



RECEIVED

OCT 13 2003

BUREAU OF AIR REGULATION

October 8, 2003

Mr. Bruce Mitchell  
 Bureau of Air Regulation  
 Department of Environmental Protection  
 2600 Blair Stone Rd. Tallahassee, Florida 32399-2400

Re: Title V Permit No. 1270009-010-AV FPL Sanford Plant Comments

Dear Mr. Mitchell:

Pursuant to our conversation of September 26, 2003, comments on the above listed Title V air operating permit are listed below. It is our opinion that these are administrative corrections. Corrections are in blue.

Page 39 Subsection C. This section addresses the following emissions units.

E.U. ID No.	Brief Description
	Repowered Unit 4: 4 (four) combined cycle only combustion turbines
005	Combined Cycle Combustion Turbine (CCCT) Generator PSNCT4A with an unfired Heat Recovery Steam Generator (HRSG)
006	CCCT PSNCT4B with an unfired HRSG
007	CCCT PSNCT4C with an unfired HRSG
008	CCCT PSNCT4D with an unfired HRSG

Repowered Unit 4, ..... Unit PSNCT4A commenced operation on December 16 6, 2002; Unit PSNCT4B commenced operation on December 23 7, 2002; PSNCT4C commenced operation on December 30 16, 2002; and, PSNCT4D commenced operation on January 6 3, 2003.

Page 45 Compliance Determination

C.21.b. High-Temperature Peaking Mode. An initial performance test for NO<sub>x</sub> shall be performed on only one CT to demonstrate compliance with the emission limitations in Specific Condition C.7.b. (see Appendix CP-3 and Specific Condition C.58.) and is considered representative of the other three CTs in Repowered Unit 5 4. ....

Page 2

Title V Permit No. 1270009-010-AV  
FPL Sanford Plant Administrative Change

**Page 53 C.51.** The summary report form shall contain the information and be in the format shown in Figure 1(attached)... **Figure 1 was not attached.**

**Summary of Compliance Table 2-1:** Changes are requested to avoid confusion: Even though this table is not for compliance we want to address the reference to the number of runs for visible emission testing & PM for Emission Units 005 through 012. Please change the reference to number of test runs to "**duration of test method**".

Appendix I-1, List of Insignificant Emissions Units and/or Activities

**Please add the following Emission Units.**

20. CT4A through CT4D: primary steam and water vents/drains
21. CT4A through CT4D: associated HRSGs: primary steam and water vents/drains
22. CT4A through CT4D: common piping area: primary steam and water vents/drains
23. CT4A through CT4D: common feedwater: primary steam and water vents/drains

Appendix U-1, List of Unregulated Emissions Units and/or Activities

**Please add the following Emission Units.**

11. Evaporative equipment cooler for Repowered Unit 4
12. Day tank for no. 2 fuel oil: 2000 gallons: for Emergency diesel generator

Thank you for your attention to the issues raised in this correspondence. Please do not hesitate to contact me at (561) 691-7057 regarding these issues.

Sincerely,



Mary J. Archer, QEP  
Florida Power & Light Company

Cc: Leonard Kozlov - FDEP Central District

10/9/03

Dear Mary,

Thanks.

Bruce

-----Original Message-----

From: Mary\_Archer@fpl.com [mailto:Mary\_Archer@fpl.com]

Sent: Wednesday, October 08, 2003 3:49 PM

To: Mitchell, Bruce

Cc: Mary\_Archer@fpl.com

Subject: Re: DRAFT Comments letter; Sanford Power Plant,1270009-0010-AV

Bruce

Attached are the comments we discussed pertaining to the FPL Sanford Power Plant Title V permit.

Thank you for your help in resolving these issues & don't hesitate to contact me with any questions. - Mary

office: 561-691-7057

cell: 561-758-3760

(See attached file: title V PSN\_comments10-8-03.doc)

October 8, 2003

Mr. Bruce Mitchell  
Bureau of Air Regulation  
Department of Environmental Protection  
2600 Blair Stone Rd. Tallahassee, Florida 32399-2400

**Re: Title V Permit No. 1270009-010-AV FPL Sanford Plant Comments**

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Repowered Unit 4, ..... Unit PSNCT4A commenced operation on December ~~16~~ 6, 2002; Unit PSNCT4B commenced operation on December ~~23~~ 7, 2002; PSNCT4C commenced operation on December ~~30~~ 16, 2002; and, PSNCT4D commenced operation on January ~~6~~ 3, 2003.

**Page 45 Compliance Determination**

C.21.b. High-Temperature Peaking Mode. An initial performance test for NO<sub>x</sub> shall be performed on only one CT to demonstrate compliance with the emission limitations in Specific Condition C.7.b. (see **Appendix CP-3** and Specific Condition C.58.) and is considered representative of the other three CTs in Repowered Unit ~~5~~ 4. ....

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FPL Sanford Plant Administrative Change

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Thank you for your attention to the issues raised in this correspondence. Please do not hesitate to contact me at (561) 691-7057 regarding these issues.

Sincerely,

Mary J. Archer, QEP  
Florida Power & Light Company

Cc: Leonard Kozlov - FDEP Central District

bcc: Roxane Kennedy PSN  
Randy Hopkins PSN  
M.Archer JES/JB  
File PSN Title V (JES/JB)

Mr. Scott M. Sheplak, P. E.  
State of Florida  
Department of Environmental Protection  
Division of Air Resources Management  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400

Copy FDEP district :  
Leonard Kozlov  
FDEP Central District  
3319 Maguire Blvd., Suite 232  
Orlando, FL 32803-3767

## Mitchell, Bruce

---

**From:** Mary\_Archer@fpl.com  
**Sent:** Monday, October 06, 2003 1:30 PM  
**To:** Mitchell, Bruce  
**Cc:** Mary\_Archer@fpl.com  
**Subject:** DRAFT Comments to Table 2-1; Sanford Power Plant,1270009-0010-AV

Bruce

Please give me a call at your convenience to discuss the issue concerning the visible emission tests on the Sanford CTs. Referenced below are conditions that I used in an effort to identify the test duration and number of runs for opacity. Also, the same issues are considered for PM requirements. I'd like to ensure that you are in agreement with our testing needs for these two parameters. Thank you & talk to you soon.  
Mary 561-691-7057

Summary of Compliance Table 2-1: Changes are requested to avoid confusion: Even though this table is not for compliance we want to address the reference to the number of runs for visible emission testing for Emission Units 005 through 012. The following conditions from the permit support our understanding that a one run VE observation of one half hour is required for opacity and no test is required for PM beyond the initial test requirement. Unlike a steam unit - opacity is a constant during testing and does not vary through a three run test.

Page 27, Specific Condition No. B.24, Compliance with the SO<sub>2</sub> and PM/PM<sub>10</sub> emission limits:  
a. Natural Gas. The use of pipeline natural gas is the method for determining compliance for SO<sub>2</sub> and PM/PM<sub>10</sub>, when firing natural gas. b. Fuel Oil. The use of very low sulfur fuel oil (0.05% content, by weight, or less) is the method of compliance for SO<sub>2</sub> and PM/PM<sub>10</sub>, when firing distillate oil.

Page 28, Specific Condition No. B.29 and Page 28, Specific Condition No

**Mitchell, Bruce**

---

**From:** Sheplak, Scott  
**Sent:** Friday, September 05, 2003 1:48 PM  
**To:** Mitchell, Bruce  
**Subject:** RE: FPL Sanford Power Plant: 1270009-009-AC issued for the High-Temperature Peaking Mode for repowered Units 4 and 5.

Al provided technical info. to me on this from GE. I would expect VOC and CO to be lower at the higher temperature.

Let's put into the permit something like this in either a condition or permitting note with regard to the VOC and CO peaking mode emission limits - "Testing under normal conditions for VOC and CO provides reasonable assurance of compliance under peaking mode operation."

-----Original Message-----

**From:** Mitchell, Bruce  
**Sent:** Friday, September 05, 2003 11:36 AM  
**To:** Sheplak, Scott  
**Subject:** FPL Sanford Power Plant: 1270009-009-AC issued for the High-Temperature Peaking Mode for repowered Units 4 and 5.

9/5/03

Scott,

I have run into a potential problem with the above referenced permit modification that was issued yesterday. The permit contains emissions limiting standards for NO<sub>x</sub>, CO, VOC and visible emissions (VE), but only requires a compliance test for NO<sub>x</sub> and VE. Rule 62-297.310(7)(a)1., F.A.C., states that "The owner or operator of a new or modified emissions unit that is subject to an emissions limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining an operation permit for such emissions unit". I am trying to incorporate the terms and conditions of the permit modification into the Title V Permit through a revision and have not been able to resolve this issue. Your assistance is appreciated.

Thanks.

Bruce

9/8/2003



TRANSMISSION VERIFICATION REPORT

TIME : 09/04/2003 05:04  
NAME : FDEP DIVISION OF AIR  
FAX : 8509226979  
TEL : 8504880114  
SER.# : BROG2J568046

DATE, TIME 09/04 05:03  
FAX NO./NAME 615616917070  
DURATION 00:00:33  
PAGE(S) 02  
RESULT OK  
MODE STANDARD  
ECM



Florida  
Department of  
Environmental Protection

Jeb Bush  
Governor

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

David Struhs  
Secretary

FAX TRANSMITTAL SHEET

DATE: 9-4-03

TO: Mary Archer

PHONE: 561/691-7057

FAX: 561/691-7070

FROM: Bence Mitchell

PHONE: 850/413-9198

Division of Air Resources Management

FAX: 850.922.6979

RE: 1270009-010-AV

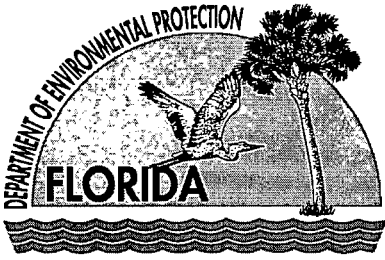
*Extension of Time*

CC: \_\_\_\_\_

Total number of pages including cover sheet: 2

Message

Faded text at the bottom of the page, possibly a routing slip or footer.



Florida  
Department of  
Environmental Protection

Jeb Bush  
Governor

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

David Struhs  
Secretary

F A X T R A N S M I T T A L S H E E T

DATE: 9-4-03

TO: Mary Archer

PHONE: ~~850~~ 561/691-7057

FAX: 561/691-7070

FROM: Bruce Mitchell

PHONE: 850/413-9198

Division of Air Resources Management

FAX: 850.922.6979

RE: 1270009-010-AV

CC: \_\_\_\_\_

Total number of pages including cover sheet: 2

**Message**

Thanks Mary for your time and consideration. I'll stand-by  
for the return fax. Take care,

Bruce Mitchell

If there are any problems with this fax transmittal, please call the above phone number.

"Protect, Conserve, and Manage Florida's Environmental and Natural Resources"

Printed on recycled paper

**Golder Associates Inc.**

6241 NW 23rd Street, Suite 500  
Gainesville, FL 32653-1500  
Telephone (352) 336-5600  
Fax (352) 336-6603



RECEIVED

JUN 09 2003

0237560

June 6, 2003

BUREAU OF AIR REGULATION

Bureau of Air Regulation  
Department of Environmental Protection  
2600 Blair Stone Road  
Tallahassee, FL 32399

RE: FPL SANFORD PLANT  
TITLE V – SANFORD REPOWERING PROJECT – SANFORD UNIT 4  
DEP FILE NO. 120009-004-AC AND 120009-007-AV

Attention: Mr. Scott M. Sheplak, P.E. Administrator, Title V Section

Dear Scott:

On behalf of Ms. Roxane Kennedy, Plant General Manager of Florida Power & Light Company's Sanford Plant, I am submitting the Title V permit application for Unit 4 of the Sanford Repowering Project. Enclosed you will find four copies of the application, one with the original signatures.

Please contact Ms. Mary Archer, the FPL application contact [phone (561) 691-7057], or myself if there are any questions.

Sincerely,

GOLDER ASSOCIATES INC.

A handwritten signature in black ink, appearing to read 'Kennard F. Kosky'.

Kennard F. Kosky, P.E.  
Principal

KFK/jkw

Enclosures

cc: Ms. Roxane Kennedy, FPL Sanford Plant  
Ms. Mary Archer, FPL Environmental Services w/enclosures  
Mr. Randy Hopkins, FPL Sanford Plant w/enclosures  
Mr. Leonard Kozlof, P.E., FDEP Central District w/enclosures

P:\Projects\2002\0237560 FPL Title V\4.1\1\060603-Sanford.doc



RECEIVED

AUG 25 2003

BUREAU OF AIR REGULATION

March 19, 2003

Mr. Lynn Haynes  
Air and Radiation Technology Branch  
Air, Pesticides and Toxics Management  
USEPA Region IV  
61 Forsyth Street, SW  
Atlanta, GA 30303-8909

Re: **Florida Power & Light Company (FPL)**  
**Sanford Unit 4 Combined Cycle Plant**  
**Submission of Manufacturer's Curves**

Dear Mr. Haynes:

Pursuant to the requirements of Sanford's Combined Cycle Re-powering Project Unit 4 Air Construction Permit, Section III, Item No. 9, Emission Unit(s) Specific Conditions, attached for your use are the General Electric's Model PG7241(FA) Gas Turbine Manufacturer's Curves based on varying compressor inlet temperatures conditions.

If you should have any questions regarding the attachments, please do not hesitate to contact me at (561) 691-2930 or Michael Szybinski at (561) 691-2898.

Very truly yours,

*Nancy Kierspe*  
Nancy Kierspe  
Designated Representative  
Florida Power & Light Company

cc:

Errin Pichard - FDEP Division of Air Resource Management  
Leonard T. Kozlov, Manager - FDEP Central Florida District  
John B. Turner - FDEP Central District Office  
Garry Kuberski - FDEP Central District Office  
Roxane Kennedy - Plant General Manager  
Ken Simmons - JES/FPL  
Randy Hopkins - Plant Environmental Specialist  
Augie de la Vega - PGD Emission Crew Supervisor  
Tom Young - Construction Site Manager  
Brian Hill - Black & Veatch  
File

# General Electric Model PG7241(FA) Gas Turbine

Estimated Performance - Configuration: DLN Combustor

Compressor Inlet Conditions 59 F (15 C), 60% Relative Humidity

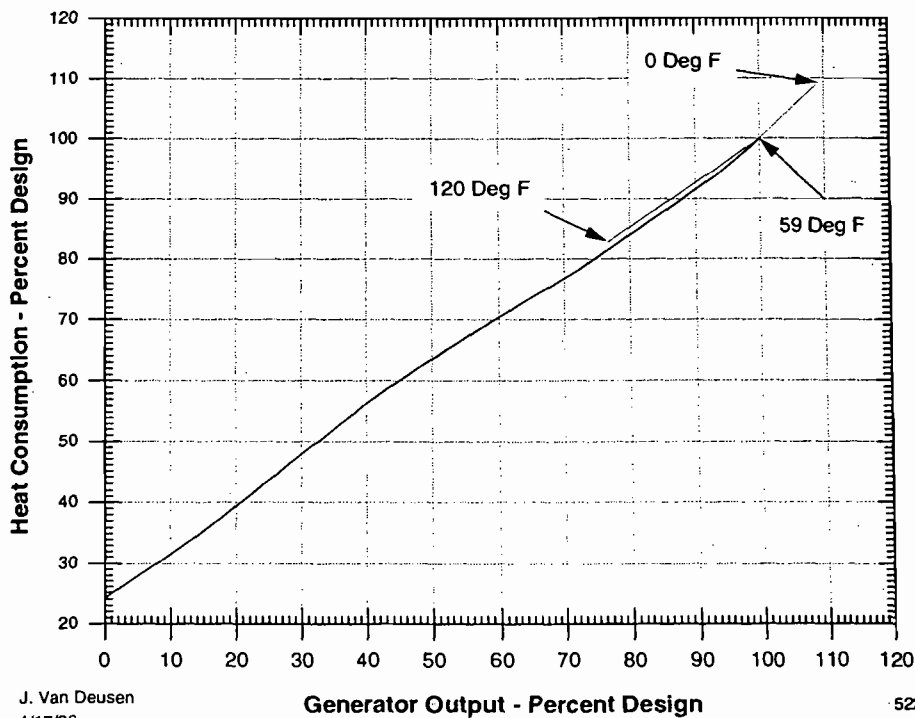
Atmospheric Pressure 14.7 psia (1.013 bar)

Fuel:	Natural Gas	
Design Output	kW	171700
Design Heat Rate (LHV)	Btu/kWh (kJ/MWh)	9360 (9870)
Design Heat Cons (LHV)	Btu/h (kJ/h)x10 <sup>6</sup>	1607.1 (1695.2)
Design Exhaust Flow	lb/h (kg/h)x10 <sup>3</sup>	3542.0 (1607)
Exhaust Temperature	deg. F (deg. C)	1116 (602.2)
Load		Base

**Notes:**

- Altitude correction on curve 416HA662 Rev A.
- Ambient temperature correction on curve 522HA852 Rev A.
- Effect of modulating IGV's on exhaust temperature and flow on curve 522HA853 Rev A.
- Humidity effects on curve 498HA697 Rev. B - all performance calculated with a constant specific humidity of .0064 or less as not to exceed 100% relative humidity.
- Plant Performance is measured at the generator terminals and includes allowances for the effects of inlet bleed heating, excitation power, shaft driven auxiliaries, and 3.04 in H<sub>2</sub>O (6.33 mbar) inlet and 5.5 in H<sub>2</sub>O (13.70 mbar) exhaust pressure drops and a DLN Combustor.
- Additional inlet and exhaust pressure loss effects:

	% Effect on		Effect on	
	Output	Heat Rate	Exhaust Temp.	
4 in Water (10.0 mbar) inlet	-1.54	0.56	3.0F	(1.7C)
4 in Water (10.0 mbar) exhaust	-0.56	0.56	3.0F	(1.7C)



J. Van Deusen  
4/17/98

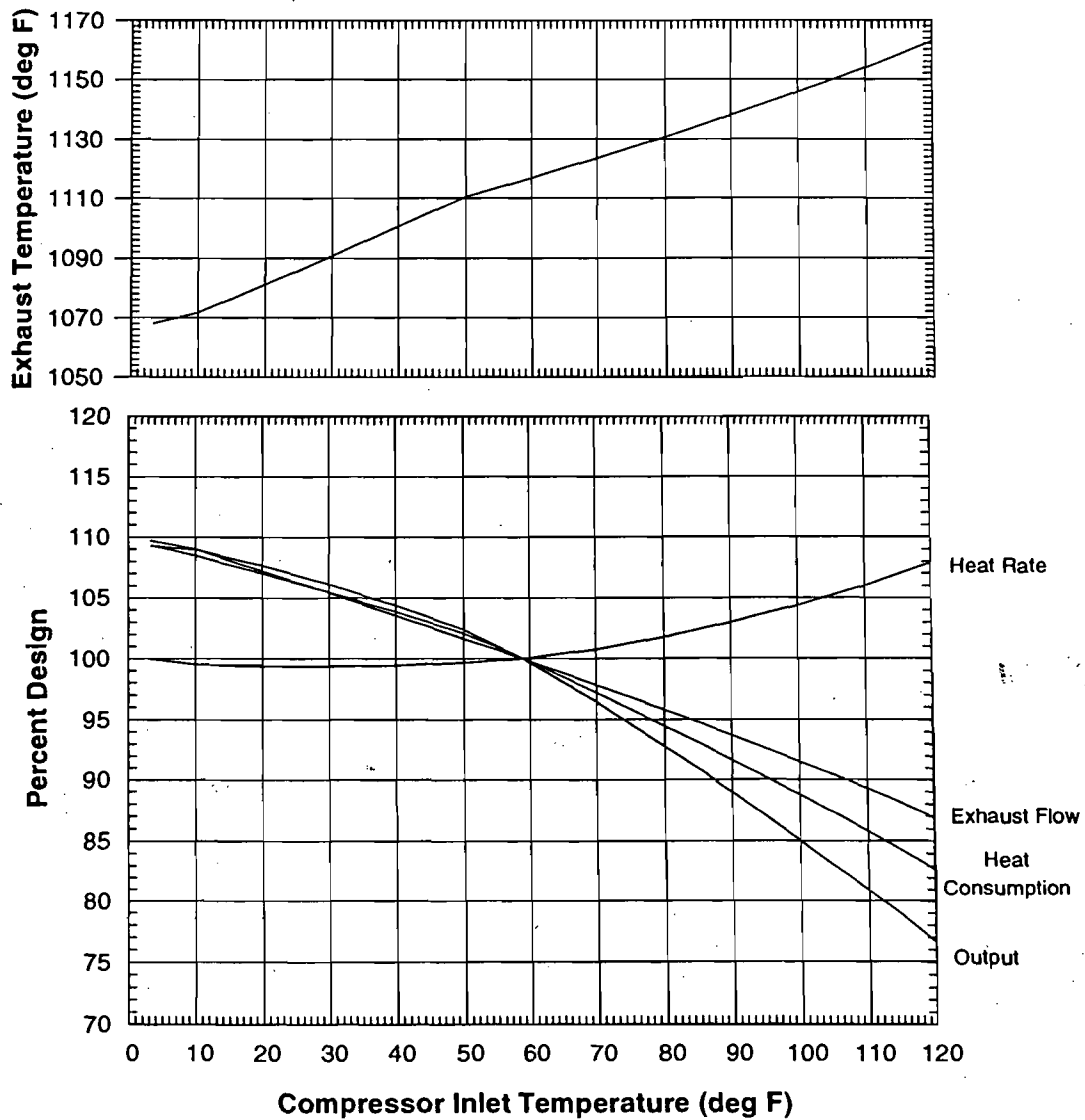
Generator Output - Percent Design

522HA851  
Rev - A

# GENERAL ELECTRIC MODEL PG7241(FA) GAS TURBINE

## Effect of Compressor Inlet Temperature on Output, Heat Rate, Heat Consumption, Exhaust Flow And Exhaust Temperature at Baseload

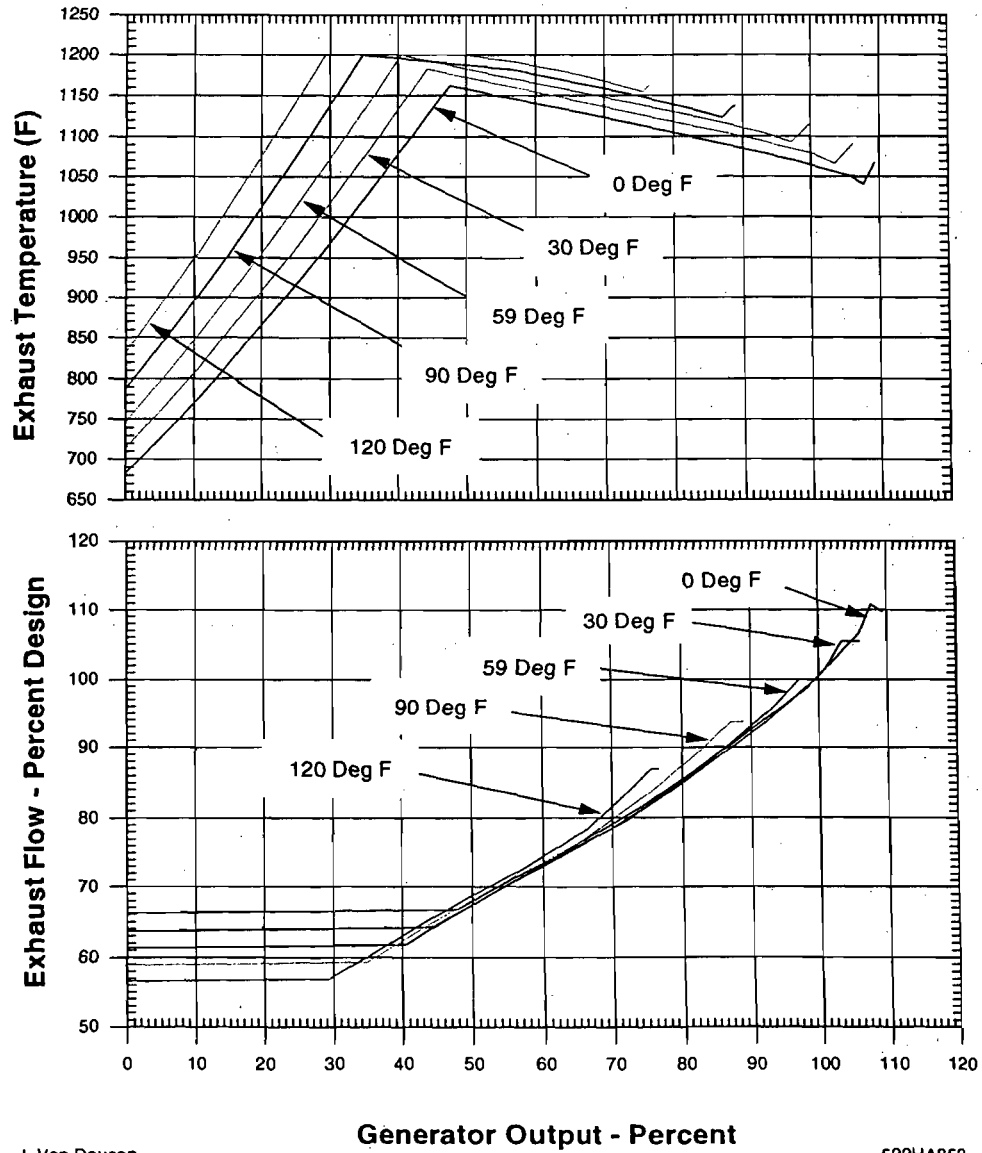
Fuel: Natural Gas  
Design Values on Curve 522HA851 Rev A  
DLN Combustor



# GENERAL ELECTRIC MODEL PG7241(FA) GAS TURBINE

## Effect of Inlet Guide Vane on Exhaust Flow and Temperature As a Function of Output and Compressor Inlet Temperature

Fuel: Natural Gas  
Design Values on Curve 522HA851 Rev A  
DLN Combustor



J. Van Deusen  
4/17/98

522HA853  
Rev - A

## Mitchell, Bruce

---

**From:** Mary\_Archer@fpl.com  
**Sent:** Wednesday, August 20, 2003 11:46 PM  
**To:** Mitchell, Bruce  
**Cc:** Randy\_Hopkins@fpl.com; Mary\_Archer@fpl.com  
**Subject:** FPL Sanford Testing on oil

Bruce

Sanford 4 CTs [PSR 4] are not permitted to burn oil in the repowering plan. Only the Unit 5 CTs [PSR 5] and Unit 3 [PSN 3] are permitted to burn oil. PSR 5 has not burned any oil or tested on oil at this time.

If you need additional information please contact me. Thanks, Mary

561-691-7057



## Mitchell, Bruce

---

**From:** Mary\_Archer@fpl.com  
**Sent:** Friday, July 18, 2003 4:21 PM  
**To:** Mitchell, Bruce  
**Subject:** Item to add to Sanford permit

Bruce

I went back through my phone log & found we had agreed the peaking language could wait for the Unit 4 changes to be included in the permit for both Unit 4 & 5.

The latest application adding unit 4 should also address this issue.

You should receive proof of the Putnam public notice soon.

- Mary

(FOR INTERNAL USE ONLY)  
State of Florida summary checklist for Title V permit applications (cont'd)

**II. Application logging.**

Bellevue →

ARMS Permit Number assigned 1270009-010-AV  
logged into ARMS by initials BJE date 6/10/03

**III. Initial distribution of application.**

a. Disposition of 4 paper/electronic copies submitted:

1- Clean originals to file? Y\_\_\_ N\_\_\_

1- CD District Y  N\_\_\_

1- \_\_\_\_\_ County [affected local program]? Y\_\_\_ N\_\_\_

→ 1- Permit engineer(s) Bruce Mitchell, \_\_\_\_\_

b. Disposition of electronic files submitted:

copy placed onto PC? Y\_\_\_ N\_\_\_

c. Disposition of ELSA submitted:

version used [circle]: 1.0    1.1    1.2.1    1.3    1.3a    1.3b

Uploaded to EARS? Y\_\_\_ N\_\_\_

by \_\_\_\_\_ date \_\_\_/\_\_\_/\_\_\_

d. Electronic information submitted previewed?    Y\_\_\_    N\_\_\_ N/A\_\_\_

Comment(s): \_\_\_\_\_  
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{this checklist was developed from Rule 62-213.420(1)(b)2., F.A.C. and DARM policy}

(FOR INTERNAL USE ONLY)

State of Florida summary checklist for Title V permit applications

Facility Owner/Operator Name: FPL  
Facility ID No.: 1270009 Site Name: Sanford Plant  
County: Volusia  
application receipt date 06/09/03

I. Preliminary scanning of application submitted.

- a. Was application submitted to correct permitting authority? Y  N
- b. Was an application filed? Y\*  N
- c. Was the application filed timely? Y\*  N
- d. Application format filed [check one].  
Hard copy of official version of form?  ELSA?   
A facsimile of official version of form?  Some combination?
- e. 4 copies (paper/electronic) submitted? Y  N
- f. Electronic diskettes protected/virus scanned/marked? Y  N  N/A   
by \_\_\_\_\_ date \_\_\_/\_\_\_/\_\_\_
- g. Entire hard copy of Section I. provided (Pages 1-11 of form)? Y  N   
Facility identified (Page 1)? [if not complete a Page 1] Y\*  [Attached   
R.O. certification signed and dated (Page 2)? Y\*  N   
P.E. certification signed and dated (Page 7)? Y\*  N
- h. Any confidential information submitted? Y  N   
If yes, R.O. provided hard copy to us and EPA? Y\*  N   
If yes, hard copy locked up and note filed with application? Y\*  N
- i. Type of application filed.  
TV renewal application only? Y  N   
Initial TV application only? ~~Y  N~~  1270009-004-AC  
All units demonstrated initial compliance? Y  N   
If, not included compliance plan? Y  N   
Any units subject to acid rain? ~~Y  N~~
- j. CAM Plan submitted? Y  N

Note(s): [\*] = mandatory.

Comment(s): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Reviewer's initials gvs date 06/10/03 Concurrence initials \_\_\_\_\_ date \_\_\_/\_\_\_/\_\_\_



# Memorandum

# Florida Department of Environmental Protection

---

TO: Michael G. Cooke *MSC*

THRU: Trina L. Vielhauer *TV*  
A.Linero *AL* *8/26*

FROM: Teresa Heron *TH*

DATE: August 25, 2003

SUBJECT: Peaking Mode of Operation for the Eight Combined Cycle Combustion Turbines.  
FPL Sanford 2200 MW Project  
DEP File No. 1270009-009-AC and PSD-FL-270D

Attached is the final permit package for the above facility.

The application is for a permit modification to allow peak operation mode up to 400 hours per year for each of the existing eight combined cycle turbines. Peaking is expected to increase short term NO<sub>x</sub> emissions from 9 to 15 ppmvd for each turbine and 68 TPY for all eight turbines due to higher temperatures during this mode. However, due to the substantial emissions decrease of this pollutant during the permitting of the repowering project, this project will not result in a net increase of NO<sub>x</sub> emissions or any other criteria pollutants.

We have determined that the project nets out of PSD for all pollutants because of the very substantial emissions reductions resulting from the 1999 repowering project at the site.

We recommend your approval of the attached final permit package.

AAL/th

Attachments

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
NOTICE OF PERMIT

In the Matter of an  
Application for Permit Modification by:

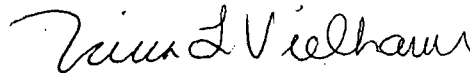
Ms. Roxane Kennedy, Plant General Manager  
FPL Sanford Plant  
950 South Highway 17-92  
DeBary, Florida 32713

DEP File No. 1270009-009-AC and PSD-FL-270D  
Peak Mode of Operation Project  
2200 MW Combined Cycle Combustion Turbines  
Volusia County

Enclosed is the Final Permit Number 1270009-009-AC and PSD-FL-270D for an air construction permit to authorize peak mode operation for each 250 MW combined cycle turbine at the Sanford Power Plant in Volusia County. This permit is issued pursuant to Chapter 403, Florida Statutes.

Any party to this order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, F.S., by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Legal Office; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 (thirty) days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.



Trina L. Vielhauer, Chief  
Bureau of Air Regulation

CERTIFICATE OF SERVICE

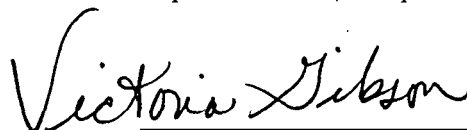
The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF FINAL PERMIT (including the FINAL permit) was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on

9/4/03 to the person(s) listed:

Roxane Kennedy, FPL\*  
Len Kozlov, DEP CD  
Gregg Worley, EPA  
John Bunyak, NPS  
Ken Kosky, P.E., Golder Associates

Clerk Stamp

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

 September 4, 2003  
(Clerk) (Date)

## FINAL DETERMINATION

Florida Power and Light Company (FPL)  
Sanford Power Plant, Volusia County  
2200 MW Combined Cycle Turbines Peak Mode of Operation  
DEP File No. 1270009-009-AC and PSD-FL-270 D

An Intent to Issue an air construction permit authorizing peak operation mode up to 400 hours per year for each of the eight combined cycle turbines at the Sanford Power Plant in Volusia County was distributed on April 22, 2003. The applicant's name and address are Florida Power & Light, Sanford Plant, 950 South Highway 17-92, DeBary, Florida 32713.

The Public Notice of Intent to Issue Air Construction Permit was published in The News-Journal on July 31, 2003. Comments from FPL and the DEP Central District were received as a result of the Public Notice.

FPL requested to revise Specific Condition No. 50 to clarify that the lb/hr emissions are at ISO conditions and to revise Specific Condition No. 51 to include testing requirement for only two of the eight units. The Central District requested to define full load and peak load in terms of the heat input based on high or low heating value or in a manner that allows the field inspector to determine whether the turbine is operating at full or peak load. They also commented on the need for compliance stack testing for all eight units but are agreeable with representative testing for peak operation.

The Department considered FPL's request and revised Specific Conditions No. 50 and 51 as follows:

### 50. Peaking Mode Operation Limits:

The combined cycle gas turbines are subject to the following emission limits during peaking mode operation. Emissions limits are corrected to 15% O<sub>2</sub> (**lb/hr at ISO Conditions**).

Emission Unit	NO <sub>x</sub>	CO	VOC	PM/Visibility (% Opacity)	Technology and Comments
ARMS 005-012					
Combustion Turbines (each)	15 ppmvd (24-hr block avg) 102 lb/hr	9 ppmvd 29 lb/hr	1.4 ppmvd 3 lb/hr	10	Dry Low NO <sub>x</sub> Combustors Natural Gas, Good Combustion

*Averaging Time:* A 24-hour block shall begin at midnight of each operating day and shall be calculated from 24 consecutive hourly average emission rate values. If a unit operates less than 24 hours during the block, the 24-hour block average shall be the average of available valid hourly average emission rate values for the 24-hour block. For purposes of determining compliance with the 24-hour CEMS standards, missing (or excluded) data shall not be substituted. Instead, the 24-hour block average shall be determined using the remaining hourly data in the 24-hour block. CEMS data collected during peaking mode operation shall be excluded from the demonstration of compliance with the NO<sub>x</sub> standards during normal gas firing.

[Applicant Request, Rules 62-210.200 (Definitions-Potential Emissions), and 62-4.070(3), F.A.C.].

51. Compliance Procedures: Compliance with the allowable emission limiting standards shall be determined within 60 days after achieving the maximum production rate at which each unit will

be operated, but not later than 180 days following initial operation of the unit in the *peaking* mode, by using the following reference methods as described in 40 CFR 60, Appendix A, and adopted by reference in Chapter 62-204.800, F.A.C.

The following reference methods shall be used. No other test methods may be used for compliance testing unless prior DEP approval is received in writing.

EPA Reference Method 9, "Visual Determination of the Opacity of Emissions from Stationary Sources."

EPA Reference Method 7, "Determination of Nitrogen Oxides Emissions from Stationary Sources."

Compliance for each pollutant after the initial tests shall be the same as outlined in the original permit 0710002-004-AC issued on 11/25/98.

**Testing for peak operation may be carried out on two of the units. The Department will consider testing of two of the units to be representative of all eight units.**

[Application; Rules 62-210.200(PTE) and 62-4.070 (3), F.A.C.]

Regarding the Central District's comment, we refer to Specific Condition 49 (revised as shown below) that states the heat input based on the maximum heat input rate at high-temperature peak mode. This is, 1,838 million Btu per hour (HHV) which is equivalent to 1,656 million Btu per hour (LHV).

This condition is modified as follows:

49. Each gas turbine may operate in a *high-temperature peaking mode* when firing natural gas to generate additional direct, shaft-driven electrical power to respond to peak demands. During any consecutive 12 months, each combined cycle gas turbine shall operate in this peaking mode for no more than 400 hours of operation. The maximum heat input rate to each gas turbine is 1,838 MMBtu per hour in peak mode operation (based on a compressor inlet air temperature of 59° F and the ~~lower~~-**higher** heating value (~~L~~HHV) of natural gas, ~~and 100% load~~). [Applicant Request, Rules 62-210.200 (Definitions-Potential Emissions), and 62-4.070(3), F.A.C.].

In reference to the *full load*, Specific Condition No. 9 of the original PSD-FI-270 permit states: "The design heat input rates for natural gas firing, based on the high heating value (HHV) of the fuel to *each* combustion turbine at compressor inlet conditions of 59°F, 60% relative humidity, 100% load, and 14.7 psia is 1,776 million Btu per hour (MMBtu/hr). The design heat input for oil firing is 1,930 MMBtu/hr (HHV, 60% relative humidity, 100% load, 59°F compressor inlet and 14.7 psia)". The 1,776 million Btu per hour (HHV) is equivalent to 1,600 million Btu per hour (LHV) for gas firing and the 1,930 million Btu per hour (HHV) is equivalent to 1,820 million Btu per hour (LHV) for oil firing.

Regarding testing, we consider testing of two units to be representative of all eight units. These units are identical. This facility did not trigger PSD review for NOx or CO due to the substantial contemporaneous decreases as a result of the repowering project.

The sequence of the permit numeration was revised to PSD-FL-270**© D**. The project modification No.1270009-008-AC/PSD-FL-270**AC** issued on 3/18/03 was added to the language in Specific Condition 48.

The final action of the Department will be to issue the permit with the changes noted above.





Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

## PERMITTEE:

Florida Power & Light Company  
Sanford Power Plant  
950 South Highway 17-92  
DeBary, Florida 32713

Permit No.	1270009-009-AC (PSD-FL-270 D)
Project:	2200 MW Repowering Project
SIC No.	4911
Expires:	July 1, 2004

## Authorized Representative:

Roxane Kennedy  
Plant General Manager

## PROJECT AND LOCATION:

This permit modification authorizes peak operation mode for up to 400 hours per year for each of the existing eight combined cycle combustion turbines that comprise the 2200 MW repowering project. The eight combined cycle units have been constructed, tested, and are in operation. Each unit is a 170 megawatt General Electric MS7241FA gas-fired combustion turbine-generator with an unfired heat recovery steam generator (HRSG) that raises sufficient steam to produce another 80 MW via the existing steam-driven electrical generators.

This facility is located at 950 South Highway 17-92, DeBary, Volusia County. UTM coordinates are: Zone 17; 468.3 km E and 3,190.3 km N.

## STATEMENT OF BASIS:

This construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). The above named permittee is authorized to modify the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

Michael G. Cooke, Director  
Division of Air Resources  
Management

**AIR CONSTRUCTION PERMIT MODIFICATION 1270009-009-AC AND PSD-FL-270D  
SPECIFIC CONDITIONS**

47. This permit modification (No.1270009-009-AC/PSD-FL-270D) regulates emissions during high temperature peaking mode operation and modifies original Permit No.1270009-004-AC/PSD-FL-270 issued on 9/14/99.

48. The provisions of the original air construction permit No.1270009-004-AC/PSD-FL-270 issued on 9/14/99, the administrative correction (No.1270009-004-AC/PSD-FL-270A) issued on 5/2/00, the authorization for excess emissions following a rotor blade change-out (No.1270009-004-AC/PSD-FL-270B) issued on 3/18/03 and the modification of Specific Conditions 24, 33 and 46 (No.1270009-008-AC/PSD-FL-270C) issued on 3/18/03 remain as originally issued except for these additional new specific conditions.

49. [Each gas turbine may operate in a *high-temperature peaking mode* when firing natural gas to generate additional direct, shaft-driven electrical power to respond to peak demands.] [During any consecutive 12 months, each combined cycle gas turbine shall operate in this peaking mode for no more than 400 hours of operation.] [The maximum heat input rate to each gas turbine is 1838 MMBtu per hour in peak mode operation (based on a compressor inlet air temperature of 59° F and the higher heating value (HHV) of natural gas).]  
 [Applicant Request, Rules 62-210.200 (Definitions-Potential Emissions), and 62-4.070(3), F.A.C.].

50. Peaking Mode Operation Limits:

The combined cycle gas turbines are subject to the following emission limits during peaking mode operation. Emissions limits are corrected to 15% O<sub>2</sub> (lb/hr at ISO Conditions).

Emission Unit	NO <sub>x</sub>	CO	VOC	PM/Visibility (% Opacity)	Technology and Comments
ARMS 005-012					
Combustion Turbines (each)	15 ppmvd (24-hr block avg) 102 lb/hr	9 ppmvd 29 lb/hr	1.4 ppmvd 3 lb/hr	10	Dry Low NO <sub>x</sub> Combustors Natural Gas, Good Combustion

*Averaging Time:* A 24-hour block shall begin at midnight of each operating day and shall be calculated from 24 consecutive hourly average emission rate values. If a unit operates less than 24 hours during the block, the 24-hour block average shall be the average of available valid hourly average emission rate values for the 24-hour block. For purposes of determining compliance with the 24-hour CEMS standards, missing (or excluded) data shall not be substituted. Instead, the 24-hour block average shall be determined using the remaining hourly data in the 24-hour block. CEMS data collected during peaking mode operation shall be excluded from the demonstration of compliance with the NO<sub>x</sub> standards during normal gas firing.

[Applicant Request, Rules 62-210.200 (Definitions-Potential Emissions), and 62-4.070(3), F.A.C.].

51. Compliance Procedures: Compliance with the allowable emission limiting standards shall be determined within 60 days after achieving the maximum production rate at which each unit will be operated, but not later than 180 days following initial operation of the unit in the *peaking mode*, by using the following reference methods as described in 40 CFR 60, Appendix A, and adopted by reference in Chapter 62-204.800, F.A.C.

**AIR CONSTRUCTION PERMIT MODIFICATION 1270009-009-AC AND PSD-FL-270D  
SPECIFIC CONDITIONS**

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The following reference methods shall be used. No other test methods may be used for compliance testing unless prior DEP approval is received in writing.

EPA Reference Method 9, "Visual Determination of the Opacity of Emissions from Stationary Sources."

EPA Reference Method 7, "Determination of Nitrogen Oxides Emissions from Stationary Sources."

Compliance for each pollutant after the initial tests shall be the same as outlined in the original permit 0710002-004-AC issued on 11/25/98.

Testing for peak operation may be carried out on two of the units. The Department will consider testing of two of the units to be representative of all eight units.

[Application; Rules 62-210.200(PTE) and 62-4.070 (3), F.A.C.]

- 52. Title V Permit: This permit authorizes modification of the emissions units and initial operation to determine compliance with Department rules. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]
  
- 53. Expiration Date: The expiration date of original permit No.1270009-004-AC/PSD-FL-270 is extended from December 31, 2003 to July 1, 2004.

CO?  
VOC?  
1270009-004-AC  
F.M. 8/15

B.32.a.  
B.32.f  
B.22.b.  
B.25.b.  
B.26.b.  
CP-213  
CP-313  
B.22.b.  
B.25.b.  
B.26.b.

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City, State, ZIP+4  
Debary, Florida 32713  
PS Form 3800, January 2001 See Reverse for Instructions

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1. Article Addressed to:  
Ms. Roxane Kennedy  
Plant General Manager  
FPL:Sanford Power Plant  
950 South Highway 17-92  
Debary, Florida 32713

**COMPLETE THIS SECTION ON DELIVERY**

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X *Roxane Kennedy*  Agent  Addressee  
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D. Is delivery address different from item 1?  Yes  
If YES, enter delivery address below:  No  
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