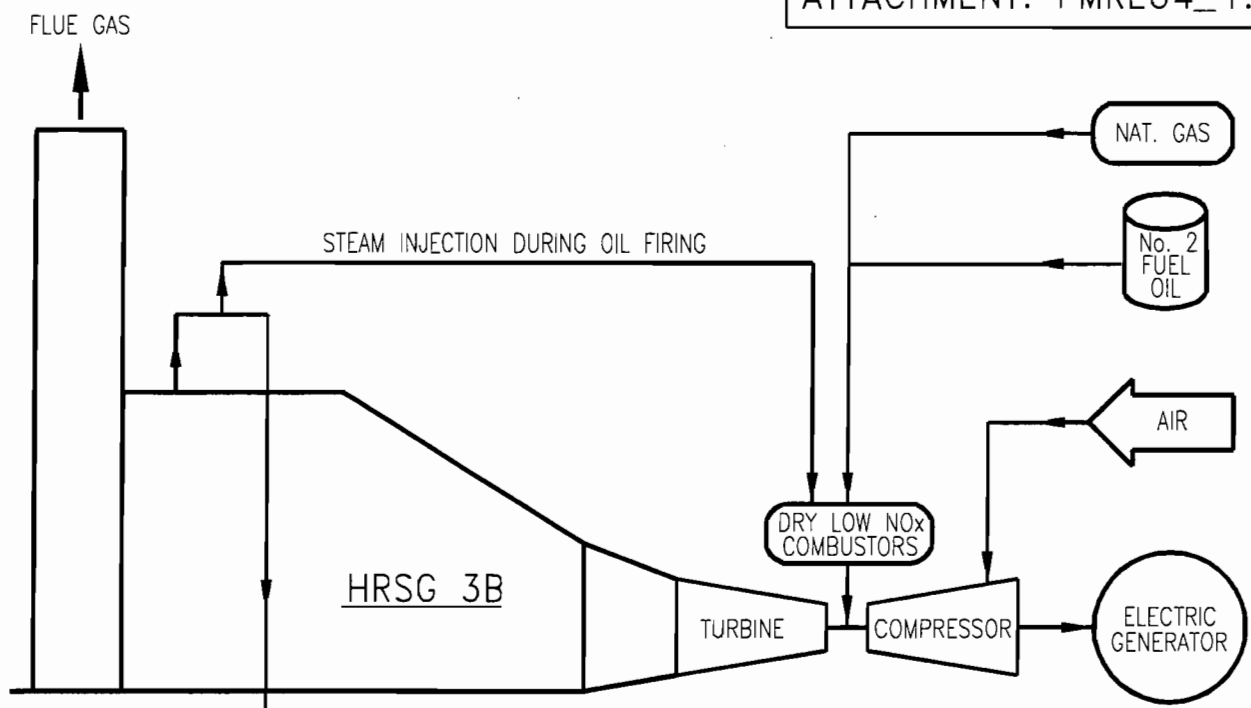
**Supplemental Requirements for All Applications**

1. Process Flow Diagram : PMRU4_1.bmp Attached Document ID / Not Applicable / Waiver Requested
2. Fuel Analysis or Specification: PMRU3_2.doc Attached Document ID / Not Applicable / Waiver Requested
3. Detailed Description of Control Equipment : PMRU3_3.doc Attached Document ID / Not Applicable / Waiver Requested
4. Description of Stack Sampling Facilities : PMRU3_4.bmp Attached Document ID / Not Applicable / Waiver Requested
5. Compliance Test Report : Previously submitted Date: February 8, 1994 Attached Document ID / Previously submitted, Date / Not Applicable
6. Procedures for Startup and Shutdown : PMRU3_6.doc Attached Document ID / Not Applicable
7. Operation and Maintenance Plan : Not Applicable Attached Document ID / Not Applicable
8. Supplemental Information for Construction Permit Application : Not Applicable Attached Document ID / Not Applicable
9. Other Information Required by Rule or Statute : Not Applicable Attached Document ID / Not Applicable

**Additional Supplemental Requirements for Category I Applications Only**

10. Alternative Methods of Operation : PMRU3_10.doc Attached Document ID / Not Applicable
11. Alternative Modes of Operation (Emissions Trading) : Not Applicable Attached Document ID / Not Applicable
12. Identification of Additional Applicable Requirements : PMRU3_13.doc Attached Document ID / Not Applicable
13. Enhanced Monitoring Plan : Not Applicable Attached Document ID / Not Applicable
14. Acid Rain Permit Application  Acid Rain Application - Phase II (Form No. 17-210.900(1)(a)) Attached Document ID: Not Applicable  Repowering Extension Plan (Form No. 17-210.900(1)(b)) Attached Document ID: Not Applicable  New Unit Exemption (Form No. 17-210.900(1)(c)) Attached Document ID: Not Applicable  Retired Unit Exemption (Form No. 17-210.900(1)(c)) Attached Document ID: Not Applicable  Not Applicable

TECHNICAL ACCEPTANCE	ORG	BY	DATE
	ENGINEERING ORGANIZATION		
WALKDOWN INFORMATION	ORG	BY	DATE
	AS-BUILT INFORMATION		



BAR CODE

	SYSTEM YY	DISCIPLINE M	PLANT/UNIT MARTIN PLANT
	SCALE N/A	CAD FILE NAME MR001740	TITLE EMISSION UNIT FLOW DIAGRAM COMBUSTION TURBINES ATTACHMENT NO. EU4
	DRAWING SIZE A (8.5X11)	FPL ARCHIVE NAME MR001740	

0	7/14/95	ISSUED FOR TITLE V PERMIT	PWB	PWB	CSP	CSP	ETS
REV	DATE	REVISION DESCRIPTION	BY	CH	COR	APR	ORG

DRAWING NUMBER	SHEET	REV
PMR1-M0105-YY	1 OF 1	0

III. EMISSIONS UNIT INFORMATION

Information for Facility - ID : 1 Emission Unit # : 5  
5

A separate Emissions Unit Information Section (including subsections A through L 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. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT  
(Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Units? 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 a unregulated emissions unit.

2. Single Process, Group Processes, or Fugitive Only?

Enter The Number (1-3): 1

- [ 1 ] 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).
- [ 2 ] 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.
- [ 3 ] 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.



**B. GENERAL EMISSIONS UNIT INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): Martin unit 4A Fossil-fuel-fired combined-cycle CT
2. Emissions Unit Identification Number: 005 (No Corresponding ID or Unknown)
3. Emission Unit Status Code: (A or C) : A
4. Acid Rain Unit? (Y/N): Y
5. Emissions Unit Major Group SIC Code: 49
6. Emissions Unit Comment (limit to 500 characters): There are four combustion turbines at the Martin facility. Each CT is directly coupled to an electric generator. Heat from the combustion turbine exhausts through a heat recovery steam generator (HRSG). Steam produced in the HRSG is sent to a steam turbine-generator for production of additional electric power. Generator nameplate rating given above is for the CT-coupled generator only. Field C1 = the commercial operation date.

**Emissions Unit Control Equipment**

**A. Control Equipment # :**

1. Description (limit to 200 characters): Dry Low Nox Combustors
2. Control Device or Method Code: Staged Combustion

**B. Control Equipment # :**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C. Control Equipment # :**

1. Description (limit to 200 characters):
2. Control Device or Method Code:



**D. EMISSIONS UNIT REGULATIONS  
(Regulated Emissions Units Only)**

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

Emission Unit Information Section \_\_\_\_\_ of \_\_\_\_\_  
**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

Emissions Unit ID 5

40 CFR 60.332 (a)(1)	40 C.F.R. 72.40(d)	40 C.F.R. 75.20(b)	40 C.F.R. 75.66(h)
40 CFR 60.332 (b)	40 C.F.R. 72.51	40 C.F.R. 75.20(c)	40 C.F.R. 77.3
40 CFR 60.332(f)	40 C.F.R. 72.90	40 C.F.R. 75.20(g)	40 C.F.R. 77.5(b)
40 CFR 60.332(k)	40 C.F.R. 72.9(a)(1)(iii)	40 C.F.R. 75.21(a)	40 C.F.R. 77.6
40 CFR 60.333 (b)	40 C.F.R. 72.9(a)(1)(i)	40 C.F.R. 75.21(b)	F.A.C. 62-204.800 (7)(d)
40 CFR 60.334 (a) (when firing oil)	40 C.F.R. 72.9(a)(2)	40 C.F.R. 75.21(c)	(state only)
40 CFR 60.334 (b)(1)(when firing oil)	40 C.F.R. 72.9(b)	40 C.F.R. 75.21(d)	F.A.C. 62-204.800 (b)37.
40 CFR 60.334 (b)(2)(when firing natural gas)	40 C.F.R. 72.9(c)(1)	40 C.F.R. 75.21(e)	(state only)
40 CFR 60.334 (c)(1) (when firing oil)	40 C.F.R. 72.9(c)(2)	40 C.F.R. 75.21(f)	F.A.C. 62-204.800(12)
40 CFR 60.335	40 C.F.R. 72.9(c)(3)(iii)	40 C.F.R. 75.22	(state only)
40 C.F.R. 60.11(a)	40 C.F.R. 72.9(c)(4)	40 C.F.R. 75.24	F.A.C. 62-204.800(13)
40 C.F.R. 60.11(b)	40 C.F.R. 72.9(c)(5)	40 C.F.R. 75.30(a)(3)	(state only)
40 C.F.R. 60.11(c)	40 C.F.R. 72.9(d)	40 C.F.R. 75.32	F.A.C. 62-204.800(14)
40 C.F.R. 60.11(d)	40 C.F.R. 72.9(e)	40 C.F.R. 75.33	(state only)
40 C.F.R. 60.11(e)(2)	40 C.F.R. 72.9(f)	40 C.F.R. 75.36	F.A.C. 62-210.650
40 C.F.R. 60.12	40 C.F.R. 72.9(g)(4)	40 C.F.R. 75.4(a)(4)(i)	F.A.C. 62-210.700 (1)
40 C.F.R. 60.13(a)	40 C.F.R. 73.33	40 C.F.R. 75.4(b)	F.A.C. 62-210.700 (4)
40 C.F.R. 60.13(d)(1)	40 C.F.R. 73.35	40 C.F.R. 75.4(g)	F.A.C. 62-210.700 (6)
40 C.F.R. 60.13(e)	40 C.F.R. 75 Appendix A-1	40 C.F.R. 75.5	F.A.C. 62-214.300
40 C.F.R. 60.13(h)	40 C.F.R. 75 Appendix A-2	40 C.F.R. 75.53(a)	F.A.C. 62-214.320
40 C.F.R. 60.7(b)	40 C.F.R. 75 Appendix A-3	40 C.F.R. 75.53(b)	F.A.C. 62-214.330
40 C.F.R. 60.7(f)	40 C.F.R. 75 Appendix A-4	40 C.F.R. 75.53(c)	F.A.C. 62-214.340
40 C.F.R. 60.8(c)	40 C.F.R. 75 Appendix A-5	40 C.F.R. 75.53(d)(2)	F.A.C. 62-214.350(2)
40 C.F.R. 60.8(e)	40 C.F.R. 75 Appendix A-6	40 C.F.R. 75.54(a)	F.A.C. 62-214.350(3)
40 C.F.R. 72.20(a)	40 C.F.R. 75 Appendix B	40 C.F.R. 75.54(b)	F.A.C. 62-214.350(6)
40 C.F.R. 72.20(b)	40 C.F.R. 75 Appendix C-1	40 C.F.R. 75.54(d)	F.A.C. 62-214.370
40 C.F.R. 72.20(c)	40 C.F.R. 75 Appendix C-2	40 C.F.R. 75.55(c)	F.A.C. 62-214.430
40 C.F.R. 72.21(a)	40 C.F.R. 75 Appendix D	40 C.F.R. 75.56	F.A.C. 62-296.320 (4)(b)
40 C.F.R. 72.21(b)	40 C.F.R. 75 Appendix F	40 C.F.R. 75.60(a)	(state only)
40 C.F.R. 72.21(d)	40 C.F.R. 75 Appendix G-2	40 C.F.R. 75.60(b)	F.A.C. 62-296.800(2)(a)37
40 C.F.R. 72.22(a)	40 C.F.R. 75 Appendix H	40 C.F.R. 75.60(c)(3)	(as applicable) (state only)
40 C.F.R. 72.22(c)	40 C.F.R. 75.10(a)(1)	40 C.F.R. 75.61(a)(1)	F.A.C. 62-297.310(1)
40 C.F.R. 72.23	40 C.F.R. 75.10(a)(2)	40 C.F.R. 75.61(a)(5)	F.A.C. 62-297.310(3)
40 C.F.R. 72.24(a)	40 C.F.R. 75.10(a)(3)(i)	40 C.F.R. 75.62	F.A.C. 62-297.310(4)(a)1.
40 C.F.R. 72.30(a)	40 C.F.R. 75.10(a)(4)	40 C.F.R. 75.63	F.A.C. 62-297.310(4)(b)
40 C.F.R. 72.30(b)(2)	40 C.F.R. 75.10(b)	40 C.F.R. 75.64(a)	F.A.C. 62-297.310(4)(c)
40 C.F.R. 72.30(c)	40 C.F.R. 75.10(c)	40 C.F.R. 75.64(b)	F.A.C. 62-297.310(4)(d)
40 C.F.R. 72.30(d)	40 C.F.R. 75.10(f)	40 C.F.R. 75.64(c)	F.A.C. 62-297.310(5)
40 C.F.R. 72.32	40 C.F.R. 75.10(g)	40 C.F.R. 75.64(d)	F.A.C. 62-297.310(6)(a)
40 C.F.R. 72.33(b)	40 C.F.R. 75.11(d)	40 C.F.R. 75.65	F.A.C. 62-297.310(6)(c)
40 C.F.R. 72.33(c)	40 C.F.R. 75.12(a)	40 C.F.R. 75.66(a)	F.A.C. 62-297.310(6)(d)
40 C.F.R. 72.33(d)	40 C.F.R. 75.12(b)	40 C.F.R. 75.66(b)	F.A.C. 62-297.310(6)(e)
40 C.F.R. 72.40(a)	40 C.F.R. 75.13(b)	40 C.F.R. 75.66(c)	F.A.C. 62-297.310(6)(f)
40 C.F.R. 72.40(b)	40 C.F.R. 75.14(c)	40 C.F.R. 75.66(d)	F.A.C. 62-297.310(6)(g)
40 C.F.R. 72.40(c)	40 C.F.R. 75.20(a)(5)	40 C.F.R. 75.66(g)	F.A.C. 62-297.310(7)(a)1.
			F.A.C. 62-297.310(7)(a)3.
			F.A.C. 62-297.310(7)(a)4.b.
			F.A.C. 62-297.310(7)(a)5.
			F.A.C. 62-297.310(7)(a)7.
			F.A.C. 62-297.310(7)(a)9.
			F.A.C. 62-297.310(7)(c)
			F.A.C. 62-297.310(8)

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

**Emission Point Description and Type**

Information for Facility-ID I Emission Unit # : 5

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1. Identification of Point on Plot Plan or Flow Diagram: EU-5
2. Emission Point Type Code (1,2,3,4) : 1
3. Descriptions of Emissions Points Comprising this Emissions Unit (limit to 100 characters): NA
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: Not applicable
5. Discharge Type Code (D, F, H, P, R, V, W) : v
6. Stack Height: 213.3 ft
7. Exit Diameter: 20 ft
8. Exit Temperature: 280 °F
9. Actual Volumetric Flow Rate: 1149823 acfm
10. Percent Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm
12. Nonstack Emission Point Height: ft
13. Emission Point UTM Coordinates: Zone: 17 East: 543.164 North: 2992.61
14. Emission Point Comment (limit to 200 characters): The volumetric flow rate given above is reflective of a 40 degree F ambient condition while firing distillate oil. The volumetric flow while firing natural gas under the same conditions is 2,352,904 acfm. The volumetric flow while firing natural gas while in power augmentation mode is 2,468,838 acfm. All flow numbers provided by KBN Engineering & Applied Sciences.

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :/ Emission Unit #: 5 Segment #: 16 16

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Natural gas burned in combustion turbine 4A
2. Source Classification Code (SCC): 2-01-002-01
3. SCC Units: million cubic feet burned
4. Maximum Hourly Rate: 1.87
5. Maximum Annual Rate: 16381.2
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: 0.0031
8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 1050
10. Segment Comment (limit to 200 characters):

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :1 Emission Unit #: 5 Segment #: 15 15

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Light distillate oil burned in combustion turbine 4A
2. Source Classification Code (SCC): 2-01-001-01
3. SCC Units: thousand gallons burned
4. Maximum Hourly Rate: 14.13
5. Maximum Annual Rate: 28260
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: 0.5
8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 130.66
10. Segment Comment (limit to 200 characters): Max. annual rate is for 2,000 hrs of operation on dist. oil, which is limited in the current PSD permit (condition 4.a.) & the current Site Certification (condition II.A.4.a.) for 4 CT units combined.



**G. EMISSIONS UNIT POLLUTANTS  
(Regulated Emissions Units Only)**

**Information for Facility\_ID: 1 Emission Unit #: 5**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
SO2	NA	NA	EL
NOx	025	NA	EL
CO	NA	NA	EL
PM	NA	NA	EL
PM10	NA	NA	EL
VOC	NA	NA	EL
SAM	NA	NA	EL
PB	NA	NA	EL
H114	NA	NA	EL
FL	NA	NA	EL
H021	NA	NA	EL



**Information for Facility\_ID: / Emission Unit #: 5 Pollutant #: /  
Basis For Allowable Emission #: 180 180**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 60.6 Units : lb/hour
4. Equivalent Allowable Emissions: 60.6 lbs/hr 60.6 tons/yr
5. Method of Compliance: DEP Rule 62-296.405(1)(e)2.(for oil only)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): <b>200</b> Information given in fields 3 and 4 for lb/hour emission rate reflects distillate oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for #2 oil firing.

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 1**  
**Basis For Allowable Emission #: 181 181**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 18 Units : lb/hour
4. Equivalent Allowable Emissions: 18 lbs/hr 78.84 tons/yr
5. Method of Compliance: None required on natural gas
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 1**  
**Basis For Allowable Emission #: 182 182**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 19 Units : lb/hour
4. Equivalent Allowable Emissions: 19 lbs/hr 333 tons/yr
5. Method of Compliance: DEP Rule 62-296.405(1)(e)2.(for oil only)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 67 Information provided on this page is reflective of coal gas firing.

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 1**  
**Basis For Allowable Emission #: 204 204**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code:      Rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 100      Units : tons per year
4. Equivalent Allowable Emissions:    lbs/hr      100    tons/yr
5. Method of Compliance:    Annual Operating Report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information given on this page is meant to represent the annual tpy limit for PM for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 CT's.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 70

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**Pollutant Detail Information**

1. Pollutant Emitted: Particulate Matter - PM10	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 60.6 lbs/hr	100 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 60.6	Units lb/hour
Reference: see comment	
7. Emissions Method Code: (0,1, 2, 3, 4, 5): 5	
<input type="checkbox"/> 1	<input type="checkbox"/> 2
<input type="checkbox"/> 3	<input type="checkbox"/> 4
<input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters): NA - in permits	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): The current PSD permit and Site certification give the same emission limit for both PM and PM-10. The hourly rate given above is reflective of distillate oil firing. The hourly rate for natural gas firing is 18 lb/hour.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 12**  
**Basis For Allowable Emission #: 187 187**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 19 Units : lb/hour
4. Equivalent Allowable Emissions: 19 lbs/hr 83.22 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 5 or 17 (for oil only)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information provided on this page is reflective of coal gas firing. Please note that this facility does not currently have coal gas available as a fuel, however.



**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 12**  
**Basis For Allowable Emission #: 189 189**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 60.6 Units : lb/hour
4. Equivalent Allowable Emissions: 60.6 lbs/hr 100 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 5 or 17 (for oil only)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information given in fields 3 & 4 for lb/hour emission rate reflects distillate oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for #2 oil firing.

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 12**  
**Basis For Allowable Emission #: 213 213**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 100 Units : TPY
4. Equivalent Allowable Emissions: lbs/hr 100 tons/yr
5. Method of Compliance: Annual operating report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information on this page represents the annual tpy limit for PM-10 for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 combustion turbines.

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 2  
Basis For Allowable Emission #: 186 186**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 920 Units : lbs/hr
4. Equivalent Allowable Emissions: 920 lbs/hr 568 tons/yr
5. Method of Compliance: ASTM method D 2880-71 (or equivalent)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information in fields 3 and 4 above for lb/hour emission rate reflects #2 oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for distillate oil firing.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 60

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**Pollutant Detail Information**

1. Pollutant Emitted: Sulfur Dioxide	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 920 lbs/hr	568 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3): to tons/yr	
6. Emission Factor: 0.5	Units % max in fuel
Reference: see comment	
7. Emissions Method Code: (0,1, 2, 3, 4, 5): 5	
<input type="checkbox"/> 1	<input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
8. Calculation of Emissions (limit to 600 characters): Not Applicable - current permit limit	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Information provided is representative of distillate oil firing, which is currently the worst-case fuel.  The potential emissions are limited by the current PSD permit and the Site Certification. Distillate oil firing is limited to 2,000 hours per year for all 4 combustion turbines combined. Sulfur content of the distillate oil is limited to 0.5% maximum and 0.3% annual average.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 2**  
**Basis For Allowable Emission #: 188 188**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 834 Units : lb/hr
4. Equivalent Allowable Emissions: 834 lbs/hr 3652.92 tons/yr
5. Method of Compliance: ASTM method D 2880-71 (or equivalent)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information provided on this page reflects coal gas firing. Note that this facility does not currently have coal gas available as a fuel, however.

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 2**  
**Basis For Allowable Emission #: 203 203**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 91.5 Units : lb/hour
4. Equivalent Allowable Emissions: 91.5 lbs/hr 400.77 tons/yr
5. Method of Compliance: ASTM methods: D 1072-80, D 3031-87, D 4084-82, or D 3246-81 (or equivalent)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 2**  
**Basis For Allowable Emission #: 205 205**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule

2. Future Effective Date of Allowable Emissions:

3. Requested Allowable Emissions and Units: 568 Units : tons per year

4. Equivalent Allowable Emissions: lbs/hr 568 tons/yr

5. Method of Compliance: Annual Operating Report

6. Pollutant Allowable Emissions Comment (**Desc. of Related Operating Method/Mode**)  
(limit to 200 characters):

Information on this page represents the annual tpy limit for SO2 for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 combustion turbines.

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 3**  
**Basis For Allowable Emission #: 200 200**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 461 Units : lb/hr
4. Equivalent Allowable Emissions: 461 lbs/hr 461 tons/yr
5. Method of Compliance: Annual stack testing using EPA Method 20 or modified EPA Method 7E
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information given in fields 3 and 4 above for lb/hour emission rate reflects #2 oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for #2 oil firing.



**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 61

61

**Pollutant Detail Information**

1. Pollutant Emitted: Nitrogen Oxides
2. Total Percent Efficiency of Control: %
3. Potential Emissions: 461 lbs/hr                      3108 tons/yr
4. Synthetically Limited? (Yes/No): Y
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr
6. Emission Factor: 461                      Units lbs/hour Reference: Permit derived
7. Emissions Method Code: (0,1, 2, 3, 4, 5): 5 [ ] 1                      [ ] 2                      [ ] 3                      [ ] 4                      [ ] 5
8. Calculation of Emissions (limit to 600 characters):
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): The potential emission rates are based on oil firing (worst-case). The allowable hourly emission rate while firing natural gas is 177 pounds per hour at 40 degrees Fahrenheit. Note that emissions at other ambient temperatures may vary from these values.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 3**  
**Basis For Allowable Emission #: 201 201**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 177 Units : lb/hour
4. Equivalent Allowable Emissions: 177 lbs/hr 775.26 tons/yr
5. Method of Compliance: Annual Stack testing using EPA method 20 or modified EPA Method 7E
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 3  
Basis For Allowable Emission #: 202 202**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 3018 Units : tons per year
4. Equivalent Allowable Emissions: lbs/hr 3108 tons/yr
5. Method of Compliance: Annual Operating Report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information on this page represents the annual tpy limit for NOx for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 combustion turbines.

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 3**  
**Basis For Allowable Emission #: 208 208**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 392 Units : lb/hour
4. Equivalent Allowable Emissions: 392 lbs/hr 1716.96 tons/yr
5. Method of Compliance: Annual stack testing EPA method 20 or modified EPA Method 7E
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information provided on this page reflects coal gas firing. Please note that this facility does not currently have coal gas available as a fuel, however.

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 4**  
**Basis For Allowable Emission #: 190 190**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 11 Units : lb/hour
4. Equivalent Allowable Emissions: 11 lbs/hr 11 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 18 or 25A
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information in fields 3 and 4 above for lb/hour emission rate reflects #2 oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for distillate oil firing.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 62

62

**Pollutant Detail Information**

1. Pollutant Emitted: Volatile Organic Compounds	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 11 lbs/hr	57 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3): to tons/yr	
6. Emission Factor: 11	Units lb/hour
Reference: Permit derived	
7. Emissions Method Code: (0,1, 2, 3, 4, 5): 5	
<input type="checkbox"/> 1	<input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
8. Calculation of Emissions (limit to 600 characters):	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): The potential emissions are limited by the PSD permit and the Site Certification. The emission rates given above are for distillate oil (worst-case). the current allowable hourly emission rate for natural gas firing is 3 lb/hour.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 4**  
**Basis For Allowable Emission #: 191 191**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 3 Units : lb/hour
4. Equivalent Allowable Emissions: 3 lbs/hr 13.14 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 18 or 25A
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 4  
Basis For Allowable Emission #: 192 192**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 57 Units : tons per year
4. Equivalent Allowable Emissions: lbs/hr 57 tons/yr
5. Method of Compliance: Annual Operating Report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information on this page represents the annual tpy limit for VOC for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 combustion turbines.



**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 4**  
**Basis For Allowable Emission #: 206 206**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 21.4 Units : lb/hour
4. Equivalent Allowable Emissions: 21.4 lbs/hr 93.73 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 18 or 25A
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information provided on this page is reflective of coal gas firing. Please note that this facility does not currently have coal gas available as a fuel, however.

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 5**  
**Basis For Allowable Emission #: 176 176**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 105.8 Units : lb/hour
4. Equivalent Allowable Emissions: 105.8 lbs/hr 105.8 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 10
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information in fields 3 and 4 above for lb/hour emission rate reflects #2 oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for distillate oil firing.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 74

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**Pollutant Detail Information**

1. Pollutant Emitted: Carbon Monoxide	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 105.8 lbs/hr	871 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 105.8	Units lb/hour
Reference: see comment	
7. Emissions Method Code: (0,1, 2, 3, 4, 5): 5	
<input type="checkbox"/> 1	<input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
8. Calculation of Emissions (limit to 600 characters):	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): The potential emissions are limited by the PSD permit and the Site Certification. The values given above are representative of oil firing (worst-case). The maximum allowable hourly emission rate while firing natural gas is 94.3 lb/hour. Emission Factor Reference is PSD-FL-146 and Site Certification PA-89-27.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 5**  
**Basis For Allowable Emission #: 177 177**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 94.3 Units : lb/hour
4. Equivalent Allowable Emissions: 94.3 lbs/hr 413.034 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 10
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 5**  
**Basis For Allowable Emission #: 178 178**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 871 Units : tons per year
4. Equivalent Allowable Emissions: lbs/hr 871 tons/yr
5. Method of Compliance: Annual Operating Report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information on this page represents the annual tpy limit for CO for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 combustion turbines.

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 5**  
**Basis For Allowable Emission #: 207 207**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 134 Units : lb/hour
4. Equivalent Allowable Emissions: 134 lbs/hr 586.92 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 10
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information provided on this page reflects coal gas firing. Please note that this facility does not currently have coal gas available as a fuel, however.

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 6**  
**Basis For Allowable Emission #: 193 193**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.015 Units : lb/hour
4. Equivalent Allowable Emissions: 0.015 lbs/hr 0.015 tons/yr
5. Method of Compliance: EMTIC Interim Test Method (for oil only) or fuel analysis, method 7090 or 7091, and sample extraction using Method 3040.
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information in fields 3 and 4 above for lb/hour emission rate reflects #2 oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for distillate oil firing.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 10

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**Pollutant Detail Information**

1. Pollutant Emitted: Mercury Compounds 0	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 0.021 lbs/hr	0.34 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 0.021	Units lb/hour
Reference: see comment	
7. Emissions Method Code: (0, 1, 2, 3, 4, 5): 5 <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters): NA - in current operating permits  Emissions given represent operation on natural gas (worst-case fuel). The tons-per-year value of 0.34 is given as a combined total number for all four combustion turbines (3A, 3B, 4A, and 4B CT's). Emissions information for mercury is provided because mercury is a parameter listed in the facility's current PSD permit and Site Certification.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	



**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 10**  
**Basis For Allowable Emission #: 173 173**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: Units :
4. Equivalent Allowable Emissions: lbs/hr tons/yr
5. Method of Compliance:
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 97 Limit requested to be deleted pursuant to May 19, 1995 DARM Guidance Memorandum (DARM-PER/GEN-18)

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 6**

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**Pollutant Detail Information**

1. Pollutant Emitted:     Lead - Total	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 0.015 lbs/hr	0.015 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor:	Units
Reference:	Not applicable
7. Emissions Method Code: (0, 1, 2, 3, 4, 5): 5 <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters):	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Information provided is for both natural gas and distillate oil firing.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 6**  
**Basis For Allowable Emission #: 194 194**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code:	Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	Units :
4. Equivalent Allowable Emissions:	lbs/hr      tons/yr
5. Method of Compliance:	
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 97 Limit requested to be deleted pursuant to May 19, 1995 DARM Guidance Memorandum (DARM-PER/GEN-18)	

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 7**

**65**

**Pollutant Detail Information**

1. Pollutant Emitted: Sulfuric Acid Mist	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 113 lbs/hr	70 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 113	Units lb/hour Reference: permit-derived
7. Emissions Method Code: (0, 1, 2, 3, 4, 5): 5 <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters): In permit  Emission rates given are reflective of operation on number 2 distillate fuel (worst-case fuel, at present) .  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 7**  
**Basis For Allowable Emission #: 195 195**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code:	Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	Units :
4. Equivalent Allowable Emissions:	lbs/hr      tons/yr
5. Method of Compliance:	
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 97 Limit requested to be deleted pursuant to May 19, 1995 DARM Guidance Memorandum (DARM-PER/GEN-18)	

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 8

66

**Pollutant Detail Information**

1. Pollutant Emitted: Beryllium Compounds 0	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 0.004 lbs/hr	0.004 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 0.004	Units lb/hour
Reference: See comment	
7. Emissions Method Code: (0, 1, 2, 3, 4, 5): 5 <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters): NA - In permit  These emission calculations represent operation on all fuels.  Reference for emission factor is current PSD permit and Site Certification.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	

**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 8**  
**Basis For Allowable Emission #: 198 198**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code:	Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	Units :
4. Equivalent Allowable Emissions:	lbs/hr      tons/yr
5. Method of Compliance:	
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters):	<p>97 Limit requested to be deleted pursuant to May 19, 1995 DARM Guidance Memorandum (DARM-PER/GEN-18)</p>

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 9

67

**Pollutant Detail Information**

1. Pollutant Emitted: Fluorides - Total	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 0.055 lbs/hr	0.055 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 0.055	Units lb/hour
Reference: See Comment	
7. Emissions Method Code: (0, 1, 2, 3, 4, 5): 5 <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters): NA - In permit  Emission rates given represent operation on all fuels. Fluoride is reported because it is included in the facilities' current PSD and Site Certification permits.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	



**Information for Facility\_ID: 1 Emission Unit #: 5 Pollutant #: 9**  
**Basis For Allowable Emission #: 179 179**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: Units :
4. Equivalent Allowable Emissions: lbs/hr tons/yr
5. Method of Compliance:
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 97 Limit requested to be deleted pursuant to May 19, 1995 DARM Guidance Memorandum (DARM-PER/GEN-18)



**I. VISIBLE EMISSIONS INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 5  
Visible Emissions Limitation #: 6

6

1. Visible Emissions Subtype: VE20
2. Basis for Allowable Opacity Code(R/O):   RULE       [ ] Rule       [ ] Other
3. Allowable Opacity: Normal Conditions: 20                           % Exceptional Conditions:    % Maximum Period of Excess Opacity Allowed:   min/hr
4. Method of Compliance Code:   EPA Method 9
5. Visible Emissions Comment (limit to 200 characters): The allowable opacity limits listed above are applicable to operation on distillate oil only. Please refer to Site Certification specific condition II.A.8. and PSD permit specific condition 8.

**I. VISIBLE EMISSIONS INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 5  
Visible Emissions Limitation #: 7

7

1. Visible Emissions Subtype: VE100
2. Basis for Allowable Opacity Code(R/O):   RULE       [ ] Rule       [ ] Other
3. Allowable Opacity: Normal Conditions: 100                   % Exceptional Conditions:    % Maximum Period of Excess Opacity Allowed:   min/hr
4. Method of Compliance Code: EPA Method 9
5. Visible Emissions Comment (limit to 200 characters): DEP Rule 62-210.700(1) allows excess emissions for up to 2 hrs / 24 hrs for startup, shutdown and malfunctions.

**J. CONTINUOUS MONITOR INFORMATION**  
**(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 5  
Continuous Monitor #: 2 2

**Continuous Monitoring System**

1. Parameter Code:		
2. Pollutant(s):	Nitrogen Oxides	
3. CMS Requirement Code(R/O):	RULE	Rule / Other
4. Monitor Information:		
Manufacturer:	TECO	
Model Number:	42	Serial Number: 42D-49810-284
5. Installation Date (DD-MON-YYYY):	12/09/94	
6. Performance Specification Test Date (DD-MON-YYYY):	12/28/94	
7. Continuous Monitor Comment (limit to 200 characters):	This emission unit is classified as a "gas-fired" unit under the 40 CFR 75 definitions, therefore opacity and SO2 monitors are not required.	

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT  
TRACKING INFORMATION  
(Regulated and Unregulated Emissions Units)**

Information for Facility-ID : 1 Emission Unit # : 5

**PSD Increment Consumption Determination**

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

Select (1-5) : 1

- [ 1 ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. Final determination is that emissions unit consumes increment.
  
- [ 2 ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 17-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
  
- [ 3 ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
  
- [ 4 ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
  
- [ 5 ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

Select (1-5) : 1

- [ 1 ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. Final determination is that emissions unit consumes increment.
- [ 2 ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 17-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 3 ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 4 ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 5 ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code: (C, E, U- unkown):

PM	C
SO2	C
NO2	C

4. Baseline Emissions:

PM	lbs/hr	tons/yr
SO2	lbs/hr	tons/yr
NO2	tons/yr	

5. PSD Comment (limit to 200 characters):  
Emissions associated with this emission unit are as follows:

PM 60.6 lb/hour	100 tons per year
SO2 920 lb/hour	568 tons per year
NOx 3,108 tons per year	



**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION  
(Regulated Emissions Units Only)**

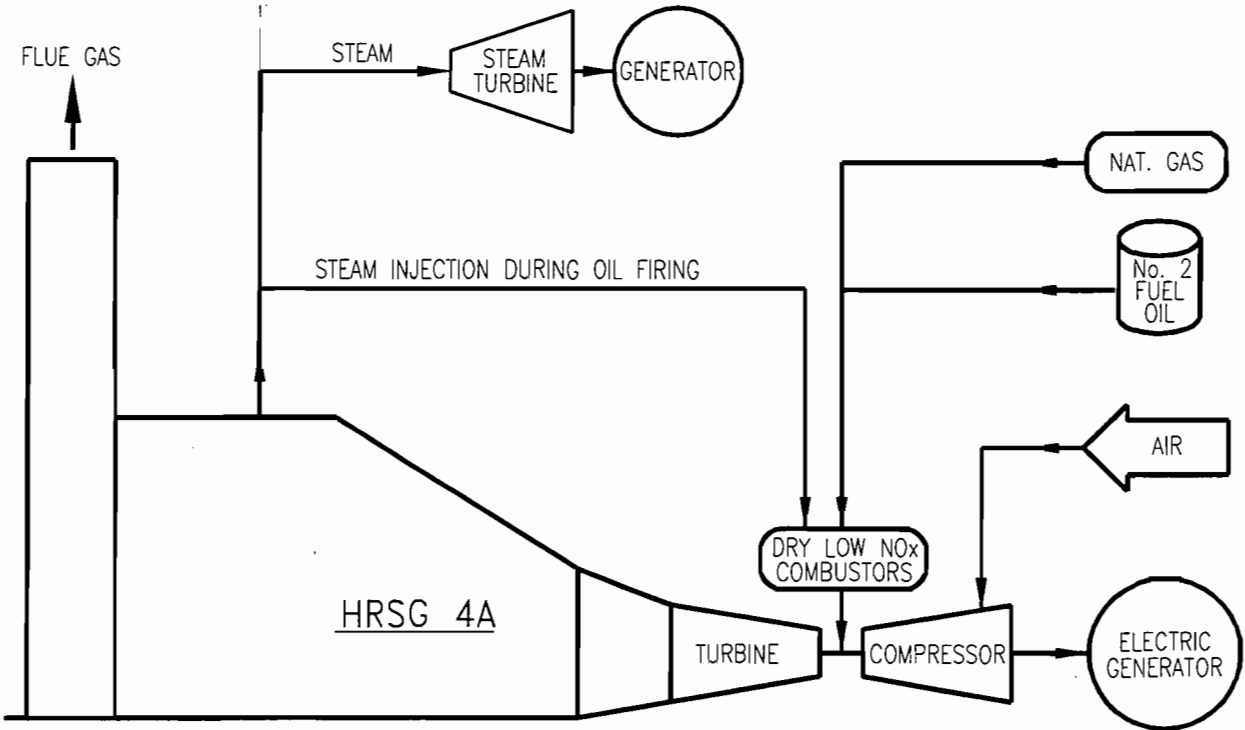
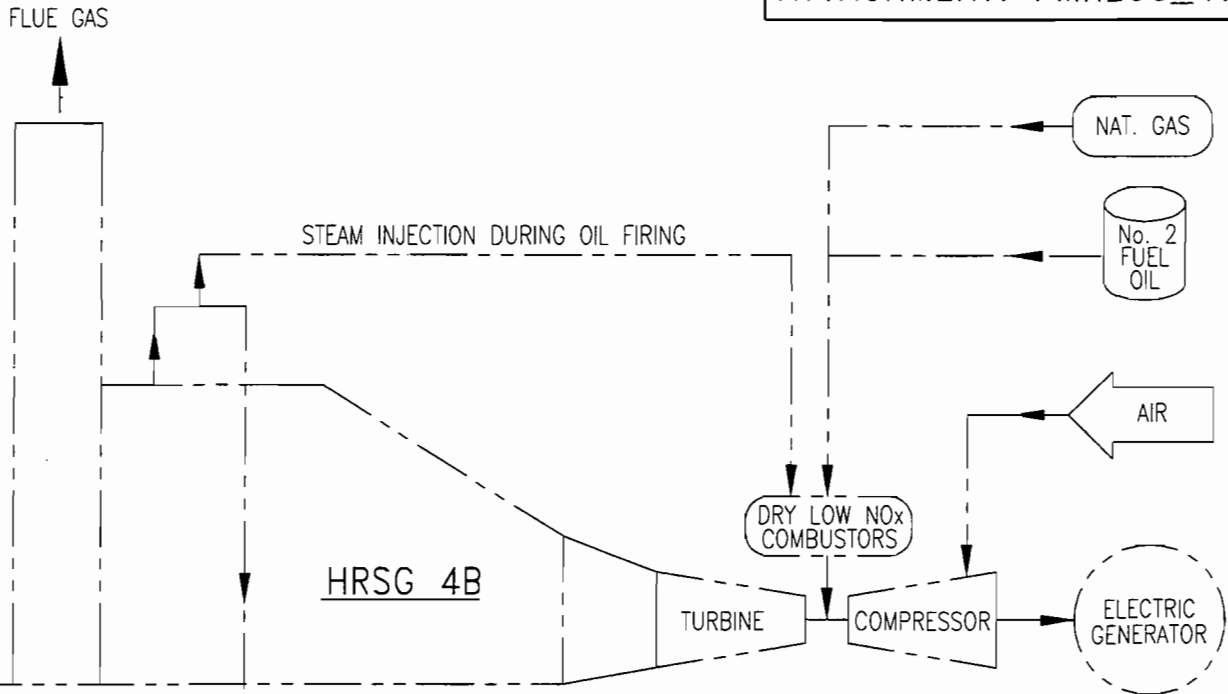
Information for Facility-ID : / Emission Unit # : 5

**Supplemental Requirements for All Applications**

1. Process Flow Diagram : PMRU5_1.bmp Attached Document ID / Not Applicable / Waiver Requested
2. Fuel Analysis or Specification: PMRU3_2.doc Attached Document ID / Not Applicable / Waiver Requested
3. Detailed Description of Control Equipment : PMRU3_3.doc Attached Document ID / Not Applicable / Waiver Requested
4. Description of Stack Sampling Facilities : PMRU3_4.bmp Attached Document ID / Not Applicable / Waiver Requested
5. Compliance Test Report : Previously submitted Date: June 15, 1994 Attached Document ID / Previously submitted, Date / Not Applicable
6. Procedures for Startup and Shutdown : PMRU3_6.doc Attached Document ID / Not Applicable
7. Operation and Maintenance Plan : Not Applicable Attached Document ID / Not Applicable
8. Supplemental Information for Construction Permit Application : Not Applicable Attached Document ID / Not Applicable
9. Other Information Required by Rule or Statute : Not Applicable Attached Document ID / Not Applicable

**Additional Supplemental Requirements for Category I Applications Only**

10. Alternative Methods of Operation : PMRU3_10.doc Attached Document ID / Not Applicable
11. Alternative Modes of Operation (Emissions Trading) : Not Applicable Attached Document ID / Not Applicable
12. Identification of Additional Applicable Requirements : PMRU3_13.doc Attached Document ID / Not Applicable
13. Enhanced Monitoring Plan : Not Applicable Attached Document ID / Not Applicable
14. Acid Rain Permit Application  Acid Rain Application - Phase II (Form No. 17-210.900(1)(a)) Attached Document ID: Not Applicable  Repowering Extension Plan (Form No. 17-210.900(1)(b)) Attached Document ID: Not Applicable  New Unit Exemption (Form No. 17-210.900(1)(c)) Attached Document ID: Not Applicable  Retired Unit Exemption (Form No. 17-210.900(1)(c)) Attached Document ID: Not Applicable  Not Applicable



WALKDOWN INFORMATION	ORG	BY	DATE
	AS-BUILT INFORMATION		
TECHNICAL ACCEPTANCE	ORG	BY	DATE
	ENGINEERING ORGANIZATION		

BAR CODE

	SYSTEM	DISCIPLINE	PLANT/UNIT
	SCALE	CAD FILE NAME	TITLE
	DRAWING SIZE	FPL ARCHIVE NAME	
		M	MARTIN PLANT
	N/A	MR001741	EMISSION UNIT FLOW DIAGRAM COMBUSTION TURBINES ATTACHMENT NO. EU5
	A (8.5X11)	MR001741	

0	7/14/95	ISSUED FOR TITLE V PERMIT	PWB	PWB	CSP	CSP	ETS
REV	DATE	REVISION DESCRIPTION	BY	CH	COR	APR	ORG

DRAWING NUMBER	SHEET	REV
PMR1-M0106-YY	1 OF 1	0

III. EMISSIONS UNIT INFORMATION

Information for Facility - ID : 1 Emission Unit # : 6

6

A separate Emissions Unit Information Section (including subsections A through L 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. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Units? 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 a unregulated emissions unit.

2. Single Process, Group Processes, or Fugitive Only?

Enter The Number (1-3): 1

- [ 1 ] 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).
[ 2 ] 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.
[ 3 ] 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.

**B. GENERAL EMISSIONS UNIT INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): Martin unit 4B Fossil-fuel-fired combined-cycle CT
2. Emissions Unit Identification Number: 006 (No Corresponding ID or Unknown)
3. Emission Unit Status Code: (A or C) : A
4. Acid Rain Unit? (Y/N): Y
5. Emissions Unit Major Group SIC Code: 49
6. Emissions Unit Comment (limit to 500 characters): There are four combustion turbines at the Martin facility. Each CT is directly coupled to an electric generator. Heat from the combustion turbine exhausts through a heat recovery steam generator (HRSG). Steam produced in the HRSG is sent to a steam turbine-generator for production of additional electric power. Generator nameplate rating given above is for the CT-coupled generator only. Field C1 = the commercial operation date.

**Emissions Unit Control Equipment**

**A. Control Equipment # :**

1. Description (limit to 200 characters): Dry Low Nox combustors
2. Control Device or Method Code: Staged Combustion

**B. Control Equipment # :**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C. Control Equipment # :**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C. EMISSIONS UNIT DETAIL INFORMATION  
(Regulated Emissions Units)**

**Emissions Unit Details**

1. Initial Startup Date (DD-MON-YYYY): 04/15/94
2. Long-term Reserve Shutdown Date (DD-MON-YYYY):
3. Package Unit: Manufacturer: GE <span style="float: right;">Model Number: MS7001FA</span>
4. Generator Nameplate Rating: 204 MW
5. Incinerator Information: Dwell Temperature: °F Dwell Time: seconds Incinerator Afterburner Temperature: °F

**Emissions Unit Operating Capacity**

1. Maximum Heat Input Rate: 1966 mmBtu/hr
2. Maximum Incineration Rate:   lbs/hr tons/day
3. Maximum Process or Throughput Rate:   Units:
4. Maximum Production Rate:            Units:
5. Operating Capacity Comment (limit to 200 characters): Heat input (HI) rate above = current max. for nat. gas fuel @ 40 deg. F. Max. HI for dist. oil = 1,846 mmBtu/hr. Max. HI for coal gas = 2100 mmBtu/hr. Compliance method for HI = fuel samp. & analysis.

**Emissions Unit Operating Schedule**

Requested Maximum Operating Schedule:	
hours/day	days/week
weeks/yr	8760 hours/yr

**D. EMISSIONS UNIT REGULATIONS  
(Regulated Emissions Units Only)**

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable



**Emission Unit Information Section** \_\_\_\_\_ **of** \_\_\_\_\_  
**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

Emissions Unit ID 6

40 CFR 60.332 (a)(1)	40 C.F.R. 72.40(d)	40 C.F.R. 75.20(b)	40 C.F.R. 75.66(h)
40 CFR 60.332 (b)	40 C.F.R. 72.51	40 C.F.R. 75.20(c)	40 C.F.R. 77.3
40 CFR 60.332(f)	40 C.F.R. 72.90	40 C.F.R. 75.20(g)	40 C.F.R. 77.5(b)
40 CFR 60.332(k)	40 C.F.R. 72.9(a)(1)(iii)	40 C.F.R. 75.21(a)	40 C.F.R. 77.6
40 CFR 60.333 (b)	40 C.F.R. 72.9(a)(1)(i)	40 C.F.R. 75.21(b)	F.A.C. 62-204.800 (7)(d)
40 CFR 60.334 (a) (when firing oil)	40 C.F.R. 72.9(a)(2)	40 C.F.R. 75.21(c)	(state only)
40 CFR 60.334 (b)(1)(when firing oil)	40 C.F.R. 72.9(b)	40 C.F.R. 75.21(d)	F.A.C. 62-204.800 (b)37.
40 CFR 60.334 (b)(2)(when firing natural gas)	40 C.F.R. 72.9(c)(1)	40 C.F.R. 75.21(e)	(state only)
40 CFR 60.334 (c)(1) (when firing oil)	40 C.F.R. 72.9(c)(2)	40 C.F.R. 75.21(f)	F.A.C. 62-204.800(12)
40 CFR 60.335	40 C.F.R. 72.9(c)(3)(iii)	40 C.F.R. 75.22	(state only)
40 C.F.R. 60.11(a)	40 C.F.R. 72.9(c)(4)	40 C.F.R. 75.24	F.A.C. 62-204.800(13)
40 C.F.R. 60.11(b)	40 C.F.R. 72.9(c)(5)	40 C.F.R. 75.30(a)(3)	(state only)
40 C.F.R. 60.11(c)	40 C.F.R. 72.9(d)	40 C.F.R. 75.32	F.A.C. 62-204.800(14)
40 C.F.R. 60.11(d)	40 C.F.R. 72.9(e)	40 C.F.R. 75.33	(state only)
40 C.F.R. 60.11(e)(2)	40 C.F.R. 72.9(f)	40 C.F.R. 75.36	F.A.C. 62-210.650
40 C.F.R. 60.12	40 C.F.R. 72.9(g)(4)	40 C.F.R. 75.4(a)(4)(i)	F.A.C. 62-210.700 (1)
40 C.F.R. 60.13(a)	40 C.F.R. 73.33	40 C.F.R. 75.4(b)	F.A.C. 62-210.700 (4)
40 C.F.R. 60.13(d)(1)	40 C.F.R. 73.35	40 C.F.R. 75.4(g)	F.A.C. 62-210.700 (6)
40 C.F.R. 60.13(e)	40 C.F.R. 75 Appendix A-1	40 C.F.R. 75.5	F.A.C. 62-214.300
40 C.F.R. 60.13(h)	40 C.F.R. 75 Appendix A-2	40 C.F.R. 75.53(a)	F.A.C. 62-214.320
40 C.F.R. 60.7(b)	40 C.F.R. 75 Appendix A-3	40 C.F.R. 75.53(b)	F.A.C. 62-214.330
40 C.F.R. 60.7(f)	40 C.F.R. 75 Appendix A-4	40 C.F.R. 75.53(c)	F.A.C. 62-214.340
40 C.F.R. 60.8(c)	40 C.F.R. 75 Appendix A-5	40 C.F.R. 75.53(d)(2)	F.A.C. 62-214.350(2)
40 C.F.R. 60.8(e)	40 C.F.R. 75 Appendix A-6	40 C.F.R. 75.54(a)	F.A.C. 62-214.350(3)
40 C.F.R. 72.20(a)	40 C.F.R. 75 Appendix B	40 C.F.R. 75.54(b)	F.A.C. 62-214.350(6)
40 C.F.R. 72.20(b)	40 C.F.R. 75 Appendix C-1	40 C.F.R. 75.54(d)	F.A.C. 62-214.370
40 C.F.R. 72.20(c)	40 C.F.R. 75 Appendix C-2	40 C.F.R. 75.55(c)	F.A.C. 62-214.430
40 C.F.R. 72.21(a)	40 C.F.R. 75 Appendix D	40 C.F.R. 75.56	F.A.C. 62-296.320 (4)(b)
40 C.F.R. 72.21(b)	40 C.F.R. 75 Appendix E	40 C.F.R. 75.60(a)	(state only)
40 C.F.R. 72.21(d)	40 C.F.R. 75 Appendix G-2	40 C.F.R. 75.60(b)	F.A.C. 62-296.800(2)(a)37
40 C.F.R. 72.22(a)	40 C.F.R. 75 Appendix H	40 C.F.R. 75.60(c)(3)	(as applicable) (state only)
40 C.F.R. 72.22(c)	40 C.F.R. 75.10(a)(1)	40 C.F.R. 75.61(a)(1)	F.A.C. 62-297.310(1)
40 C.F.R. 72.23	40 C.F.R. 75.10(a)(2)	40 C.F.R. 75.61(a)(5)	F.A.C. 62-297.310(3)
40 C.F.R. 72.24(a)	40 C.F.R. 75.10(a)(3)(i)	40 C.F.R. 75.62	F.A.C. 62-297.310(4)a.1.
40 C.F.R. 72.30(a)	40 C.F.R. 75.10(a)(4)	40 C.F.R. 75.63	F.A.C. 62-297.310(4)(b)
40 C.F.R. 72.30(b)(2)	40 C.F.R. 75.10(b)	40 C.F.R. 75.64(a)	F.A.C. 62-297.310(4)(c)
40 C.F.R. 72.30(c)	40 C.F.R. 75.10(c)	40 C.F.R. 75.64(b)	F.A.C. 62-297.310(4)(d)
40 C.F.R. 72.30(d)	40 C.F.R. 75.10(f)	40 C.F.R. 75.64(c)	F.A.C. 62-297.310(5)
40 C.F.R. 72.32	40 C.F.R. 75.10(g)	40 C.F.R. 75.64(d)	F.A.C. 62-297.310(6)(a)
40 C.F.R. 72.33(b)	40 C.F.R. 75.11(d)	40 C.F.R. 75.65	F.A.C. 62-297.310(6)(c)
40 C.F.R. 72.33(c)	40 C.F.R. 75.12(a)	40 C.F.R. 75.66(a)	F.A.C. 62-297.310(6)(d)
40 C.F.R. 72.33(d)	40 C.F.R. 75.12(b)	40 C.F.R. 75.66(b)	F.A.C. 62-297.310(6)(e)
40 C.F.R. 72.40(a)	40 C.F.R. 75.13(b)	40 C.F.R. 75.66(c)	F.A.C. 62-297.310(6)(f)
40 C.F.R. 72.40(b)	40 C.F.R. 75.14(c)	40 C.F.R. 75.66(d)	F.A.C. 62-297.310(6)(g)
40 C.F.R. 72.40(c)	40 C.F.R. 75.20(a)(5)	40 C.F.R. 75.66(g)	F.A.C. 62-297.310(7)(a)1.
			F.A.C. 62-297.310(7)(a)3.
			F.A.C. 62-297.310(7)(a)4.b.
			F.A.C. 62-297.310(7)(a)5.
			F.A.C. 62-297.310(7)(a)7.
			F.A.C. 62-297.310(7)(a)9.
			F.A.C. 62-297.310(7)(c)
			F.A.C. 62-297.310(8)

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

**Emission Point Description and Type**

Information for Facility-ID 1 Emission Unit # :6

**18**

1. Identification of Point on Plot Plan or Flow Diagram: EU-6
2. Emission Point Type Code (1,2,3,4) : 1
3. Descriptions of Emissions Points Comprising this Emissions Unit (limit to 100 characters): NA
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: Not applicable
5. Discharge Type Code (D, F, H, P, R, V, W) : v
6. Stack Height: 213.3 ft
7. Exit Diameter: 20 ft
8. Exit Temperature: 280 °F
9. Actual Volumetric Flow Rate: 1149823 acfm
10. Percent Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm
12. Nonstack Emission Point Height: ft
13. Emission Point UTM Coordinates: Zone: 17 East: 543.124 North: 2992.61
14. Emission Point Comment (limit to 200 characters): The volumetric flow rate given above is reflective of a 40 degree F ambient condition while firing distillate oil. The volumetric flow while firing natural gas under the same conditions is 2,352,904 acfm. The volumetric flow while firing natural gas while in power augmentation mode is 2,468,838 acfm. All flow numbers provided by KBN Engineering & Applied Sciences.

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :1 Emission Unit #: 6 Segment #: 18 18

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Natural gas burned in combustion turbine 4B
2. Source Classification Code (SCC): 2-01-002-01
3. SCC Units: million cubic feet burned
4. Maximum Hourly Rate: 1.87
5. Maximum Annual Rate: 16381.2
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: 0.0031
8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 1050
10. Segment Comment (limit to 200 characters):

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :1 Emission Unit #: 6 Segment #: 17 17

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Light distillate oil burned in combustion turbine 4B
2. Source Classification Code (SCC): 2-01-001-01
3. SCC Units: thousand gallons burned
4. Maximum Hourly Rate: 14.13
5. Maximum Annual Rate: 28260
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: 0.5
8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 130.66
10. Segment Comment (limit to 200 characters): Max. annual rate is for 2,000 hrs of operation on dist. oil, which is limited in the current PSD permit (condition 4.a.) & the current Site Certification (condition II.A.4.a.) for 4 CT units combined.

**G. EMISSIONS UNIT POLLUTANTS  
(Regulated Emissions Units Only)**

**Information for Facility\_ID: 1 Emission Unit #: 6**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
SO2	NA	NA	EL
NOx	025	NA	EL
CO	NA	NA	EL
PM	NA	NA	EL
PM10	NA	NA	EL
VOC	NA	NA	EL
SAM	NA	NA	EL
PB	NA	NA	EL
H114	NA	NA	EL
FL	NA	NA	EL
H021	NA	NA	EL



**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 1**  
**Basis For Allowable Emission #: 180 180**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 60.6 Units : lb/hour
4. Equivalent Allowable Emissions: 60.6 lbs/hr 60.6 tons/yr
5. Method of Compliance: DEP Rule 62-296.405(1)(e)2. (for oil only)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): <b>200</b> Information given in fields 3 and 4 for lb/hour emission rate reflects distillate oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for #2 oil firing.

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 1**  
**Basis For Allowable Emission #: 181 181**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 18 Units : lb/hour
4. Equivalent Allowable Emissions: 18 lbs/hr 78.84 tons/yr
5. Method of Compliance: None required on natural gas
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.



**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 1**  
**Basis For Allowable Emission #: 182 182**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 19 Units : lb/hour
4. Equivalent Allowable Emissions: 19 lbs/hr 333 tons/yr
5. Method of Compliance: DEP Rule 62-296.405(1)(e)2.(for oil only)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 67 Information provided on this page is reflective of coal gas firing.

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 1  
Basis For Allowable Emission #: 204 204**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 100 Units : tons per year
4. Equivalent Allowable Emissions: lbs/hr 100 tons/yr
5. Method of Compliance: Annual Operating Report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information given on this page is meant to represent the annual tpy limit for PM for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 CT's.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 81

81

**Pollutant Detail Information**

1. Pollutant Emitted: Particulate Matter - PM10	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 60.6 lbs/hr	100 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3): to tons/yr	
6. Emission Factor: 60.6	Units lb/hour
Reference: see comment	
7. Emissions Method Code: (0,1, 2, 3, 4, 5): 5	
<input type="checkbox"/> 1	<input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
8. Calculation of Emissions (limit to 600 characters): NA - in permits	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): The current PSD permit and Site certification give the same emission limit for both PM and PM-10. The hourly rate given above is reflective of distillate oil firing. The hourly rate for natural gas firing is 18 lb/hour.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 12**  
**Basis For Allowable Emission #: 185 185**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 18 Units : lb/hour
4. Equivalent Allowable Emissions: 18 lbs/hr 78.8 tons/yr
5. Method of Compliance: Not required for natural gas firing
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 12**  
**Basis For Allowable Emission #: 187 187**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 19 Units : lb/hour
4. Equivalent Allowable Emissions: 19 lbs/hr 83.22 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 5 or 17 (for oil only)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information provided on this page is reflective of coal gas firing. Please note that this facility does not currently have coal gas available as a fuel, however.

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 12**  
**Basis For Allowable Emission #: 189 189**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 60.6 Units : lb/hour
4. Equivalent Allowable Emissions: 60.6 lbs/hr 100 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 5 or 17 (for oil only)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information given in fields 3 & 4 for lb/hour emission rate reflects distillate oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for #2 oil firing.

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 12**  
**Basis For Allowable Emission #: 213 213**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code:	Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	100 Units : TPY
4. Equivalent Allowable Emissions:	lbs/hr 100 tons/yr
5. Method of Compliance:	Annual operating report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information on this page represents the annual tpy limit for PM-10 for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 combustion turbines.	

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 71

71

**Pollutant Detail Information**

1. Pollutant Emitted: Sulfur Dioxide	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 920 lbs/hr	568 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 0.5	Units % max in fuel
Reference: see comment	
7. Emissions Method Code: (0,1, 2, 3, 4, 5): 5	
<input type="checkbox"/> 1	<input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
8. Calculation of Emissions (limit to 600 characters): Not Applicable - current permit limit	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Information provided is representative of distillate oil firing, which is currently the worst-case fuel.  The potential emissions are limited by the current PSD permit and the Site Certification. Distillate oil firing is limited to 2,000 hours per year for all 4 combustion turbines combined. Sulfur content of the distillate oil is limited to 0.5% maximum and 0.3% annual average.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	



**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 2**  
**Basis For Allowable Emission #: 186 186**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 920 Units : lbs/hr
4. Equivalent Allowable Emissions: 920 lbs/hr 568 tons/yr
5. Method of Compliance: ASTM method D 2880-71 (or equivalent)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information in fields 3 and 4 above for lb/hour emission rate reflects #2 oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for distillate oil firing.

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 2  
Basis For Allowable Emission #: 188 188**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 834 Units : lb/hr
4. Equivalent Allowable Emissions: 834 lbs/hr 3652.92 tons/yr
5. Method of Compliance: ASTM method D 2880-71 (or equivalent)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information provided on this page reflects coal gas firing. Note that this facility does not currently have coal gas available as a fuel, however.

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 2**  
**Basis For Allowable Emission #: 203 203**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 91.5 Units : lb/hour
4. Equivalent Allowable Emissions: 91.5 lbs/hr 400.77 tons/yr
5. Method of Compliance: ASTM methods: D 1072-80, D 3031-87, D 4084-82, or D 3246-81 (or equivalent)
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 2**  
**Basis For Allowable Emission #: 205 205**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 568 Units : tons per year
4. Equivalent Allowable Emissions: lbs/hr 568 tons/yr
5. Method of Compliance: Annual Operating Report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information on this page represents the annual tpy limit for SO2 for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 combustion turbines.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 72

72

**Pollutant Detail Information**

1. Pollutant Emitted: Nitrogen Oxides
2. Total Percent Efficiency of Control: %
3. Potential Emissions: 461 lbs/hr                      3108 tons/yr
4. Synthetically Limited? (Yes/No): Y
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr
6. Emission Factor: 461                      Units lbs/hour Reference: Permit derived
7. Emissions Method Code: (0,1, 2, 3, 4, 5): 5 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
8. Calculation of Emissions (limit to 600 characters):
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): The potential emission rates are based on oil firing (worst-case). The allowable hourly emission rate while firing natural gas is 177 pounds per hour at 40 degrees Fahrenheit. Note that emissions at other ambient temperatures may vary from these values.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 3**  
**Basis For Allowable Emission #: 200 200**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 461 Units : lb/hr
4. Equivalent Allowable Emissions: 461 lbs/hr 461 tons/yr
5. Method of Compliance: Annual stack testing using EPA Method 20 or modified EPA Method 7E
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information given in fields 3 and 4 above for lb/hour emission rate reflects #2 oil operation. -The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for #2 oil firing.

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 3**  
**Basis For Allowable Emission #: 201 201**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 177 Units : lb/hour
4. Equivalent Allowable Emissions: 177 lbs/hr 775.26 tons/yr
5. Method of Compliance: Annual Stack testing using EPA method 20 or modified EPA Method 7E
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 3**  
**Basis For Allowable Emission #: 202 202**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 3018 Units : tons per year
4. Equivalent Allowable Emissions: lbs/hr 3108 tons/yr
5. Method of Compliance: Annual Operating Report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information on this page represents the annual tpy limit for NOx for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 combustion turbines.



**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 3**  
**Basis For Allowable Emission #: 208 208**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 392 Units : lb/hour
4. Equivalent Allowable Emissions: 392 lbs/hr 1716.96 tons/yr
5. Method of Compliance: Annual stack testing EPA method 20 or modified EPA Method 7E
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information provided on this page reflects coal gas firing. Please note that this facility does not currently have coal gas available as a fuel, however.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 73

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**Pollutant Detail Information**

1. Pollutant Emitted: Volatile Organic Compounds	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 11 lbs/hr	57 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 11	Units lb/hour
Reference: Permit derived	
7. Emissions Method Code: (0,1, 2, 3, 4, 5): 5	
[ ] 1	[ ] 2
[ ] 3	[ ] 4
[ ] 5	
8. Calculation of Emissions (limit to 600 characters):	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	
<p>The potential emissions are limited by the PSD permit and the Site Certification. The emission rates given above are for distillate oil (worst-case). the current allowable hourly emission rate for natural gas firing is 3 lb/hour.</p> <p>The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.</p>	

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 4**  
**Basis For Allowable Emission #: 190 190**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code:      Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 11      Units : lb/hour
4. Equivalent Allowable Emissions: 11 lbs/hr      11 tons/yr
5. Method of Compliance:      Annual stack test using EPA Method 18 or 25A
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information in fields 3 and 4 above for lb/hour emission rate reflects #2 oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for distillate oil firing.

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 4**  
**Basis For Allowable Emission #: 191 191**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 3 Units : lb/hour
4. Equivalent Allowable Emissions: 3 lbs/hr 13.14 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 18 or 25A
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 4**  
**Basis For Allowable Emission #: 192 192**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 57 Units : tons per year
4. Equivalent Allowable Emissions: lbs/hr 57 tons/yr
5. Method of Compliance: Annual Operating Report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information on this page represents the annual tpy limit for VOC for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 combustion turbines.

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 4**  
**Basis For Allowable Emission #: 206 206**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Emissions limit required by rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 21.4 Units : lb/hour
4. Equivalent Allowable Emissions: 21.4 lbs/hr 93.73 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 18 or 25A
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information provided on this page is reflective of coal gas firing. Please note that this facility does not currently have coal gas available as a fuel, however.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 52

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**Pollutant Detail Information**

1. Pollutant Emitted: Carbon Monoxide	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 105.8 lbs/hr	871 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 105.8	Units lb/hour
Reference: see comment	
7. Emissions Method Code: (0,1, 2, 3, 4, 5): 5	
<input type="checkbox"/> 1	<input type="checkbox"/> 2
<input type="checkbox"/> 3	<input type="checkbox"/> 4
<input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters):	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	
<p>The potential emissions are limited by the PSD permit and the Site Certification. The values given above are representative of oil firing (worst-case). The maximum allowable hourly emission rate while firing natural gas is 94.3 lb/hour.</p> <p>Emission Factor Reference is PSD-FL-146 and Site Certification PA-89-27.</p> <p>The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.</p>	

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 5**  
**Basis For Allowable Emission #: 176 176**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 105.8 Units : lb/hour
4. Equivalent Allowable Emissions: 105.8 lbs/hr 105.8 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 10
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information in fields 3 and 4 above for lb/hour emission rate reflects #2 oil operation. The four CT's are currently restricted to an aggregate limit of 2,000 hours per year for distillate oil firing.



**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 5**  
**Basis For Allowable Emission #: 177 177**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 94.3 Units : lb/hour
4. Equivalent Allowable Emissions: 94.3 lbs/hr 413.034 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 10
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): The information given in fields 3 and 4 above for lb/hour emission rate is reflective of natural gas operation at 100% capacity factor.

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 5**  
**Basis For Allowable Emission #: 178 178**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 871 Units : tons per year
4. Equivalent Allowable Emissions: lbs/hr 871 tons/yr
5. Method of Compliance: Annual Operating Report
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information on this page represents the annual tpy limit for CO for this emission unit. In addition, the tpy value given in field 4 represents emissions from 4 combustion turbines.

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 5**  
**Basis For Allowable Emission #: 207 207**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 134 Units : lb/hour
4. Equivalent Allowable Emissions: 134 lbs/hr 586.92 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 10
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information provided on this page reflects coal gas firing. Please note that this facility does not currently have coal gas available as a fuel, however.

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: / Emission Unit #: 6 Pollutant #: 10

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**Pollutant Detail Information**

1. Pollutant Emitted: Mercury Compounds 0
2. Total Percent Efficiency of Control: %
3. Potential Emissions: 0.021 lbs/hr      0.34 tons/yr
4. Synthetically Limited? (Yes/No): Y
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr
6. Emission Factor: 0.021      Units lb/hour Reference: see comment
7. Emissions Method Code: (0, 1, 2, 3, 4, 5): 5 <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
8. Calculation of Emissions (limit to 600 characters): NA - in current operating permits  Emissions given represent operation on natural gas (worst-case fuel). The tons-per-year value of 0.34 is given as a combined total number for all four combustion turbines (3A, 3B, 4A, and 4B CT's). Emissions information for mercury is provided because mercury is a parameter listed in the facility's current PSD permit and Site Certification.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 10**  
**Basis For Allowable Emission #: 173 173**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code:	Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	Units :
4. Equivalent Allowable Emissions:	lbs/hr      tons/yr
5. Method of Compliance:	
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 97 Limit requested to be deleted pursuant to May 19, 1995 DARM Guidance Memorandum (DARM-PER/GEN-18)	

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 6**

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**Pollutant Detail Information**

1. Pollutant Emitted:     Lead - Total	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 0.015 lbs/hr	0.015 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to    tons/yr	
6. Emission Factor:	<b>Units</b>
Reference:	Not applicable
7. Emissions Method Code: (0, 1, 2, 3, 4, 5): 5 <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters):	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Information provided is for both natural gas and distillate oil firing.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 6**  
**Basis For Allowable Emission #: 194 194**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: Units :
4. Equivalent Allowable Emissions: lbs/hr tons/yr
5. Method of Compliance:
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 97 Limit requested to be deleted pursuant to May 19, 1995 DARM Guidance Memorandum (DARM-PER/GEN-18)

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 7

76

**Pollutant Detail Information**

1. Pollutant Emitted: Sulfuric Acid Mist	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 113 lbs/hr	70 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 113	Units lb/hour
Reference: permit-derived	
7. Emissions Method Code: (0, 1, 2, 3, 4, 5): 5 <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters): In permit  Emission rates given are reflective of operation on number 2 distillate fuel (worst-case fuel, at present) .  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	



**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 7**  
**Basis For Allowable Emission #: 195 195**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: Units :
4. Equivalent Allowable Emissions: lbs/hr tons/yr
5. Method of Compliance:
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 97 Limit requested to be deleted pursuant to May 19, 1995 DARM Guidance Memorandum (DARM-PER/GEN-18)



**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 8**  
**Basis For Allowable Emission #: 198 198**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: Units :
4. Equivalent Allowable Emissions: lbs/hr tons/yr
5. Method of Compliance:
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 97 Limit requested to be deleted pursuant to May 19, 1995 DARM Guidance Memorandum (DARM-PER/GEN-18)

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 9

78

**Pollutant Detail Information**

1. Pollutant Emitted: Fluorides - Total	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 0.055 lbs/hr	0.055 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 0.055	Units lb/hour
Reference: See Comment	
7. Emissions Method Code: (0, 1, 2, 3, 4, 5): 5 <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters): NA - In permit  Emission rates given represent operation on all fuels. Fluoride is reported because it is included in the facilities' current PSD and Site Certification permits.  The emissions of this pollutant are synthetically limited based on Specific Condition 4, Footnote a. of Permit #PSD-FL-146.	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	

**Information for Facility\_ID: 1 Emission Unit #: 6 Pollutant #: 9**  
**Basis For Allowable Emission #: 179 179**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: Units :
4. Equivalent Allowable Emissions: lbs/hr tons/yr
5. Method of Compliance:
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 97 Limit requested to be deleted pursuant to May 19, 1995 DARM Guidance Memorandum (DARM-PER/GEN-18)

**I. VISIBLE EMISSIONS INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 6

Visible Emissions Limitation #: 5

5

1. Visible Emissions Subtype: VE10
2. Basis for Allowable Opacity Code(R/O):   RULE    [ ] Rule           [ ] Other
3. Allowable Opacity: Normal Conditions: 10                           % Exceptional Conditions:    % Maximum Period of Excess Opacity Allowed:   min/hr
4. Method of Compliance Code: EPA Method 9
5. Visible Emissions Comment (limit to 200 characters): Allowable opacity limits above are applicable to operation on natural gas and coal-derived gas only. Refer to Site Certification specific condition II.A.8. and PSD permit specific condition 8.



**I. VISIBLE EMISSIONS INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 6  
Visible Emissions Limitation #: 7

7

1. Visible Emissions Subtype: VE100
2. Basis for Allowable Opacity Code(R/O):   RULE       [ ] Rule       [ ] Other
3. Allowable Opacity: Normal Conditions: 100                   % Exceptional Conditions:    % Maximum Period of Excess Opacity Allowed:   min/hr
4. Method of Compliance Code: EPA Method 9
5. Visible Emissions Comment (limit to 200 characters): DEP Rule 62-210.700(1) allows excess emissions for up to 2 hrs / 24 hrs for startup, shutdown and malfunctions.



**J. CONTINUOUS MONITOR INFORMATION**  
**(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 6  
Continuous Monitor #: 19 19

**Continuous Monitoring System**

1. Parameter Code:		
2. Pollutant(s):	Carbon dioxide	
3. CMS Requirement Code(R/O):	RULE	Rule / Other
4. Monitor Information:		
Manufacturer:	Milton Roy	
Model Number:	3300	Serial Number: N4CO313T
5. Installation Date (DD-MON-YYYY):	12/09/94	
6. Performance Specification Test Date (DD-MON-YYYY):	12/28/94	
7. Continuous Monitor Comment (limit to 200 characters):	The CO2 monitor gives %O2 data to the NOx monitoring system per 40 CFR 75 Appendix E, equation E-3. There is no flow monitor at this emission unit.	

**J. CONTINUOUS MONITOR INFORMATION**  
**(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 6  
Continuous Monitor #: 2 2

**Continuous Monitoring System**

1. Parameter Code:		
2. Pollutant(s):	Nitrogen Oxides	
3. CMS Requirement Code(R/O):	RULE	Rule / Other
4. Monitor Information:		
Manufacturer:	TECO	
Model Number:	42	Serial Number: 42D-49805-284
5. Installation Date (DD-MON-YYYY):	12/09/94	
6. Performance Specification Test Date (DD-MON-YYYY):	12/28/94	
7. Continuous Monitor Comment (limit to 200 characters): This emission unit is classified as a "gas-fired" unit under the 40 CFR 75 definitions, therefore opacity and SO2 monitors are not required.		

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT  
TRACKING INFORMATION  
(Regulated and Unregulated Emissions Units)**

Information for Facility-ID : 1 Emission Unit # : 6

**PSD Increment Consumption Determination**

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

Select (1-5) : 1

- [ 1 ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. Final determination is that emissions unit consumes increment.
  
- [ 2 ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 17-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
  
- [ 3 ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
  
- [ 4 ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
  
- [ 5 ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

Select (1-5) : 1

- [ 1 ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. Final determination is that emissions unit consumes increment.
- [ 2 ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 17-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 3 ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 4 ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 5 ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code: (C, E, U- unkown):

PM	C
SO2	C
NO2	C

4. Baseline Emissions:

PM	lbs/hr	tons/yr
SO2	lbs/hr	tons/yr
NO2	tons/yr	

5. PSD Comment (limit to 200 characters):  
Emissions associated with this emission unit are as follows:

PM 60.6 lb/hour	100 tons per year
SO <sub>2</sub> 920 lb/hour	568 tons per year
NO <sub>x</sub> 3,108 tons per year	

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit # : 6

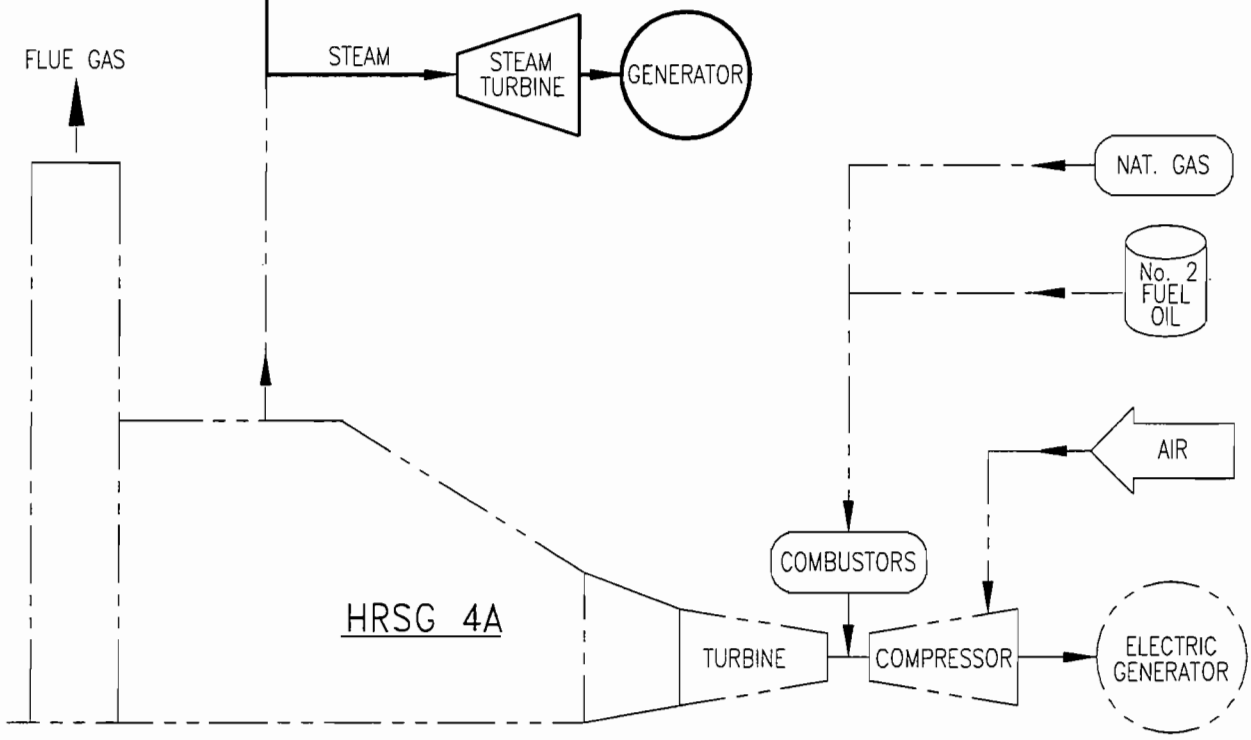
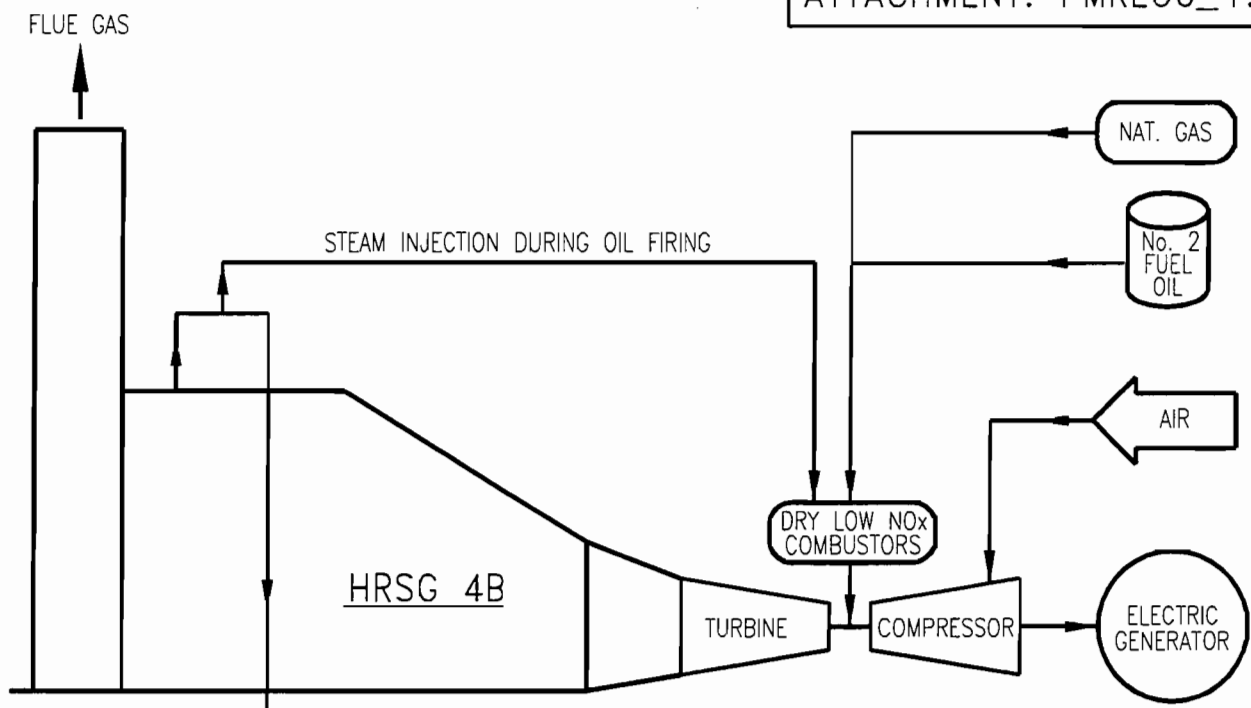
**Supplemental Requirements for All Applications**

1. Process Flow Diagram : PMRU6_1.bmp Attached Document ID / Not Applicable / Waiver Requested
2. Fuel Analysis or Specification: PMRU3_2.doc Attached Document ID / Not Applicable / Waiver Requested
3. Detailed Description of Control Equipment : PMRU3_3.doc Attached Document ID / Not Applicable / Waiver Requested
4. Description of Stack Sampling Facilities : PMRU3_4.bmp Attached Document ID / Not Applicable / Waiver Requested
5. Compliance Test Report : Previously submitted Date: June 16, 1994 Attached Document ID / Previously submitted, Date / Not Applicable
6. Procedures for Startup and Shutdown : PMRU3_6.doc Attached Document ID / Not Applicable
7. Operation and Maintenance Plan : Not Applicable Attached Document ID / Not Applicable
8. Supplemental Information for Construction Permit Application : Not Applicable Attached Document ID / Not Applicable
9. Other Information Required by Rule or Statute : Not Applicable Attached Document ID / Not Applicable

**Additional Supplemental Requirements for Category I Applications Only**

10. Alternative Methods of Operation : PMRU3_10.doc Attached Document ID / Not Applicable
11. Alternative Modes of Operation (Emissions Trading) : Not Applicable Attached Document ID / Not Applicable
12. Identification of Additional Applicable Requirements : PMRU3_13.doc Attached Document ID / Not Applicable
13. Enhanced Monitoring Plan : Not Applicable Attached Document ID / Not Applicable
14. Acid Rain Permit Application  Acid Rain Application - Phase II (Form No. 17-210.900(1)(a)) Attached Document ID: Not Applicable  Repowering Extension Plan (Form No. 17-210.900(1)(b)) Attached Document ID: Not Applicable  New Unit Exemption (Form No. 17-210.900(1)(c)) Attached Document ID: Not Applicable  Retired Unit Exemption (Form No. 17-210.900(1)(c)) Attached Document ID: Not Applicable  Not Applicable

TECHNICAL ACCEPTANCE		
ORG	BY	DATE
WALKDOWN INFORMATION		
ORG	BY	DATE
AS-BUILT INFORMATION		



BAR CODE

	SYSTEM YY	DISCIPLINE M	PLANT/UNIT MARTIN PLANT
	SCALE N/A	CAD FILE NAME MR001742	TITLE EMISSION UNIT FLOW DIAGRAM COMBUSTION TURBINES ATTACHMENT NO. EU6
	DRAWING SIZE A (8.5X11)	FPL ARCHIVE NAME MR001742	

0	7/14/99	ISSUED FOR TITLE V PERMIT	PWB	PWB	CSP	CSP	ETS
REV	DATE	REVISION DESCRIPTION	BY	CH	COR	APR	ORG

DRAWING NUMBER PMR1-M0107-YY	SHEET 1 of 1	REV 0
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**III. EMISSIONS UNIT INFORMATION**

Information for Facility - ID : 1 Emission Unit # : 7  
7

A separate Emissions Unit Information Section (including subsections A through L 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. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

**A. TYPE OF EMISSIONS UNIT  
(Regulated and Unregulated Emissions Units)**

**Type of Emissions Unit Addressed in This Section**

1. Regulated or Unregulated Emissions Units? 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 a unregulated emissions unit.

2. Single Process, Group Processes, or Fugitive Only?

Enter The Number (1-3): 1

- [ 1 ] 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).
- [ 2 ] 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.
- [ 3 ] 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.

**B. GENERAL EMISSIONS UNIT INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): Auxiliary Boiler
2. Emissions Unit Identification Number: 007 (No Corresponding ID or Unknown)
3. Emission Unit Status Code: (A or C) : A
4. Acid Rain Unit? (Y/N): N
5. Emissions Unit Major Group SIC Code: 049
6. Emissions Unit Comment (limit to 500 characters): The aux. boiler is used to produce steam to actuate the steam seals on the steam turbines on the combined-cycle units during cold starts when no steam is otherwise available for this purpose. Spec. cond. #7 of the PSD permit limits the operation of the auxiliary boiler to startup and shutdown periods. The aux. boiler is capable of firing only natural gas at the present time, although it is permitted to also fire #2 fuel.

**Emissions Unit Control Equipment**

**A. Control Equipment # :**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**B. Control Equipment # :**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C. Control Equipment # :**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C. EMISSIONS UNIT DETAIL INFORMATION  
(Regulated Emissions Units)**

**Emissions Unit Details**

1. Initial Startup Date (DD-MON-YYYY): 07/01/93
2. Long-term Reserve Shutdown Date (DD-MON-YYYY):
3. Package Unit: Manufacturer: VAPOR <span style="float: right;">Model Number: TG-5905-VHK-350-8</span>
4. Generator Nameplate Rating: MW
5. Incinerator Information: Dwell Temperature: °F Dwell Time: seconds Incinerator Afterburner Temperature: °F

**Emissions Unit Operating Capacity**

1. Maximum Heat Input Rate: 16.3 mmBtu/hr
2. Maximum Incineration Rate: lbs/hr tons/day
3. Maximum Process or Throughput Rate: Units:
4. Maximum Production Rate: Units:
5. Operating Capacity Comment (limit to 200 characters): The 16.3 mmBtu/hour HI rate is reflective of both the auxiliary boiler(14.8 mmBtu/hr) and the superheater(1.5 mmBtu/hr), both of which are operated when more steam is required for unit operation.

**Emissions Unit Operating Schedule**

Requested Maximum Operating Schedule: hours/day                      days/week weeks/yr                        8760 hours/yr
--

**D. EMISSIONS UNIT REGULATIONS  
(Regulated Emissions Units Only)**

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

Emissions Unit ID 7

40 CFR 60.42c(d)	40 C.F.R. 60.11(a)	40 C.F.R. 60.13(h)	F.A.C. 62-210.700 (3)
40 CFR 60.42c(g)	40 C.F.R. 60.11(b)	40 C.F.R. 60.7(b)	F.A.C. 62-210.700 (4)
40 CFR 60.42c(h)(1)	40 C.F.R. 60.11(c)	40 C.F.R. 60.7(f)	F.A.C. 62-210.700 (6)
40 CFR 60.43c(c)	40 C.F.R. 60.11(d)	40 C.F.R. 60.8(c)	F.A.C. 62-296.400
40 CFR 60.43c(d)	40 C.F.R. 60.11(e)(2)	40 C.F.R. 60.8(e)	F.A.C. 62-297.310(1)
40 CFR 60.44c	40 C.F.R. 60.12	40 C.F.R. 60.8(f)	F.A.C. 62-297.310(2)(b)
40 CFR 60.44c(b)	40 C.F.R. 60.13(a)	F.A.C. 62-204.800(7)(b)4.	F.A.C. 62-297.310(4)(a)2.
40 CFR 60.44c(c)	40 C.F.R. 60.13(c)	(state only)	F.A.C. 62-297.310(5)
40 CFR 60.45c	40 C.F.R. 60.13(d)(1)	F.A.C. 62-204.800(7)(d)	F.A.C. 62-297.310(7)(a)3.
40 CFR 60.46c(e)	40 C.F.R. 60.13(d)(2)	(state only)	F.A.C. 62-297.310(7)(a)4.a.
40 CFR 60.48c	40 C.F.R. 60.13(e)	F.A.C. 62-210.650	F.A.C. 62-297.310(7)(a)9.
		F.A.C. 62-210.700 (1)	F.A.C. 62-297.310(8)
		F.A.C. 62-210.700 (2)	

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

**Emission Point Description and Type**

Information for Facility-ID   1   Emission Unit # :   7  

**19**

1. Identification of Point on Plot Plan or Flow Diagram: EU-7
2. Emission Point Type Code (1,2,3,4) : 1
3. Descriptions of Emissions Points Comprising this Emissions Unit (limit to 100 characters): Not Applicable
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: NA
5. Discharge Type Code (D, F, H, P, R, V, W) : v
6. Stack Height: 60 ft
7. Exit Diameter: 3.6 ft
8. Exit Temperature: 490 °F
9. Actual Volumetric Flow Rate: 30536 acfm
10. Percent Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm
12. Nonstack Emission Point Height: ft
13. Emission Point UTM Coordinates: Zone: 17 East: 543.193 North: 2992.671
14. Emission Point Comment (limit to 200 characters): The auxiliary steam system includes both the auxiliary boiler and the superheater, both of which are operated concurrently when additional steam is required for combined-cycle startup. It should be noted that the superheater has an additional, separate stack from the auxiliary boiler proper, although it is considered part of the same emission unit for the purposes of Title V, since it is operated concurrently.

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :/ Emission Unit #: 7 Segment #: 19 19

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Natural gas burned in the auxiliary boiler
2. Source Classification Code (SCC): 1-02-006-01
3. SCC Units: million cubic feet burned
4. Maximum Hourly Rate: 0.016
5. Maximum Annual Rate: 140.16
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: 0.0031
8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 1000
10. Segment Comment (limit to 200 characters): Natural gas is the only fuel burned in the auxiliary boiler.



**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :1 Emission Unit #: 7 Segment #: 20 20

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Diesel fuel burned in the auxiliary boiler
2. Source Classification Code (SCC): 1-01-005-01
3. SCC Units: thousand gallons burned
4. Maximum Hourly Rate: 0.125
5. Maximum Annual Rate: 10920.5
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: 1
8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 130.7
10. Segment Comment (limit to 200 characters): The auxiliary boiler does not currently have fuel oil piping installed (burns only natural gas); however, FPL reserves the right to fire diesel fuel in this emission unit, should the necessity arise.

**G. EMISSIONS UNIT POLLUTANTS  
(Regulated Emissions Units Only)**

Information for Facility\_ID: 1 Emission Unit #: 7

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
NOX	NA	NA	EL

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: / Emission Unit #: 7 Pollutant #: 26

26

**Pollutant Detail Information**

1. Pollutant Emitted: Nitrogen Oxides
2. Total Percent Efficiency of Control: %
3. Potential Emissions: 4.88 lbs/hr                      21.37 tons/yr
4. Synthetically Limited? (Yes/No): Y
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr
6. Emission Factor: 0.3                      Units lb/mmBtu Reference: see comment
7. Emissions Method Code: (0,1, 2, 3, 4, 5): 5 [ ] 1                      [ ] 2                      [ ] 3                      [ ] 4                      [ ] 5
8. Calculation of Emissions (limit to 600 characters): 0.3 lb/mmBtu x 16.3 mmBtu/hour = 4.88 lb/hour  (4.88 lb/hour x 8760 hours/year)/2,000 lb/ton = 21.37 tons per year
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): The potential numbers given above are for 8760 hours of operation per year. The emission unit is currently limited by permit to operation during startup and shutdown only. While these hours are not precisely defined, historically startup and shutdown periods are less than 2,000 hours per year. It should be noted that the NOx emissions estimates given here are reflective of both the auxiliary boiler proper, and the auxiliary boiler superheater, taken as an aggregate. Both of these emission units are operated concurrently.  Emission Factor Reference: PSD permit # PSD-FL-146 and Site Certification

**Information for Facility\_ID: 1 Emission Unit #: 7 Pollutant #: 1  
Basis For Allowable Emission #: 31 31**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.3 Units : lb/mmBtu
4. Equivalent Allowable Emissions: 4.88 lbs/hr 21.37 tons/yr
5. Method of Compliance: None required.
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): Information provided is for both natural gas and distillate oil fuels. Please note that at the current time this emission unit has only natural gas fuel available.





**J. CONTINUOUS MONITOR INFORMATION**  
**(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 7  
Continuous Monitor #: 9 9

**Continuous Monitoring System**

1. Parameter Code:		
2. Pollutant(s):		
3. CMS Requirement Code(R/O):	Rule	/ Other
4. Monitor Information:		
Manufacturer:		
Model Number:	Serial Number:	
5. Installation Date (DD-MON-YYYY):		
6. Performance Specification Test Date (DD-MON-YYYY):		
7. Continuous Monitor Comment (limit to 200 characters): Continuous monitoring equipment is not required to be installed, operated or maintained on the auxiliary boiler.		

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT  
TRACKING INFORMATION  
(Regulated and Unregulated Emissions Units)**

Information for Facility-ID : 1 Emission Unit # : 7

**PSD Increment Consumption Determination**

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

Select (1-5) : 1

- [ 1 ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. Final determination is that emissions unit consumes increment.
- [ 2 ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 17-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 3 ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 4 ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 5 ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.



2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

Select (1-5) : 1

- [ 1 ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. Final determination is that emissions unit consumes increment.
- [ 2 ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 17-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 3 ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 4 ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 5 ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code: (C, E, U- unkown):

PM	C
SO2	C
NO2	C

4. Baseline Emissions:

PM	lbs/hr	tons/yr
SO2	lbs/hr	tons/yr
NO2	tons/yr	

5. PSD Comment (limit to 200 characters):  
Emissions from the installed auxiliary boiler are as follows:

PM 0.099 lb/hr / 0.434 TPY (based on emission factors)

SO2 0.010 lb/hr / 0.042 TPY

NOx 4.88 lb/hr / 21.37 TPY (based on permit limit)

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : / Emission Unit # : 7

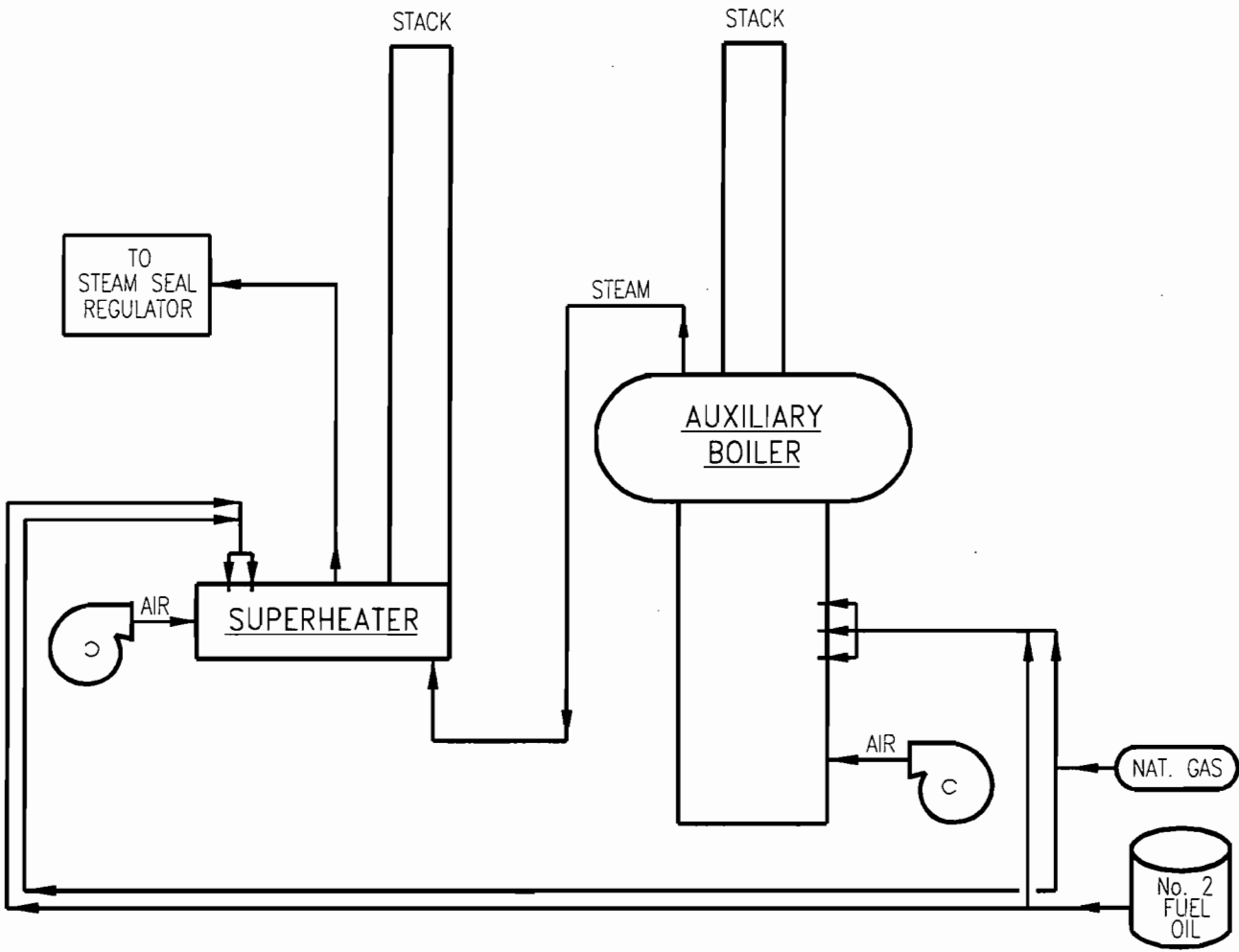
**Supplemental Requirements for All Applications**

1. Process Flow Diagram : PMRU7_1.bmp Attached Document ID / Not Applicable / Waiver Requested
2. Fuel Analysis or Specification: PMRU7_2.doc Attached Document ID / Not Applicable / Waiver Requested
3. Detailed Description of Control Equipment : Not Applicable Attached Document ID / Not Applicable / Waiver Requested
4. Description of Stack Sampling Facilities : Not Applicable Attached Document ID / Not Applicable / Waiver Requested
5. Compliance Test Report : Not Applicable Attached Document ID / Previously submitted, Date / Not Applicable
6. Procedures for Startup and Shutdown : PMRU7_6.doc Attached Document ID / Not Applicable
7. Operation and Maintenance Plan : NA Attached Document ID / Not Applicable
8. Supplemental Information for Construction Permit Application : NA Attached Document ID / Not Applicable
9. Other Information Required by Rule or Statute : NA Attached Document ID / Not Applicable

**Additional Supplemental Requirements for Category I Applications Only**

10. Alternative Methods of Operation : PMRU7_10.doc Attached Document ID / Not Applicable
11. Alternative Modes of Operation (Emissions Trading) : NA Attached Document ID / Not Applicable
12. Identification of Additional Applicable Requirements : Not applicable Attached Document ID / Not Applicable
13. Enhanced Monitoring Plan : Not Applicable Attached Document ID / Not Applicable
14. Acid Rain Permit Application  Acid Rain Application - Phase II (Form No. 17-210.900(1)(a)) Attached Document ID: Not Applicable  Repowering Extension Plan (Form No. 17-210.900(1)(b)) Attached Document ID: Not Applicable  New Unit Exemption (Form No. 17-210.900(1)(c)) Attached Document ID: Not Applicable  Retired Unit Exemption (Form No. 17-210.900(1)(c)) Attached Document ID: Not Applicable  Not Applicable

WALKDOWN INFORMATION	AS-BUILT INFORMATION	ORG	BY	DATE
	TECHNICAL ACCEPTANCE	ENGINEERING ORGANIZATION	BY	DATE



BAR CODE

	SYSTEM YY	DISCIPLINE M	PLANT/UNIT MARTIN SITE
	SCALE N/A	CAD FILE NAME MR001743	TITLE EMISSION UNIT FLOW DIAGRAM AUXILIARY BOILER ATTACHMENT NO. EU7
	DRAWING SIZE A (8.5X11)	FPL ARCHIVE NAME MR001743	

0	7-11-94	ISSUED FOR TITLE V PERMIT	PWB	PWB	CSP	CSP	ETS
REV	DATE	REVISION DESCRIPTION	BY	CH	COR	APR	ORG

DRAWING NUMBER	SHEET	REV
PMR1-M0108-YY	1 OF 1	0

Fuel Analysis  
Natural Gas Analysis (typical)<sup>3</sup>

<u>Parameter</u>	<u>Typical value</u>	<u>Max value</u>
Specific gravity(@ 60° F)	0.887	none
Heat content (Btu/cu ft)	950 - 1124 <sup>2</sup>	none
% sulfur (grains/CCF)	0.43 <sup>1</sup>	1.00
% nitrogen (by volume)	0.8	none
% ash	negligible	none

\*Note: The values listed are "typical" values based upon information supplied to FPL by Florida Gas Transmission (FGT). However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

- (1) Data from laboratory analysis
- (2) Data from FPL fuel purchasing specifications
- (3) The values are "typical" based upon the following:
  - Information gathered by FPL through laboratory analysis, and
  - FPL's fuel purchasing specifications. It should be noted that the analytical results obtained from grab samples taken at any given time may vary from those listed.

## Attachment PMRU7\_2.txt

Fuel Analysis  
No. 2 Distillate oil (typical)<sup>5</sup>

<u>Parameter</u>	<u>Typical value</u>	<u>Specifications</u>
API gravity (@ 60 F)	35.0 <sup>2</sup>	30 - 40 <sup>1</sup>
Heat content (MBtu/bbl)	5,700 - 5,800 <sup>2</sup>	none
% sulfur	0.2 <sup>3</sup>	0.3 maximum <sup>4</sup>
% nitrogen	no specification	none
% ash	<0.01 <sup>2</sup>	0.01 <sup>1</sup>

Footnotes:

- (1) Data taken from FPL fuel specifications.
- (2) Data taken from laboratory analysis.
- (3) Data from current air permit - max hourly concentration.
- (4) Data from current air permit - max annual concentration.
- (5) The values are "typical" based upon the following:
  - Information gathered by FPL through laboratory analysis, and
  - FPL's fuel purchasing specifications. It should be noted that the analytical results obtained from grab samples taken at any given time may vary from those listed.

## Attachment PMRU7\_6.txt

### Procedures for Startup / Shutdown

The auxiliary boiler is a primary component of the auxiliary steam system at the combined-cycle units. The function of the auxiliary steam system is to produce and convey steam to both steam turbine steam seal systems during startup and emergency situations.

Startup for the auxiliary boiler begins with "lighting off" of the machine on natural gas fuel. As the water heats up in the boiler tubes it will start to steam. After a time, the superheater is started, which adds additional heat to the steam being produced by the auxiliary boiler. When the steam pressure and temperature reach acceptable conditions, the steam is conveyed to the steam seal regulator of the steam turbine.

Shutdown is performed when the steam seals on the steam turbine become self-sealing. Shutdown is performed by shutting off the natural gas fuel supply to the auxiliary boiler.

Best Operating Practices include monitoring the visible emissions from the auxiliary boiler to ensure that the 10% opacity limitation is not exceeded. Built-in safeguards monitor the main flame and initiate shutdown in the event of loss of flame. All efforts to minimize both the level and duration of excess emissions are undertaken.



Attachment PMRU7\_10.TXT

Alternative Methods of Operation

The auxiliary boiler superheater is only operated in conjunction with the auxiliary boiler. The auxiliary boiler superheater may be fired with either natural gas fuel or with light distillate oil fuel. Operating hours on the auxiliary boiler (and therefore by extension the aux. boiler superheater) are limited to during cold startups or whenever steam is otherwise unavailable for the steam seals on the steam turbine. The heat input rate on the auxiliary boiler superheater may range from 0 to 1.5 mmBtu/hour.

Diesel Gen

III. EMISSIONS UNIT INFORMATION

Information for Facility - ID : 1 Emission Unit # : 8

9

A separate Emissions Unit Information Section (including subsections A through L 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. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Units? 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 a unregulated emissions unit.

2. Single Process, Group Processes, or Fugitive Only?

Enter The Number (1-3): 1

- [ 1 ] 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).
[ 2 ] 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.
[ 3 ] 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.

**B. GENERAL EMISSIONS UNIT INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): Emergency Diesel Generator for EU 3-6
2. Emissions Unit Identification Number: 008 (No Corresponding ID or Unknown)
3. Emission Unit Status Code: (A or C) : A
4. Acid Rain Unit? (Y/N): N
5. Emissions Unit Major Group SIC Code: 049
6. Emissions Unit Comment (limit to 500 characters): Generator nameplate rating for this unit is 718 kVA. Used a power factor of 85% as a "rule of thumb" figure to derive the megawatt number given in #9 above. This emission unit is currently addressed in PSD permit # PSD-FL-146.

**Emissions Unit Control Equipment**

**A. Control Equipment # :**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**B. Control Equipment # :**

1. Description (limit to 200 characters):

2. Control Device or Method Code:

**C. Control Equipment # :**

1. Description (limit to 200 characters):

2. Control Device or Method Code:



**D. EMISSIONS UNIT REGULATIONS  
(Regulated Emissions Units Only)**

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

Emissions Unit ID 8

F.A.C. 62-210.650 F.A.C. 62-210.700(1) F.A.C. 62-210.700(4)	F.A.C. 62-210.700(5) F.A.C. 62-210.700(6) F.A.C. 62-297.310(2)(b)	F.A.C. 62-297.310(4)(a)2. F.A.C. 62-297.310(5) F.A.C. 62-297.310(7)(a)3.	F.A.C. 62-297.310(7)(a)4.a. F.A.C. 62-297.310(7)(a)9. F.A.C. 62-297.310(8)
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**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :1 Emission Unit #: 8 Segment #: 21 21

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Diesel fuel burned in the emergency diesel generator which serves combined-cycle units 3 and 4.
2. Source Classification Code (SCC): 2-01-001-02
3. SCC Units: thousand gallons burned
4. Maximum Hourly Rate: 0.0425
5. Maximum Annual Rate: 372.3
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: 0.3
8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 136
10. Segment Comment (limit to 200 characters): This emission unit is limited by PSD permit #PSD-FL-146 to operate only when necessary for emergency power production.



**G. EMISSIONS UNIT POLLUTANTS  
(Regulated Emissions Units Only)**

**Information for Facility\_ID: 1 Emission Unit #: 8**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
NOX	NA	NA	EL

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Information for Facility\_ID: 1 Emission Unit #: 8 Pollutant #: 27

27

**Pollutant Detail Information**

1. Pollutant Emitted: Nitrogen Oxides	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions: 72.07 lbs/hr	316 tons/yr
4. Synthetically Limited? (Yes/No): Y	
5. Range of Estimated Fugitive/Other Emissions: (1, 2, 3) : to tons/yr	
6. Emission Factor: 15	Units g/hp-hour
Reference: Permit #PSD-FL-146	
7. Emissions Method Code: (0, 1, 2, 3, 4, 5): 1 <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters): 15 grams per horsepower-hour / (2.547 x 10 <sup>3</sup> ) hp-hr/btu = 5.889 x 10 <sup>-3</sup> gm/btu  5.889 x 10 <sup>-3</sup> gm/btu x 1,000,000 btu/mmBtu = 5889.28 g/mmBtu  5889.28 g/mmBtu x (2.205 x 10 <sup>-3</sup> ) grams per pound = 12.99 lb/mmBtu  12.99 lb/mmBtu x 5.55 mmBtu/hour = 72.07 lb/hour  (72.07 lb/hour x 8760 hours/year) / 2,000 lb/ton = 316 tons per year	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): This EU is operates only when req'd to supply emergency power to the facility. Emission estimates are given for 8760 hrs / year, however, actual operation is expected to be less than that.	

**Information for Facility\_ID: 1 Emission Unit #: 8 Pollutant #: 1  
Basis For Allowable Emission #: 33 33**

**Allowable Emissions** (Pollutant identified on front page)

1. Basis for Allowable Emissions Code: Required or assumed by permittee for other reasons.
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 15 Units : gm / hp-hour
4. Equivalent Allowable Emissions: 72.07 lbs/hr 316 tons/yr
5. Method of Compliance: None
6. Pollutant Allowable Emissions Comment ( <b>Desc. of Related Operating Method/Mode</b> ) (limit to 200 characters): 90 PSD permit #PSD-FL-146 specifies an emission limit of 15gm/hp-hour for this emission unit.



**I. VISIBLE EMISSIONS INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 8  
Visible Emissions Limitation #: 28

28

1. Visible Emissions Subtype: VE100
2. Basis for Allowable Opacity Code(R/O):   RULE       [ ] Rule       [ ] Other
3. Allowable Opacity: Normal Conditions: 100                   % Exceptional Conditions:    % Maximum Period of Excess Opacity Allowed: 60   min/hr
4. Method of Compliance Code:
5. Visible Emissions Comment (limit to 200 characters): Rule 62-210.700(1) allows 2 hrs / 24 hrs of excess emissions for startup, shutdown and malfunction.

**J. CONTINUOUS MONITOR INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 8  
Continuous Monitor #: 24 24

**Continuous Monitoring System**

1. Parameter Code:		
2. Pollutant(s):		
3. CMS Requirement Code(R/O):	Rule	/ Other
4. Monitor Information: Manufacturer:		
Model Number:		Serial Number:
5. Installation Date (DD-MON-YYYY):		
6. Performance Specification Test Date (DD-MON-YYYY):		
7. Continuous Monitor Comment (limit to 200 characters): Continuous monitors are not required for the emergency diesel generator.		

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT  
TRACKING INFORMATION  
(Regulated and Unregulated Emissions Units)**

Information for Facility-ID : 1 Emission Unit # : 8

**PSD Increment Consumption Determination**

**1. Increment Consuming for Particulate Matter or Sulfur Dioxide?**

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

Select (1-5) : 1

- [ 1 ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. Final determination is that emissions unit consumes increment.
- [ 2 ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 17-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 3 ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 4 ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 5 ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

Select (1-5) : 1

- [ 1 ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. Final determination is that emissions unit consumes increment.
- [ 2 ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 17-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 3 ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 4 ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. Preliminary determination is that baseline emissions are zero, and emissions unit consumes increment.
- [ 5 ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code: (C, E, U- unkown):		
PM	C	
SO2	C	
NO2	C	
4. Baseline Emissions:		
PM	lbs/hr	tons/yr
SO2	lbs/hr	tons/yr
NO2	tons/yr	



5. PSD Comment (limit to 200 characters):

This emission unit is not an EPA major source. Startup date for this emission unit was 8/14/92. Estimated emissions are as follows:

PM 1.72 lb/hr / 7.53 TPY  
SO2 1.61 lb/hr / 7.05 TPY  
NOx 316 TPY

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : / Emission Unit # : 8

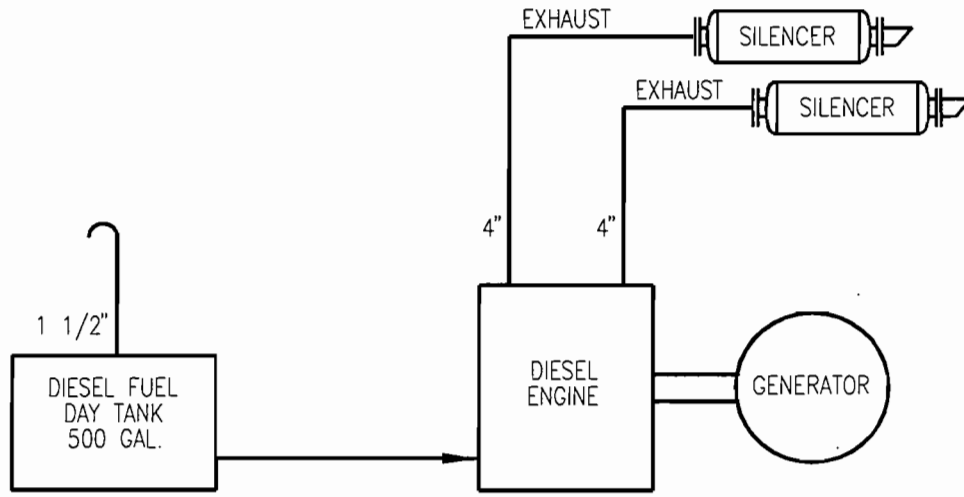
**Supplemental Requirements for All Applications**

1. Process Flow Diagram : PMRU8_1.bmp Attached Document ID / Not Applicable / Waiver Requested
2. Fuel Analysis or Specification: PMRU8_2.txt Attached Document ID / Not Applicable / Waiver Requested
3. Detailed Description of Control Equipment : Not Applicable Attached Document ID / Not Applicable / Waiver Requested
4. Description of Stack Sampling Facilities : Not Applicable Attached Document ID / Not Applicable / Waiver Requested
5. Compliance Test Report : Not Applicable Attached Document ID / Previously submitted, Date / Not Applicable
6. Procedures for Startup and Shutdown : PMRU8_6.txt Attached Document ID / Not Applicable
7. Operation and Maintenance Plan : NA Attached Document ID / Not Applicable
8. Supplemental Information for Construction Permit Application : NA Attached Document ID / Not Applicable
9. Other Information Required by Rule or Statute : NA Attached Document ID / Not Applicable

**Additional Supplemental Requirements for Category I Applications Only**

10. Alternative Methods of Operation : PMRU8_10.txt Attached Document ID / Not Applicable
11. Alternative Modes of Operation (Emissions Trading) : NA Attached Document ID / Not Applicable
12. Identification of Additional Applicable Requirements : PMRU8_13.txt Attached Document ID / Not Applicable
13. Enhanced Monitoring Plan : Not Applicable Attached Document ID / Not Applicable
14. Acid Rain Permit Application  Acid Rain Application - Phase II (Form No. 17-210.900(1)(a)) Attached Document ID: Not Applicable  Repowering Extension Plan (Form No. 17-210.900(1)(b)) Attached Document ID: Not Applicable  New Unit Exemption (Form No. 17-210.900(1)(c)) Attached Document ID: Not Applicable  Retired Unit Exemption (Form No. 17-210.900(1)(c)) Attached Document ID: Not Applicable  Not Applicable

WALKDOWN INFORMATION			TECHNICAL ACCEPTANCE		
ORG	BY	DATE	ORG	BY	DATE
AS-BUILT INFORMATION			ENGINEERING ORGANIZATION		
ORG	BY	DATE			



BAR CODE

	SYSTEM YY	DISCIPLINE M	PLANT/UNIT MARTIN SITE/UNITS 3 & 4
	SCALE N/A	CAD FILE NAME MR001745	TITLE EMISSION UNIT FLOW DIAGRAM EMERGENCY DIESEL GENERATOR ATTACHMENT NO. EU9
	DRAWING SIZE A (8.5X11)	FPL ARCHIVE NAME MR001745	

0	7/14/95	ISSUED FOR TITLE V PERMIT	PWB	PWB	CSP	CSP	ETS
REV	DATE	REVISION DESCRIPTION	BY	CH	COR	APR	ORG

DRAWING NUMBER PMR1-M0110-YY	SHEET 1 OF 1	REV 0
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## Attachment PMRU8\_2.txt

Fuel Analysis  
No. 2 Distillate oil (typical)<sup>5</sup>

<u>Parameter</u>	<u>Typical value</u>	<u>Specifications</u>
API gravity (@ 60 F)	35.0 <sup>2</sup>	30 - 40 <sup>1</sup>
Heat content (MBtu/bbl)	5,700 - 5,800 <sup>2</sup>	none
% sulfur	0.2 <sup>3</sup>	0.3 maximum <sup>4</sup>
% nitrogen	no specification	none
% ash	<0.01 <sup>2</sup>	0.01 <sup>1</sup>

Footnotes:

- (1) Data taken from FPL fuel specifications.
- (2) Data taken from laboratory analysis.
- (3) Data from current air permit - max hourly concentration.
- (4) Data from current air permit - max annual concentration.
- (5) The values are "typical" based upon the following:
  - Information gathered by FPL through laboratory analysis, and
  - FPL's fuel purchasing specifications. It should be noted that the analytical results obtained from grab samples taken at any given time may vary from those listed.

## Attachment PMRU8\_6.txt

### Procedures for Startup / Shutdown

The emergency diesel generator is the main backup power supply component for the fossil steam boiler generating units. The function of the emergency diesel generator is to supply electric power to key power plant equipment during emergency loss-of-power situations. This equipment is typically test-run on a monthly basis to ensure that it will function properly when needed in an emergency.

Startup for the emergency diesel generator begins with actuating a switch which sends an electric signal to a starter motor on the diesel engine which "turns over" the diesel engine until ignition of the diesel fuel commences.

Shutdown is performed when the normal electric power supply to plant equipment is restored. Shutdown is performed by shutting off the diesel fuel supply to the emergency diesel generator.

Best Operating Practices include proper maintenance of the diesel engine on the generating unit, and monitoring the visible emissions from the emergency diesel generator to ensure that the opacity limitation is not exceeded. All efforts to minimize both the level and duration of excess emissions are undertaken.

**Attachment PMRU8\_10.txt**

**Alternative Methods of Operation**

The emergency diesel generator will be fired with light distillate oil fuel. Operating hours on the diesel generator are unlimited; the generator may be operated up to 8760 hours per year. However, as a practical matter, the generator typically does not operate nearly that often; historically the emission unit has operated less than 400 hours per year.

The emergency diesel generator is typically started up at least once per month and run for about an hour to ensure operability if & when needed to provide startup power to large plant operating equipment.

**Attachment PMRU8\_13.txt**

**Identification of Additional Applicable Requirements**

Additional applicable requirements may be found in the facility's current PSD permit (PSD - FL - 146) and Site Certification (PA - 89 - 27). Both of these documents may be found at the end of this Title V application, m as attachments. The primary requirements for this emission unit are the limitations on NO<sub>x</sub> and SO<sub>2</sub> of 15 gm/hp-hr and 0.3% sulfur fuel as an annual limit.



Unregulated E.U

**III. EMISSIONS UNIT INFORMATION**

Information for Facility - ID : 1 Emission Unit # : 9

A separate Emissions Unit Information Section (including subsections A through L 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. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

**A. TYPE OF EMISSIONS UNIT  
(Regulated and Unregulated Emissions Units)**

**Type of Emissions Unit Addressed in This Section**

1. Regulated or Unregulated Emissions Units? 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 a unregulated emissions unit.

2. Single Process, Group Processes, or Fugitive Only?

Enter The Number (1-3): 2

- [ 1 ] 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).
- [ 2 ] 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.
- [ 3 ] 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.

**B. GENERAL EMISSIONS UNIT INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): Unregulated Emission Units
2. Emissions Unit Identification Number: Unk (No Corresponding ID or Unknown)
3. Emission Unit Status Code: (A or C) : A
4. Acid Rain Unit? (Y/N): N
5. Emissions Unit Major Group SIC Code: 49
6. Emissions Unit Comment (limit to 500 characters): This Emission Unit section is comprised of all unregulated sources at the Martin plant site, including the emergency diesel generator at fossil units 1 and 2, the paint spray booth at the Land Utilization dept. and miscellaneous other point source and fugitive sources. Attachment PMR - FW provides a list of all the unregulated sources that are included in this emission unit.

**Emissions Unit Control Equipment**

**A. Control Equipment # :**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**B. Control Equipment # :**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C. Control Equipment # :**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C. EMISSIONS UNIT DETAIL INFORMATION  
(Regulated Emissions Units)**

**Emissions Unit Details**

1. Initial Startup Date (DD-MON-YYYY):	
2. Long-term Reserve Shutdown Date (DD-MON-YYYY):	
3. Package Unit: Manufacturer:	Model Number:
4. Generator Nameplate Rating: MW	
5. Incinerator Information: Dwell Temperature: °F Dwell Time: seconds Incinerator Afterburner Temperature: °F	

**Emissions Unit Operating Capacity**

1. Maximum Heat Input Rate: mmBtu/hr
2. Maximum Incineration Rate: lbs/hr tons/day
3. Maximum Process or Throughput Rate: Units:
4. Maximum Production Rate: Units:
5. Operating Capacity Comment (limit to 200 characters): Various sources within this emission unit section may operate up to 8760 hours per year.

**Emissions Unit Operating Schedule**

Requested Maximum Operating Schedule:	
hours/day	days/week
weeks/yr	8760 hours/yr

**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

Emissions Unit ID 9

F.A.C. 62-210.700(1) F.A.C. 62-210.700(4)	F.A.C. 62-210.700(6) F.A.C. 62-296.320(4)(b)	F.A.C. 62-296.320(4)(c) F.A.C. 62-297.310(2)(b)	F.A.C. 62-297.310(4)(a)2. F.A.C. 62-297.310(5) F.A.C. 62-297.310(7)(a)9. F.A.C. 62-297.310(8)
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**E. EMISSION POINT (STACK/VENT) INFORMATION  
(Regulated Emissions Units Only)**

**Emission Point Description and Type**

Information for Facility-ID I Emission Unit # : 9

1. Identification of Point on Plot Plan or Flow Diagram: EDG - EU's 1 and 2
2. Emission Point Type Code (1,2,3,4) : 1
3. Descriptions of Emissions Points Comprising this Emissions Unit (limit to 100 characters):
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:
5. Discharge Type Code (D, F, H, P, R, V, W) : H
6. Stack Height: 18 ft
7. Exit Diameter: 1.17 ft
8. Exit Temperature: 950 °F
9. Actual Volumetric Flow Rate: 11540 acfm
10. Percent Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm
12. Nonstack Emission Point Height: ft
13. Emission Point UTM Coordinates: Zone: 17 East: 543173 North: 2993027
14. Emission Point Comment (limit to 200 characters): This page represents the emergency diesel generator associated with fossil units 1 and 2.

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

**Emission Point Description and Type**

Information for Facility-ID 1 Emission Unit # : 9

1. Identification of Point on Plot Plan or Flow Diagram: Paint Booth - Land U.
2. Emission Point Type Code (1,2,3,4) : 1
3. Descriptions of Emissions Points Comprising this Emissions Unit (limit to 100 characters):
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:
5. Discharge Type Code (D, F, H, P, R, V, W) : v
6. Stack Height: 24 ft
7. Exit Diameter: 3.5 ft
8. Exit Temperature: °F
9. Actual Volumetric Flow Rate: 25200 acfm
10. Percent Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm
12. Nonstack Emission Point Height: ft
13. Emission Point UTM Coordinates: Zone: East: North:
14. Emission Point Comment (limit to 200 characters): The paint spray booth at the Land Utilization area is used for the application of coatings to small industrial equipment such as mowers, furniture, signs, etc..

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :/ Emission Unit #: 9 Segment #: 25 25

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Coatings applied in LU paint spray booth
2. Source Classification Code (SCC): 4-02-999-95
3. SCC Units: Tons solvent in coating
4. Maximum Hourly Rate: 0.0018
5. Maximum Annual Rate: 15.59
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur:
8. Maximum Percent Ash:
9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters): Examples of products used include, but are not limited to: polyurethane, wood stains, and paints. VOC content varies; however the average percent volatiles in the coatings applied is 64.1%.



**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID : / Emission Unit #: 9 Segment #: 28 28

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Diesel fuel burned in the emergency diesel generator which serves boiler units 1 and 2.
2. Source Classification Code (SCC): 2-01-001-02
3. SCC Units: thousand gallon burned
4. Maximum Hourly Rate: 0.0085
5. Maximum Annual Rate: 3.4
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur: 0.5
8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 136
10. Segment Comment (limit to 200 characters): Maximum annual rate based on 400 hours of operation a year.

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID :1 Emission Unit #: 9 Segment #: 1 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Fugitive Emissions - fugitive dust
2. Source Classification Code (SCC):
3. SCC Units: Tons
4. Maximum Hourly Rate:
5. Maximum Annual Rate: 35.71
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur:
8. Maximum Percent Ash:
9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters): This page represents fugitive dust from unpaved roads around the facility, including the 6,600 acre cooling pond perimeter.

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:**

Information for Facility\_ID : / Emission Unit #: 9 Segment #: 2 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Fugitive Emissions - fugitive VOC's
2. Source Classification Code (SCC):
3. SCC Units: tons
4. Maximum Hourly Rate:
5. Maximum Annual Rate: 23.22
6. Estimated Annual Activity Factor:
7. Maximum Percent Sulfur:
8. Maximum Percent Ash:
9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters): This page represents fugitive VOC emissions from tanks, the LU paint booth, painting operations, and site solvent useage.

**G. EMISSIONS UNIT POLLUTANTS  
(Regulated Emissions Units Only)**

**Information for Facility\_ID: 1 Emission Unit #: 9**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
VOC PM	NA NA	NA NA	NS NS



**I. VISIBLE EMISSIONS INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 9

Visible Emissions Limitation #: 28

28

1. Visible Emissions Subtype: VE100
2. Basis for Allowable Opacity Code(R/O):   RULE       [ ] Rule       [ ] Other
3. Allowable Opacity: Normal Conditions: 100                   % Exceptional Conditions:    % Maximum Period of Excess Opacity Allowed: 60   min/hr
4. Method of Compliance Code:
5. Visible Emissions Comment (limit to 200 characters): Rule 62-210.700(1) allows 2 hrs / 24 hrs of excess emissions for startup, shutdown and malfunction. This page is for the emergency diesel generator at units 1 and 2.

**J. CONTINUOUS MONITOR INFORMATION**  
**(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit #: 9  
Continuous Monitor #: 10 10

**Continuous Monitoring System**

1. Parameter Code:		
2. Pollutant(s):		
3. CMS Requirement Code(R/O):	Rule	/ Other
4. Monitor Information: Manufacturer:		
Model Number:		Serial Number:
5. Installation Date (DD-MON-YYYY):		
6. Performance Specification Test Date (DD-MON-YYYY):		
7. Continuous Monitor Comment (limit to 200 characters): Continuous monitors are not required for unregulated emission units.		

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION  
(Regulated Emissions Units Only)**

Information for Facility-ID : 1 Emission Unit # : 9

**Supplemental Requirements for All Applications**

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



**Additional Supplemental Requirements for Category I Applications Only**

10. Alternative Methods of Operation : Not Applicable Attached Document ID / Not Applicable
11. Alternative Modes of Operation (Emissions Trading) : Not Applicable Attached Document ID / Not Applicable
12. Identification of Additional Applicable Requirements : Not Applicable Attached Document ID / Not Applicable
13. Enhanced Monitoring Plan : Not Applicable Attached Document ID / Not Applicable
14. Acid Rain Permit Application  Acid Rain Application - Phase II (Form No. 17-210.900(1)(a)) Attached Document ID: Not Applicable  Repowering Extension Plan (Form No. 17-210.900(1)(b)) Attached Document ID: Not Applicable  New Unit Exemption (Form No. 17-210.900(1)(c)) Attached Document ID: Not Applicable  Retired Unit Exemption (Form No. 17-210.900(1)(c)) Attached Document ID: Not Applicable  Not Applicable

**ATTACHMENT PMR - FW**

**LIST OF UNREGULATED EMISSION UNITS**

Following are several pages of unregulated trivial and de minimis emission units and activities at the facility. The trivial activities identified in this application are provided for information only and are identified as examples of, but not limited to, the trivial activities identified by the Division of Air Resources Management's (DARM) guidance. It is understood that such activities do not have to be included in with the Title V Application. The trivial activities identified herein are consistent, in terms of amounts of emissions and types, with those activities listed in DARM's guidance.

Pursuant to Rule 62-210.300(3)(b)1., notice is herein provided that the emissions units listed below are not subject to a permit issued by the Department of Environmental Protection and are exempt from permitting until a final determination is made under the Title V permitting requirements (Rule 62-213 F.A.C.). These units would not have triggered review under Rules 62-212.400 or 62-212.500 or any new source performance standard listed in Rule 62-204.800 F.A.C.

ATTACHMENT PMR - FW

LIST OF UNREGULATED EMISSION UNITS

UNITS 3 & 4 COMBINED CYCLE POWER BLOCK

Main Steam and Reheat Steam

¾" Vents to Atmosphere

10" Rupture Disks Discharge to Atmosphere

HP/LP Drain Vent Tanks 8" Vents to Atmosphere

6" Rupture Disks Discharge to Atmosphere

10" Control Vents to Atmosphere

HP & IP Steam Bypass

¾" Vents to Atmosphere

Steam Drains

2" Main Steam Drain Tanks Control Discharge to Atmosphere

1½" Main Steam Drain Tanks Control Discharge to Atmosphere

20" Main Steam Atmospheric Receiver Tanks Vent to Atmosphere

Condensate

¾" Vents to Atmosphere

Gland Steam Exhauster 4" Vent to Atmosphere

Feedwater

¾" Vents to Atmosphere

Chemical Feed Skid

Ammonia Feed Tanks Vent

Hydrazine Feed Tanks Vent

H.P. Phosphate Feed Tanks Vent

I. P. Phosphate Feed Tanks Vent

C.T. Water Wash, Liquid Fuel Oil and Fuel Gas

4", 2", 1½" Fuel Gas Skids Vent to Atmosphere

Vents for Secondary Flue Gas to C.T.

1" Vents to Atmosphere

ATTACHMENT PMR - FW

LIST OF UNREGULATED EMISSION UNITS

Condensate and Transfer

Condensate Storage Tanks (115,000 gal.) Vent w/Filter

¾" Vents to Atmosphere

Blowdown

HRSG Blowdown Flash Tanks 14" Vent to Atmosphere

Lube Oil

Lube Oil Storage Tanks Vent

4" Steam Turbine Lube Oil Reservoir Vapor Extractor Vent

8" C.T. Lube Oil Skid Vent

Condenser Air Removal & Water Box Priming

1" Water Box Vacuum Tank Vent

¾" Seal Water Coolers Vent

6" Condenser Air Water Separators Vent

1½" Water Box Air Water Separators Vent

Circulating Water 1" Vents to Atmosphere

Vacuum Tank Relief Valve

Vacuum Pump Vent

Closed & Open Cooling Water

¾" Vents to Atmosphere

2" Vent for Closed Cooling Water Surge Tanks

¾" Vent for Chemical Feed Tanks

Cooler Vents

Cooler Vents

ATTACHMENT PMR - FW

LIST OF UNREGULATED EMISSION UNITS

Compressed Air

Service Air Compressors Relief Valve

Service Air Receivers Relief Valve

Instrument Air Receivers Relief Valve

Instrument Air Dryers Relief Valve

Instrument Air Compressors Relief Valve

Instrument Air Aftercoolers Relief Valve

Fire Protection

3/4" Vents to Atmosphere

Diesel Engine Exhaust

2" Diesel Day Tank Vent

C.T. Lube Seal Trip, and Hydraulic Oil

3" Bearing Drain Enlargement Exhausters Vent to Atmosphere

C.T. Inlet Air Heating and Instrument Air

3/4" Vents to Atmosphere

Pond Water Supply

Treated Water Storage Tank (494,000 gal.) Vent/Filter

Makeup Condensate and Transfer

Makeup Condensate Storage Tank (4,500,000 gal.) 6" Vent/Filter

Auxiliary Steam

Fuel Gas Relief Valve

Superheater

Auxiliary Boiler

Relief Valve - 2 1/2"

Superheater Relief Valve - 2 1/2"

3/4" Vents

5" Auxiliary Boiler Blowdown Tank Vent

ATTACHMENT PMR - FW

LIST OF UNREGULATED EMISSION UNITS

Control Building H.V.A.C.

Vent/Exhaust Systems for:

Women's Toilet

Men's Toilet

Elevator Machinery Room

Battery Rooms

Kitchen

Toilet

Auxiliary Buildings H.V.A.C.

Vent/Exhaust System for

Switchgear Rooms

Toilet Area

Chemical Storage Room

Water Chemistry Lab

Fume Hoods

Auxiliary Boiler Building

Combustion Turbine

Enclosure Venting

Main Liquid Fuel

$\frac{3}{4}$ " Vents to Atmosphere

2" Liquid Fuel Drain Tank Vent (235 gal.)

8" Vent w/Filter for Units 3&4 Liquid Fuel Storage Tank (2,000,000 gal.)

Control Buildings, Potable and Sanitary

Sanitary Vents

H. R. S. G.

Steam Relief Valves

1", 2" Vents to Atmosphere

C.E.M. Gases

ATTACHMENT PMR - FW

LIST OF UNREGULATED EMISSION UNITS

Service Water

3/4" Vents to Atmosphere

Fire Protection System

1" Vents to Atmosphere

CO<sub>2</sub> Control System

Emergency Diesel Generator System

Day Tank (500 Gal.) 1 1/2" Vent

Miscellaneous Activities

Plant Grounds Maintenance

Routine Maintenance/Repair Activities

Non-Halogenated Solvent Cleaning Operations

Internal Combustion Engines Which Drive compressors, Generators, Water Pumps or other Auxiliary Equipment

Transformers, Switches and Switchgear, Processing & Venting

Electrically Heated Equipment Used for Heat Treating, Tracing, Drying, Soaking, Case Hardening or Surface Conditioning

Air compressors and Centrifuges Used for Compressing Air

Storage of Product in Sealed Containers

Miscellaneous Mobile Vehicle Operation

Cars, Light Trucks, Heavy Duty Trucks, Back Hoes, Tractors, Forklifts, Cranes, Etc.

Miscellaneous Mobile Equipment Operation

Compressors, Chain Saws, Small Generators, (< 100kw) Welding Machines, Electric Saws & Drills, Etc.

Main Steam Hot and Cold Reheat

Pressure Relief Valves

1" Vents to Atmosphere

Extraction Steam

2" Vents to Atmosphere

ATTACHMENT PMR - FW

LIST OF UNREGULATED EMISSION UNITS

Auxiliary Steam, Chemical Feed, Chlorine and Gas Purging  
Waterbox Vacuum Pump Silencer/Separator Vent

12" Steam Air Ejector Exhaust

Air Leakage Rotameter Vent

4" Condenser Equalization Line Vent

3" After Condenser Vent

2½" Generator Vent

Hydrogen Detector Cabinet ¾" Vent

Hydrogen Supply Vent to Atmosphere

¾" Nitrogen Relief Valve

½" Vent Phosphate Pumps to Boiler

Phosphate Solution Tank Vent

Hydrazine Solution Tank Vent

Ammonia Solution Tank Vent

Nitrogen Purge System

¾" CO<sub>2</sub> Relief Valve (Generator Fire Protection)

1" Chlorine Pressure Relief Valve

½" Chlorine Dispenser Vents

Auxiliary Steam Relief Valves

Boiler Feedwater ¾" Vents to Atmosphere

3" B.F.P. Seal Drain Tanks Vent

Condensate ¾" Vents to Atmosphere

1" Relief Valves

Condensate Storage Tanks Vent (400,000 gal.)

Caustic Wash, Lime Slurry, Ash Disposal & Reinjection Steam Relief Valves

Condensate Relief Valves



ATTACHMENT PMR - FW

LIST OF UNREGULATED EMISSION UNITS

Auxiliary Steam, Chemical Feed, Chlorine and Gas Purging (Continued)  
Ash Pit

Soda Ash Wash Service Tank Vent (5,000 gal.)

Potable Water

Bleach Tank 2" Vent (2,000 Gal.)

Potable Water Storage Tank 4" Vent

Boiler Vents and Drains

3/4" Vents to Atmosphere

Condensate Recovery Flash Tank Relief VA.

Condensate Recovery Tank Vents 4"

22" Blowdown Tank Vent

Instrument Air

Inst. Air Water Separator Relief Valve

Instrument Air Receiver Relief Valve

Instrument Air Dryer Relief Valve

Service Air

Service Air Aftercooler Relief Valve

Service Air Receiver Relief Valves

B.F.P. Lube Oil

B.F.P. Lube Oil Reservoir Vent Fan 4"

B.F.P. Lube Oil Batch Tank 3" Vent and Filter

B.F.P. Lube Oil Conditioner Vent Fan 4"

Light Oil System

Light Oil Tank 6" Vent (2,000 BBL)

Water Draw-Off Sump

Diesel Day Tank 3/4" Vent - (550 Gal.)

ATTACHMENT PMR - FW

LIST OF UNREGULATED EMISSION UNITS

Fuel Oil

Fuel Oil Storage Tanks Water Draw-off Sump

Blowback Tank Relief Valve

Steam Supply Relief Valve

Fuel Oil ¾" & 1" Vents to Atmosphere

Fuel Oil ¾" Relief Valve

Combustion Air and Flue Gas

C.E.M. Gases

Closed Cooling Water

¾" Vents to Atmosphere

Cooling Water Heat Exchangers Relief Valve

Chemical Feed Tank Vent

Turbine Gland Seal Steam and Drain

Gland Steam Condenser Exhauster 6" Vent to Atmosphere

Fuel Oil at Burners

1" Vents to Atmosphere

Natural Gas

2" Vent to Atmosphere

6" Vent to Atmosphere

Ignition (LP) Gas

1" Control Vent to Atmosphere

L.P. Gas Tanks Relief Valve

Fuel Oil at Heaters

1" Vents to Atmosphere

Control Building H.V.A.C.

Battery Rooms Exhaust Fan

Men's Toilet Exhaust Fan

Women's Toilet Exhaust Fan

Elevator Shaft Exhaust Fan

ATTACHMENT PMR - FW

LIST OF UNREGULATED EMISSION UNITS

Fuel Oil at Heaters (continued)

M.C.C. Areas Exhaust Fans

Lab Exhaust Hood

Turbine Generator Lube Oil

Generator Loop Seal Tank Exhauster 4" Vent to Atmosphere

Turbine Lube Oil Reservoir Vapor Extractor 6" Vent

Turbine Generator Lube Oil Batch Tank 4" Vent w/Filter

Turbine Generator Lube Oil conditioner Vapor Extractor 4" Vent

1" Polishing Filter Vent

1" Air Educator Vent

Turbine Generator Enclosure

Miscellaneous Vents To Atmosphere

Miscellaneous Activities

Plant Grounds Maintenance

Routine Maintenance/Repair Activities

Non-Halogenated Solvent Cleaning Operations

Internal Combustion Engines Which Drive compressors, Generators, Water Pumps or other Auxiliary Equipment

Transformers, Switches and Switchgear, Processing & Venting

Electrically Heated Equipment Used for Heat Treating, Tracing, Drying, Soaking, Case Hardening or Surface Conditioning

Air compressors and Centrifuges Used for Compressing Air

Storage of Product in Sealed Containers

Miscellaneous Mobile Vehicle Operation

Cars, Light Trucks, Heavy Duty Trucks, Back Hoes, Tractors, Forklifts, Cranes, Etc.

Miscellaneous Mobile Equipment Operation

Compressors, Chain Saws, Small Generators, (< 100kw) Welding Machines, Electric Saws & Drills, Etc.

ATTACHMENT PMR - FW

LIST OF UNREGULATED EMISSION UNITS

Water Treatment

(Unit 1 & 2) 1/2" Carbon Filter Vents

1/2" Sand Pressure Filter Vents

Clearwell Vent

Lime Silo Overflow/Vent

Water Treatment Brine Measuring Tank Vent

Raw Water Raw Water Storage Tank Vent (500,000 gal.)

2" Vents to atmosphere

4" Well Water Pump Casing Vents

Service Water Treated Water Storage Tank 6" Vent (500,000 gal.)

1" Vent to Atmosphere

6" Relief Valves

Gas Metering Area (Units 1 & 2)

Gas Oil Separator Tank 8" Exhaust Vent

Gas Oil Separator Filter 1 1/2" Vent

Relief Valve

6" Blowdown Valve

Gas Scrubber Relief Valve

Condensate Tank with Filter

Waste Water

(Unit 1 & 2) Solids Settling Basin

Precipitation Basins

Drying Basin

Storm Basin

Neutralization Basins

Recovered Service Water Basin

Oil Separators

ATTACHMENT PMR - FW

LIST OF UNREGULATED EMISSION UNITS

Waste Water (continued)

Oil Separator Inlet Lift Station

Oil Separator Disch. Lift Station

Reactivator and Filter Backwash Sump Pit

Demineralizer Waste Caustic Sump Pit (includes tank overflows)

Demineralizer and Mixed Bed Waste Acid Sump Pit (includes tank overflows)

Oil Holding Tank 3" Vent (1,000 gal.)

Boiler Blowdown

(Unit 1 & 2)2" Vent (Air Release Valve)

Blowdown Lift Station

1" Vents to Atmosphere

Service Building H.V.A.C.

Unit 1 & 2)Roof Mounted Exhaust Fans

Flash Tank 2½" Vent to Atmosphere

Locker Room Exhaust Fan

Electrical Equipment Room Exhaust Fan

Tool Room Exhaust Fan

Electric Shop Exhaust Fan

M&S Store Exhaust Fans

Machine Shop Exhaust Fan

Maintenance Warehouse Exhaust Fan

Motor Repair Shop Exhaust Fan

2½" Station Heating Piping Vent

**ATTACHMENT PMR - FW**

**LIST OF UNREGULATED EMISSION UNITS**

Miscellaneous Buildings H.V.A.C. (Unit 1 & 2)  
Change House Buildings Exhaust Fans

Oil and Paint Storage Building Roof Exhaust Fans

Satellite Accumulation Building Roof Exhaust Fans

Hazardous Waste Accumulation Building Roof Exhaust Fans

Satellite Hazardous Waste Accumulation Building Roof Exhaust Fans

Motorcycle Shack

Storm Water Basins

Sandblast Facility (Unit 1 and 2)

Retention and Detention Ponds

Sandblast Shed

**GENERAL SITE/LAND UTILIZATION**

Miscellaneous Building H.V.A.C. (Unit 1 & 2)

Switchgear Building Exhaust Hood

I&C Shop Toilet Room Exhaust Fan

Chlorination Building Exhaust Roof Mounted Exhaust Fan

Elevator Towers Exhaust Fans

Chemical Storage Building Roof Mounted Exhaust Fan

Fire Equipment Storage Building Roof Mounted Exhaust Fan

Freight Elevator Roof Mounted Exhaust Fan

Control, Auxiliary and miscellaneous buildings portable and sanitary

"Donkey boiler" Less than 10 mmBtu/Hour

Miscellaneous  
Sanitary vents

Painting of plant equipment

Natural Gas  
Pressure Reduction Station (not owned by FPL)

ATTACHMENT PMR - FW

LIST OF UNREGULATED EMISSION UNITS

GENERAL SITE/LAND UTILIZATION

Recreational Pavilion  
L.P. Gas Tank for Grill

Smoker with (3) 3" Stacks

Kitchen Exhaust Fan

Rest Rooms Sanitary Vent

Plant Services Construction and Equipment Yard  
Parts Cleaner Heat and Water Process

Sandblasting Machine w/Filter

Rest Rooms Sanitary Vents

Roof Mounted Exhaust Fans

Routine Maintenance/Repair Activities

Storage of Products in sealed containers

Weld Lab.  
Roof Mounted Exhaust Fan

Sewerage Treatment Skids

Open

Water Treatment (3 & 4)  
Neutralization Tank 4" Vent (12' Ø X 30' High)

Pretreatment Cartridge Filters ½" Vent

R.O. Clean up Tank 1½" Vent

R.O. Effluent Tank Decarbonator Tower Blowers Exhaust

R.O. Potable Cartridge Filters ¼" Vent

R.O. Clean up Cartridge Filter ½" Vent

Caustic Day Tank Vent (3' Ø X 3' High)

Forced Draft Decarbonator Tower Blowers Exhaust

Potable Water Storage Tank Vent/Filter (12' Ø X 25' High)

## ATTACHMENT PMR - FW

## LIST OF UNREGULATED EMISSION UNITS

Water Treatment (3 & 4) (continued)

Bulk Caustic Storage Tank Vent (8' Ø X 13'-6" High)

Bulk Acid Storage Tank Vent with Descant Breathe (8' Ø X 13'-6" High)

Acid Day Tank Vent (3' Ø X 3' High)

Anti-Scalant Day Tank 1½" Vent (3' Ø X 3' High)

Sodium Hypochlorite Feed Tank 1" Vent (7,056 gal.)

Corrosion Inhibitor Feed Tank ¾" Vent (100 gal.)

Water Treatment (Units 3 & 4)

Magnesium Hydroxide Day Tank 3' - 2" Ø x 5' High

Coagulant Feed Tank 3' - 2" Ø x 4' High

Coagulant Aid Feed Tank 3' - 2" Ø x 4' High

Coagulant Aid Mix Tank 3' - 2" Ø x 4' - 2" High

Coagulant Mix Tank 3' - 2" Ø x 4' - 0" High

Filter Aid Feed Tank 3' x 2" Ø x 3' - 2" High

Permanganate Day Tank 3' - 0" Ø x 3' - 0" High

Waste Water Collection and Treatment (Unit 3 & 4)

PH Adjustment Tanks A & B 4" Vents (8' Ø X 18' High)

Waste Sump

Clarifier Clearwell 8" Vent (12' Ø X 18' Height)

Water Clarifier (28' Ø X 22' High)

Transportable Sludge Bins

Sludge Thickener (8' Ø X 5'-6" High)

Waste Water Collection Tank (64' Ø X 26' High)

Sumps with Liquid Level Activated Pumps

Rainfall Runoff Collection Tank Vent/Filter (55,000 gal.)

2" Waste Oil Collection Tank Vent (100 gal.)

¾" Vents to Atmosphere



ATTACHMENT PMR - FW

LIST OF UNREGULATED EMISSION UNITS

Waste Water Collection and Treatment (Unit 3 & 4) (continued)

Oil/Water Separator

Oily Waste Water Collection Tank Vent (25'-6" Ø X 22' High)

GENERAL SITE/LAND UTILIZATION

Bulk Gas (Hydrogen) (Unit 3 & 4)

1" Vent to Atmosphere

Relief Valves

Bulk Gas (Carbon Dioxide) (Unit 3 & 4)

1" Vent to Atmosphere

Relief Valves

Bulk Gas (Nitrogen) (Unit 3 & 4) 2" Vent to Atmosphere

Rupture Disks

Relief Valves

Sewage Treatment (Unit 3 & 4)

Service Building Sewage Lift Station Vent

Water Chemistry Building Sewage Lift Station Vent

Control Building Sewage Lift Station Vent

Miscellaneous Buildings H.V.A.C. (Unit 3 & 4)

Vent/Exhaust Systems for G.E. Warehouse

Zachary Warehouse

P.M.G. South Construction Warehouse

P.M.G. Project Field Office

Service Building

Switchyard Building

Satellite Hazardous Waste Accumulation Building Roof Exhaust Fans

Paint and Oil Storage Building Roof Exhaust Fans

ATTACHMENT PMR - FW

LIST OF UNREGULATED EMISSION UNITS

Miscellaneous Buildings H.V.A.C. (Unit 3 & 4) (continued)  
Waste Water Area Control Room

Miscellaneous Activities  
Plant Grounds Maintenance

Routine Maintenance/Repair Activities

Non-Halogenated Solvent Cleaning Operations

Internal Combustion Engines Which Drive compressors, Generators, Water Pumps or other Auxiliary Equipment

Transformers, Switches and Switchgear, Processing & Venting

Electrically Heated Equipment Used for Heat Treating, Tracing, Drying, Soaking, Case Hardening or Surface Conditioning

Air compressors and Centrifuges Used for Compressing Air

Storage of Product in Sealed Containers

Miscellaneous Mobile Vehicle Operation  
Cars, Light Trucks, Heavy Duty Trucks, Back Hoes, Tractors, Forklifts, Cranes, Etc.

Miscellaneous Mobile Equipment Operation  
Compressors, Chain Saws, Small Generators, (< 100kw) Welding Machines, Electric Saws & Drills, Etc.

Miscellaneous & Maintenance Facilities  
Sand Blasting Units

Lawn/Activities

Indoor Fugitives

Application of Herbicides & Pesticides

Miscellaneous Vent/Exhaust Systems (Land Utilization)  
Maintenance Shop: Open Air & Ceiling Fans

Carpenter Shop: Open Air, Ceiling Fans & 36" Exhaust Fan

Herbicide Shed: One 36" Exhaust Fan

Lab: Fume Hood with Exhaust Fan

Kitchen: Exhaust Vent

Sewerage Vents & Stacks

ATTACHMENT PMR - FW

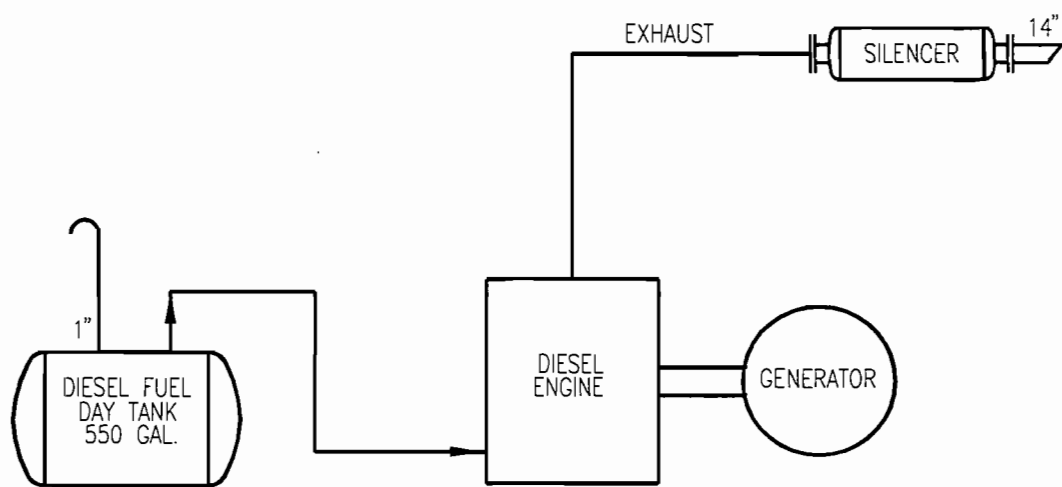
LIST OF UNREGULATED EMISSION UNITS

Miscellaneous H.V.A.C. (Land Utilization)  
Cooling/Heating

Waste Oil Storage Building (Land Utilization)  
467 Gallon Tank

Cooling Ponds            6600 Acres

WALKDOWN INFORMATION			TECHNICAL ACCEPTANCE			
AS-BUILT INFORMATION	ORG	BY	DATE	ENGINEERING ORGANIZATION	BY	DATE



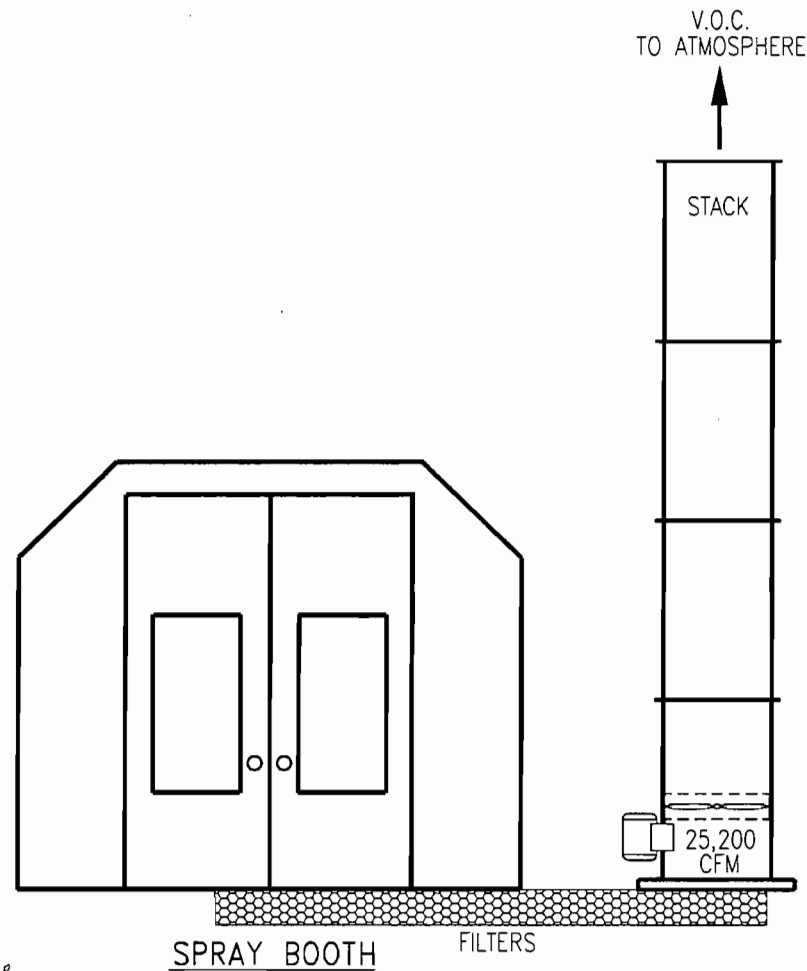
BAR CODE

	SYSTEM YY	DISCIPLINE M	PLANT/UNIT MARTIN PLANT-UNITS 1 & 2
	SCALE N/A	CAD FILE NAME MR001744	TITLE EMISSION UNIT FLOW DIAGRAM EMERGENCY DIESEL GENERATOR ATTACHMENT NO. EUB
	DRAWING SIZE A (8.5X11)	FPL ARCHIVE NAME MR001744	

0	7-14/95	ISSUED FOR TITLE V PERMIT	PWB	PWB	CSP	CSP	ETS
REV	DATE	REVISION DESCRIPTION	BY	CH	COR	APR	ORG

DRAWING NUMBER	PMR1-M0109-YY	SHEET	1 OF 1	REV	0
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WALKDOWN INFORMATION			TECHNICAL ACCEPTANCE				
AS-BUILT INFORMATION	ORG	BY	DATE	ENGINEERING ORGANIZATION	ORG	BY	DATE



BAR CODE

NOTE:  
THIS EQUIPMENT IS INTENDED FOR THE PURPOSE OF TRAPPING AND HOLDING SOLID PARTICULATE MATTER ONLY.

	SYSTEM	DISCIPLINE	PLANT/UNIT
	SCALE	CAD FILE NAME	TITLE
	DRAWING SIZE	FPL ARCHIVE NAME	
		M	MARTIN SITE/LAND UTILIZATION
	N/A	MR001747	EMISSION UNIT FLOW DIAGRAM DOWN DRAFT PAINT SPRAY BOOTH ATTACHMENT NO. EU12
	A (8.5X11)	MR001747	

0	7/14/95	ISSUED FOR TITLE V PERMIT	PWB	PWB	CSP	CSP	ETS
REV	DATE	REVISION DESCRIPTION	BY	CH	COR	APR	ORG

DRAWING NUMBER: **PMR1-M0112-YY**

SHEET	REV
1 OF 1	0

Martin Plant VOC Summary

Tank Emissions			
Tank	Fuel Type	Max Annual VOC Emission (pounds)	
A	6	225	
B	6	225	
1M	6	43	
2M	6	43	
PMR LO	2	21	
PMG LO	2	1732	
PLT	UNL	575	
LU UNL	UNL	432.4	
LU DIES	2	100	
MEY DIES	2	4.25	
LU USED	MIX	100	
<b>TOTAL</b>		<b>3500.65</b>	
		<b>1.75</b>	<b>tons</b>

Summary of Fugitive VOC Emissions			
Aerosol can usage	2.46	tons	
Painting Operations	19	tons	
All Site Tanks	1.75	tons	
LU Paint Booth	0.013	tons	
<b>Total</b>	<b>23.223</b>	<b>tons</b>	

Aerosol Can Calculations			
8242 aerosol cans used in a 20-month period from 1-1-93 to 8-31-94.			
$(8242 / 20) \times 12 = 4915$ cans per year			
Assume each can = 16 oz (1 lb) = 4915 lb/year			
			= 2.46 tpy

Painting calculations			
4,000 hours / year each of normal VOC paint @ 6 lb VOC per gallon			
4,000 hours / year each of low VOC paint @ 3.5 lb VOC per gallon			
Total emissions = 38,000 lb/year = 19.0 tpy			

## Martin Plant Fugitive Dust Calculations

Unpaved Roads Fugitive Dust Calculation		LU calcs
<b>Variables</b>		<b>Emission Factor Calculation (from AP-42)</b>
E = emission factor (lb/vehicle mile traveled)		$E = (k) * (5.9) * (s/12) * (S/30) * ((W/3)^{0.7}) * ((w/4)^{0.5}) * ((365-p)/365)$
k = particle size multiplier (dimensionless)	1.0	
s = silt content of road surface material (%)	15	- Assume 3 vehicles per day on roads around cooling pond.
S = mean vehicle speed, (mph)	15	- Assume 35 miles of unpaved roads around cooling ponds
W = mean vehicle weight (ton)	2	
w = mean number of wheels	4	
p = number of days with at least 0.01 inch of precipitation per year	120	
VDT = annual vehicle distance travelled	38325	
Emission Factor (E) equals	1.8636	
Pounds per year (E x VDT) =	71420.606	
Tons per year =	35.710	

### III. EMISSIONS UNIT INFORMATION

Information for Facility - ID : 1 Emission Unit # : 9

A separate Emissions Unit Information Section (including subsections A through L 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. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

#### A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

##### Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Units? 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 a unregulated emissions unit.

2. Single Process, Group Processes, or Fugitive Only?

Enter The Number (1-3): 2

- [ 1 ] 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).
- [ 2 ] 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.
- [ 3 ] 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.