

## Department of Environmental Protection

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

David B. Struhs Secretary

June 28, 2002

## CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Joel Y. Kamya President and General Manager DeSoto County Generating Company, LLC 5625 Dillard Drive, Suite 201 Mail Code: XRDS-2 Cary, North Carolina 27511-9227

Re: Request For Extension in Permit Expiration Date
DeSoto County Generating Station Combustion Turbines Units 1 through 3
DEP File No. PSD-FL-284A (0270016-002-AC)

Dear Mr. Kamya:

The Department reviewed your request dated June 13, 2002 to extend the expiration date of the subject air construction permit to December 31, 2004.

Two of three permitted simple cycle units have already been constructed and are in service. According to your letter, the operational date of Unit 3 is delayed unit late in 2004 due to changes in the electrical supply forecasts for the Florida market. Progress Energy (the parent company) inquired about submitting a new application for the unconstructed unit. Instead we agreed it could be handled as an extension with the Department updating conditions on the third unit consistent with more recent permits for similar facilities.

The three units were initially permitted to fire an average of 1000 hours per year per unit. We will reduce the number of hours during which fuel oil may be fired to an average of 833 hours per year per unit upon construction of the third unit. In other words, the new unit will add 500 hours of fuel oil firing at the facility to the 2000 hours of fuel oil firing already allowed for the aggregate of the first two units. This will result in a reduction in the potential to emit because emissions during fuel oil firing are greater than during natural gas firing.

Based on recent testing, we have found that new simple cycle units are consistently achieving lower nitrogen oxides (NO<sub>X</sub>) emissions than 42 ppmvd at 15 percent O<sub>2</sub> while burning fuel oil. We received a letter from General Electric dated May 21, 2002 (prepared for a different applicant) that is adequate to support keeping the present nitrogen oxides limitation while firing fuel oil for this specific permitted project. We have incorporated the information from GE in such a manner to encourage operating the third unit such that NO<sub>X</sub> emissions are minimized while burning fuel oil.

"More Protection, Less Process"

DEP File No. PSD-FL-284A (0270016-002-AC) June 28, 2002 Page 2 of 5

Refer to attached graph. We have only "relative" water-to-fuel (WTF) ratios in terms of percent of full load WTF ratios rather than "physical" ratios in terms of pounds of water per pound of fuel for different loads. We used as a target, the water-to-fuel ratio of 1.2 for the 100 percent base load case. The value was derived from successful testing conducted by GE/EER on FPL Martin simple cycle Unit 8A in mid-2001. At that value and at 100 percent of base load, Martin Unit 8A attained approximately 36 ppmvd NO<sub>X</sub> @15% O<sub>2</sub>.

The Department hereby determines that the request to extend the permit expiration date is acceptable. The relevant permit specific conditions are hereby modified as follows:

PAGE 1, EXPIRATION DATE

Expires: July 1, 2002, December 31, 2004

**SECTION III - CONDITION 13** 

Maximum allowable hours: The three stationary gas turbines shall operate no more than an average of 3,390 hours per unit during any calendar year. The first two stationary gas turbines shall operate no more than an average of 1000 hours per unit on fuel oil during any calendar year. After construction of the third unit, The three stationary gas turbines shall operate no more than an average of 833 hours per unit on fuel oil during any calendar year. No single combustion turbine shall operate more than 5,000 hours in a single year. [Applicant Request, Rule 62-210.200, F.A.C. (Definitions - Potential Emissions), Rule 62-212.400, F.A.C. (BACT)]

### SECTION III - CONDITION 16

A water injection (WI) system shall be installed for use when firing No. 2 or superior grade distillate fuel oil for control of NO<sub>X</sub> emissions. The WI system on the third unit shall be operated to minimize NO<sub>X</sub> emissions within the terms of General Electric's present gas turbine warranty for the project. The Water to Fuel Ratio for the third unit shall equal at least 1.2 pounds of water per pound of fuel at 100 percent of base load. The permittee shall justify any deviations from this requirement to the Department in conjunction with submittal of initial testing required by 40 CFR 60, Subpart GG.

[Design, Rules 62-4.070 and 62-212.400, F.A.C. (BACT), GE letter dated May 21, 2002]

SECTION III - CONDITION 22

Sulfur Dioxide (SO<sub>2</sub>) and Sulfuric Acid Mist (SAM) Emissions: SO<sub>2</sub> and SAM emissions shall be limited by firing pipeline natural gas (sulfur content less than 2 grains per 100 standard cubic foot) or No. 2 distillate fuel oil with a maximum 0.05 percent sulfur for 1000 hours per year per unit if two units are built and 833 hours per year per unit if three units are built. Emissions of SO<sub>2</sub> shall exceed neither 11 lb/hr (natural gas) nor 104 lb/hr (fuel oil). Emissions of sulfuric acid mist shall exceed neither 2 lb/hr (natural gas) nor 16 lb/hr (fuel oil). These emissions shall be measured by applicable compliance methods described below.

[40CFR60 Subpart GG and Rules 62-4.070, 62-212.400, and 62-204.800(7), F.A.C]

DEP File No. PSD-FL-284A (0270016-002-AC) June 28, 2002 Page 3 of 5

A copy of this letter shall be filed with the referenced permit and shall become part of the permit. This permitting decision is issued pursuant to Chapter 403, Florida Statutes.

A person whose substantial interests are affected by the proposed permitting decision may. petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above. Mediation is not available in this proceeding.

DEP File No. PSD-FL-284A (0270016-002-AC) June 28, 2002 Page 4 of 5

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542 F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in Section 120.542(2) F.S., and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

This permitting decision is final and effective on the date filed with the clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition pursuant to Rule 62-110.106, F.A.C., and the petition conforms to the content requirements of Rules 28-106.201 and 28-106.301, F.A.C. Upon timely filing of a petition or a request for extension of time, this order will not be effective until further order of the Department.

Any party to this permitting decision (order) has the right to seek judicial review of it under section 120.68 of the Florida Statutes, by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, 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 must be filed within thirty days after this order is filed with the clerk of the Department.

DEP File No. PSD-FL-284A (0270016-002-AC) June 28, 2002 Page 5 of 5

Executed in Tallahassee, Florida

Howard L. Rhodes, Director Division of Air Resources

wald Shoken

Management

## **CERTIFICATE OF SERVICE**

Joel Y. Kamya\*
J. Michael Kennedy, Progress Energy
Jerry Kissel, SWD-DEP
Chair, DeSoto County BCC
Mayor, Arcadia

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.

Clerk)

July 1, 2002.
(Date)



David J. Balevic Manager – Combustion Design Engineering

## GE Power Generation

Gas Turbine Operation General Electric Company PO Box 648 300 Garlington Road, FD-4 Greenville, SC 29602-0648

Phone: (864)254-3402 or 8\*288-3402 Fax: (864)254-2380 or 8\*288-2380

May 21, 2002

Mr. Scott Churbock Environmental Manager Enron North America 1400 Smith Street Houston, TX 77002

Subject: Water Injection for NO<sub>x</sub> Abatement

Dear Sir,

Industrial gas turbines must provide power generation to maintain reliable electric supply within the US and elsewhere. In addition to reliable operation, which provides grid stability, industrial gas turbine emissions need to be minimized to reduce the environmental impact of operation. GE, through its research and development efforts, has maintained a leadership position in industrial gas turbine emissions and operational reliability, maintainability, and availability. To reduce NO<sub>x</sub> in GE's Dry Low NO<sub>x</sub> combustion systems, water injection is used to suppress combustion system flame temperature while firing liquid fuel. The magnitude of flame temperature suppression is proportional to the rate of water injection and NO<sub>x</sub> reduction. Over suppression of the flame temperature by increasing the water injection rate has been demonstrated to produce the following consequences:

- Elevated combustion dynamics resulting in premature combustion hardware failure, collateral damage to the hot gas path section of the gas turbine, and forced outages measured in weeks.
- · Reduced flame stability at extreme ambient conditions resulting in increased unit trips.
- Less reliable, available gas turbines resulting in lost customer revenue and increased maintenance costs.
- Reduced gas turbine efficiency at base load resulting in increased emissions on a lb/MW basis.
- Out of compliance CO and VOC at part load.

GE's water injection schedule used to achieve 42 ppm NO<sub>x</sub> for liquid fuel is the optimal water injection rate to maintain reliable equipment operation and minimum total plant emissions (NO<sub>x</sub>, CO, VOC).

For these reasons, GE's industrial gas turbine warranty will not cover damage to the gas turbine resulting from operation outside of GE's defined water injection schedule. State permits mandating that owners of GE gas turbines operate outside of GE's defined water injection schedule which achieves 42 ppm NO<sub>x</sub>, risk increased gas turbine forced outages that could reduce grid stability. GE cannot support operation of large industrial gas turbines outside the design and operating envelope due to the damages that have been demonstrated to result from such operation.

Sincerely,

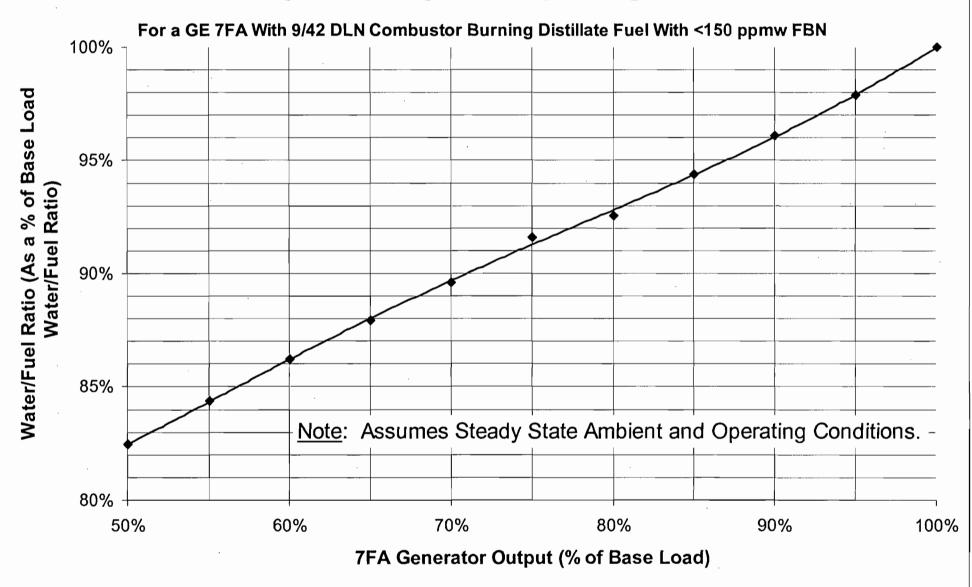
David Balevic

David Balevic

Manager - Combustion Design Engineering

Gas Turbine Product Line Leader

# Water/Fuel Ratio vs Load Assuming a NO<sub>x</sub> Target of 42ppmvd @ 15 vol.% O<sub>2</sub>





## GE Energy and Environmental Research Corporation

RECEIVED

ATTACHMENT A

1 1 1 2002

FLORIDA POWER AND LIGHT COMPANY MARTIN STATION POWER PLANT

SUMMARY OF TECHNICAL EDITS

J. Torosian

Initial Compliance Demonstration for Air Emissions Permit Limits on Units 8A and 8B Combustion Turbine in the Simple Cycle Mode Distillate Oil

## Prepared for:

General Electric Company 1 River Road Building 2, Room 506 Schenectady, New York 12345

## Prepared by:

GE - Energy and Environmental Research Corporation 1001 Aviation Parkway Morrisville, NC 27560 (919) 460-1060

> Issued on July 31, 2001 Attachment prepared January 9, 2002

> > RECEIVED

MAY 0 6 2002

BUREAU OF AIR REGULATION



## GE Energy and Environmental Research Corporation

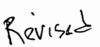
Table 4-5. Emission Summary Table for FP&L, Indiantown, FL - Unit 8A Approximately 100% Base Load Conditions on Distillate Oil -CEMS PARAMETERS

Approximately 100% Bas	se Load Conditions on				
Test Identification					Basicipi, etc.
Test Period		1	2	3	Average
Test Condition	load level, %	100	100	100	340.50
Sampling Location	••	stack	stack	stack	
Date		05-Jun-01	05-Jun-01	05-Jun-01	
Test Time (start-stop)		1235-1335	1435-1540	1855-1955	giri <mark>k w</mark> an asara
Ambient Conditions		# 12 F		ille establis	A Augustia
Barometric Pressure	In. Hg	29.80	29.80	29.80	29.80
Ambient Temperature	۴	91	92	87	90.0
Wet Bulb Temperature	°F	82	80	78	80.0
Absolute Humidity	lb water/lb dry air	0.02166	0.01945	0.01869	0.01993
Turbine Operating Conditions					
Turbine Exhaust Temperature, TTXM	°F	1121.9	1117.5	1110.7	1116.7
Fuel Flow, FQLMI	lb/sec	25.47	25.76	26.28	25.84
Compressor Inlet Temperature, CTIM	°F	85.7	80.9	73.5	80.0
Specific Humidity, CMHUM	lb/lb	0.01796	0.01785	0.01695	0.01758
Inlet Guide Vane Angle, CSGV	degrees	88.0	88.0	88.0	88.0
Generator Output, DWATT	MW	171.8	175.4	179.9	175.7
Compressor Discharge Pressure, CPD	psig	212.7	215.2	218.9	215.6
Water Injection Flow, WQ	lb/sec	31.4	31.8	32.6	31.9
Ratio, Act. NOx Water to Fuel, WXJ		1.23	1.23	1.24	1.23
Ratio, Req. NOx Water to Fuel, WXC		1.21	1.20	1.21	1.21
Exhaust Gas Conditions					<b>%</b>
Volumetric Flow, M-19, F <sub>d</sub>	dscfm	692,590	698,910	712,120	701.210
Volumetric Flow, M-19, F <sub>c</sub>	dscfm	684,890	691,680	703,350	693.310
Moisture	%V	10.2	12.3	12.3	11.6
O <sub>2</sub>	%	12.6	12.6	12.6	12.6
CO <sub>2</sub>	%	6.2	6.3	6.3	6.3
F. Factor		1.332	1.333	1.333	1.332
NO <sub>x</sub>	ppmvd	50.2	51.6	51.6	51.1
Exhaust Emissions					
Sulfur Dioxide	% by Vol, dry @15%O,	0.0007	0.0007	0.0007	0.0007
VOC	ppmvw	0.8	0.5	0.1	0.5
	lb/hr	0.03	0.02	0.003	0.02
СО	ppmvd	0.3	0.6	0.8	0.6
	lb/hr	• 1.0	2.0	2.6	1.9
NO,	ppmvd @ 15% O <sub>2</sub>	35.6	36.5	36.5	36.2
	lb/hr	248.8	258.1	263.1	258.4

FP&L Martin Station Power Plant
Air Emissions Permit Test Report – Units 8A and 8B

Page 16

January & Live



SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul> <li>Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</li> <li>Print your name and address on the reverse so that we can return the card to you.</li> <li>Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>	A Received by (Please Print Clearly)  B. Date of Delivery  7-8-02  C. Signalure  X Agent  Addressee
1. Article Addressed to:	D. Is delivery address different from item 1? ☐ Yes  If YES, enter delivery address below: ☐ No
Mr. Joel Y. Kamya President & General Manager DeSoto County Generating Co., Ll 5625 Dillard Drive, Suite 201	c ( ( ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (
Mail Code: XRDS-2	3. Service Type
Cary, N.C. 27511-9227	☐ Registered ☐ Return Receipt for Merchandise ☐ Insured Mail ☐ C.O.D.
	4. Restricted Delivery? (Extra Fee) ☐ Yes
7001 0320 0001 3692 8390	<u>.</u> .
PS Form 3811, July 1999 Domestic Retu	urn Receipt 102595-00-M-0952

	Ú.S. Postal S CERTIFIED (Domestic Mail O	Service  MAIL RECION  MONTH OF THE CION OF	EIPT Coverage Provided)
8			کنان باغو
<b>д</b>	2545, 2545, 24.2 252		1
먑	Postage	\$	
Э Б	Certified Fee		Postmark
7	Return Receipt Fee (Endorsement Required)		Here
T 0 0 0	Restricted Delivery Fee (Endorsement Required)		
20	Total Postage & Fees	\$	
<u> </u>	Sent To	amva	M · · · l · · · G · · · · ·
7007	Return Receipt Fee (Endorsement Required)  Restricted Delivery Fee (Endorsement Required)  Total Postage & Fees  Sent To  Joel Y. Kamya Mail Cod Street, Apt. No.: or PQ-Box No. City, State, 2/P-1 1 1 and Dr., Ste. 201., XRDS-2		
7			2-01-;
-	Carv. NC	27511 <u>-9227</u>	See Reverse for Instructions

## **DeSoto County Generating Company, LLC**

5625 Dillard Drive

Suite 201

Mail Code: XRDS-2 Cary, NC 27511-9227

June 13, 2002

RECTIVED
JUN 18 2002

BUREAU OF AIR REGULATION

Mr. C. H. Fancy Florida Department of Environmental Protection Bureau of Air Regulation (Mail Station #5505) New Source Review Section 2600 Blair Stone Road Tallahassee, Florida 32399-2400

Attention:

Mr. A. A. Linero, P.E.

Administrator, New Source Review Section

Re:

DeSoto County Generating Company, LLC Request for Extension in Permit Expiration Date DEP File No. 0270016-001-AC (PSD-FL-284)

Dear Mr. Linero:

This letter is to request a change in the expiration date in the current air permit for the DeSoto County Generating Company, LLC plant. The current air permit has an expiration date of July 1, 2002, and we respectfully request that this date be changed to a new date of December 31, 2004.

As discussed with Mr. Michael Kennedy, construction is complete on Units 1 and 2 at the plant site and the first two units are now operational. Construction of a portion of the support equipment for Unit 3 is essentially complete at the site. Those items include the demineralized water tank, the potable water system, the fuel oil tank, the gas metering and regulation station, a portion of the bus work in the switchyard, and the administration/control building. However, work has not yet begun on the foundation, the underground piping/electrical, and permanent hardware required to operate the Unit. The Company has performed studies investigating the feasibility and marketability of the third unit with positive indications but at a later operational date. Even though we currently do not have a contract in place for a turbine/generator specifically for Unit 3, we do have contracts for machines, which may be directed toward DeSoto. A delay in the operational date of Unit 3 until late in 2004 is requested because of changes in the electrical energy supply forecasts for the Florida market.

It is our understanding that this request will not result in any changes in the operating limits for Units 1 and 2, as contained in the current permit. If this is not the situation, please contact Mr. Kennedy to discuss any potential implications for these existing units. In addition, and as requested, we are enclosing NOx emission test data for Units 1 and 2 at the DeSoto plant site for your information and review. Lastly, we have enclosed a check for \$50, pursuant to state Rule 62-4.050(4)(r) 3, for a permit change.

If you have any questions, please feel to contact Mr. Kennedy at (727) 826-4334 or Mr. Calvin Ogburn (919) 362-3585.

Sincerely,

Joel Y. Kamya

President and General Manger

Joel & Kang &

DeSoto County Generating Company, LLC

JYK/pde(02-69ltr.doc)

Enclosures

c: Mr. J. Michael Kennedy

Mr. A. A. Linero

Mr. C. M. Ogburn

Table 1
Unit 1 Exhaust - Natural Gas, 100% Load
Progress Energy - DeSoto County Generating Company, LLC
Arcadia, Florida

Run Identification	1GB1	1GB2	1GB3	Average	Allowable
D. D.	1.43.602	1.43.4502	140 ( 00	,	
Run Date	14May02 10:10	14May02	14May02		
Start Time	11:14	11:44 12:48	13:18		
Stop Time	11.14	12:48	14:22		
Exhaust Gas Conditions					
Oxygen (dry volume %)	13.86	13.84	13.87	13.86	•
Fuel Feed Rate (lb/sec)	20.00	20.00	19.00	19.67	
Fuel HHV (Btu/lb)	22,769	22,769	22,769		٠
Nitrogen Oxides			,		
ppm, dry @ 15% O <sub>2</sub>	7.31	7.35	7.34	7.33	9.0
lb/MMBtu	0.0269	0.0271	0.0271	0.0270	
lb/hr	44.2	44.4	42.2	43.6	64.1
Carbon Monoxide					
ppm, dry @ 15% O <sub>2</sub>	0.23	0.28	0.39	0.30	12.0
lb/MMBtu	0.00053	0.00062.	0.00.087	0.00067	
lb/hr	0.9	1.0	1.3	1.1	42.5
Total Hydrocarbons					
ppm, dry @ 15% O <sub>2</sub>	0.00	0.00	0.02	0.01	1.4
lb/MMBtu	0.00000	0.00000	0.00002	0.00001	
lb/hr	0.00	0.00	0.04	0.01	2.8
Opacity	,	ū			
percent	0.0	0.0	0.0	0.0	10.0
Particulate <u>Matter</u>					
lb/hr	*	*	*	*	10.0
Sulfur Dioxide					÷
Fuel sulfur content (gr/hcf)	0.138	0.138	0.138	0.138	1.00

<sup>\*</sup> Opacity is the surrogate for particulate emissions compliance per the air permit.

Table 2
Unit 1 Exhaust - Fuel Oil, 100% Load
Progress Energy - DeSoto County Generating Company, LLC
Arcadia, Florida

Run Identification	loH1	1oH2	loH3	Average	Allowable
Run Date	18May02	18May02	18May02		
Start Time	9:32	11:02	12:34		
Stop Time	10:36	12:06	13:38		
Exhaust Gas Conditions	•				
Oxygen (dry volume %)	12.80	12.79	12.75	12.78	
Fuel Feed Rate (lb/sec)	26.00	26.00	26.00	26.00	
Fuel HHV (Btu/lb)	19,531	19,531	19,531		
Nitrogen Oxides					
ppm, dry @ 15% O <sub>2</sub>	37.9	38.1	37.9	37:9	42.0
lb/MMBtu	0.1473	0.1482	0.1473	0.1476	
lb/hr	269.3	270.9	269.2	269.8	351.0
Carbon Monoxide					
ppm, dry @ 15% O <sub>2</sub>	0.57	. 0.67	0.89	0.71	20.0
lb/MMBtu	0.00135	0.00158	0.00211	0.00168	
. lb/hr	2.5	2.9	3.9	3.1	71.4
Total Hydrocarbons		•			
, ppm, dry @ 15% O <sub>2</sub>	0.11	0.12.,	0.40	0.21	7.0
lb/MMBtu	0.00015	0.00016	0.00054	0.00028	
lb/hr	0.27	0.29	0.99	0.52	16.2
<u>Opacity</u>	•				
percent	0.0	0.0	0.0	0.0	10.0
Particulate Matter			•		
lb/hr	*	* *	*	*	17.0
Sulfur Dioxide					÷
Fuel sulfur content (%)	0.04	0.04	0.04	0.04	0.05

<sup>\*</sup> Opacity is the surrogate for particulate emissions compliance per the air permit.

Table 3 Unit 2 Exhaust - Natural Gas, 100% Load Progress Energy - DeSoto County Generating Company, LLC Arcadia, Florida

Run Identification	1GB1	1GB2	1GB3	Average	Allowable
Run Date	17May02	17May02	17May02		
Start Time	8:19	9:40	10:56		
Stop Time	9:19	10:40	11:56		
Exhaust Gas Conditions					
Oxygen (dry volume %)	13.60	13.60	13.60	13.60	
Fuel Feed Rate (lb/sec)	20.00	20.00	20.00	20.00	
Fuel HHV (Btu/lb)	22,908	22,908	22,908		
Nitrogen Oxides					
ppm, dry @ 15% O <sub>2</sub>	7.00	7.00	7.20	7.07	9.0
lb/MMBtu	0.0260	0.0260	0.0270	0.0263	
lb/hr	42.9	42.9	44.5.	43.4	64.1
Carbon Monoxide					
ppm, dry @ 15% O <sub>2</sub>	0.40	0.30	0.20	0.30	12.0
lb/MMBtu	0.00100	. 0.00100.	0.00000	0.00067	
lb/hr	1.6	. 1.6	0.0	1.1	42.5
Total Hydrocarbons					
ppm, dry @ 15% O <sub>2</sub>	0.30	0.30	0.40	0.33	1.4
lb/MMBtu	0.00100	0.00100	0.00100	0.00100	
lb/hr	1.65	1.65	1.65	1.65	2.8
Opacity			•		
percent	0.0	0.0	0.0	. 0.00	10.0
Particulate Matter					•
lb/hr	* .	*	*	*	10.0
Sulfur Dioxide					
Fuel sulfur content (gr/hcf)	0.133	0.133	0.133	0.133	1.00

<sup>\*</sup> Opacity is the surrogate for particulate emissions compliance per the air permit.

Table 4
Unit 2 Exhaust - Fuel Oil, 100% Load
Progress Energy - DeSoto County Generating Company, LLC
Arcadia, Florida

Run Identification	loH1	1oH2	loH3	Average	Allowable
Run Date	18May02	18May02	18May02		
Start Time	9:33	12:58	14:40		
Stop Time	10:33	13:58	15:40		
Exhaust Gas Conditions					
Oxygen (dry volume %)	12.48	12.52	12.52	12.51	
Fuel Feed Rate (lb/sec)	26.00	26.00	26.00	26.00	
Fuel HHV (Btu/lb)	19,520	19,520	19,520		
Nitrogen Oxides					
ppm, dry @ 15% O <sub>2</sub>	37.6	37.9	37.9	37.8	42.0
lb/MMBtu	0.1460	0.1470	0.1470	0.1467	
lb/hr	266.8	268.6	268.6	268.0	351.0
Carbon Monoxide					
ppm, dry @ 15% O <sub>2</sub>	0.60	0.40	0.40	0.47	20.0
lb/MMBtu	0.00100	0.00100	0.00100	0.00100	
lb/hr .	1.8	1.8	1.8	1.8 .	71.4
Total Hydrocarbons			•		
ppm, dry @ 15% O <sub>2</sub>	0.40	0.30	0.20	0.30 . ,	7.0
lb/MMBtu	0.00100	0.00100	0.00100	0.00100	
lb/hr	1.83	1.83	1.83	1.83	16.2
<u>Opacity</u>					
percent	0.0	0.0	0.0	0.0	10.0
Particulate Matter					
lb/hr	*	*	*	* .	17.0
Sulfur Dioxide					•
Fuel sulfur content (%)	0.04	0.04	0.04	0.04	0.05

<sup>\*</sup> Opacity is the surrogate for particulate emissions compliance per the air permit.

FLENVPI Ref Nbr	OFT F1 Dept of Environment Invoice Nbr	onmental Prot Invc Date	DeSo Invoice Amount	to County Generating Amount Paid	Co., LLC Disc Taken	06/13/2002 Net Check Amt
002949	File0270016-001	06/13/02	50.00	50.00	0.00	50.00
:						·
	•					
			•			
		• •			. "	
				·		·
		[	•			
				-		
	,					
	. 19 <u></u>					

004589

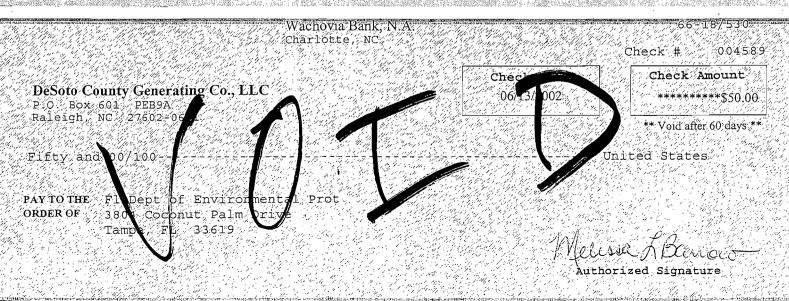
FLENVPDFT	Fl Dept of	Environmental Prot

DeSoto County Generating Co., LLC

06/13/2002

	Ref Nbr	Invoice Nbr	Invc Date	Invoice Amount	Amount Paid	Disc Taken	Net Check Amt	 T
. i . i . j	002949	File0270016-001	06/13/02	50.00	5000		50.00	
D)								
				1 (4) (4) (4) (4) (4) (4) (4) (4) (4) (4)				 :-
							Asstu	

004589



## **DeSoto County Generating Company, LLC**

5625 Dillard Drive Suite 201 Mail Code: XRDS-2 Cary, NC 27511-9227

June 13, 2002

RECEIVED

JUN 1 4 2002

**BUREAU OF AIR REGULATION** 

Mr. C. H. Fancy Florida Department of Environmental Protection Bureau of Air Regulation (Mail Station #5505) New Source Review Section 2600 Blair Stone Road Tallahassee, Florida 32399-2400

Attention: Mr. A. A. Linero, P.E.

Administrator, New Source Review Section

Re: DeSoto County Generating Company, LLC

Request for Extension in Permit Expiration Date DEP File No. 0270016-001-AC (PSD-FL-284)

Dear Mr. Linero:

This letter is to request a change in the expiration date in the current air permit for the DeSoto County Generating Company, LLC plant. The current air permit has an expiration date of July 1, 2002, and we respectfully request that this date be changed to a new date of December 31, 2004.

As discussed with Mr. Michael Kennedy, construction is complete on Units 1 and 2 at the plant site and the first two units are now operational. Construction of a portion of the support equipment for Unit 3 is essentially complete at the site. Those items include the demineralized water tank, the potable water system, the fuel oil tank, the gas metering and regulation station, a portion of the bus work in the switchyard, and the administration/control building. However, work has not yet begun on the foundation, the underground piping/electrical, and permanent hardware required to operate the Unit. The Company has performed studies investigating the feasibility and marketability of the third unit with positive indications but at a later operational date. Even though we currently do not have a contract in place for a turbine/generator specifically for Unit 3, we do have contracts for machines, which may be directed toward DeSoto. A delay in the operational date of Unit 3 until late in 2004 is requested because of changes in the electrical energy supply forecasts for the Florida market.

It is our understanding that this request will not result in any changes in the operating limits for Units 1 and 2, as contained in the current permit. If this is not the situation, please contact Mr. Kennedy to discuss any potential implications for these existing units. In addition, and as requested, we are enclosing NOx emission test data for Units 1 and 2 at the DeSoto plant site for your information and review. Lastly, we have enclosed a check for \$50, pursuant to state Rule 62-4.050(4)(r) 3, for a permit change.

If you have any questions, please feel to contact Mr. Kennedy at (727) 826-4334 or Mr. Calvin Ogburn (919) 362-3585.

Sincerely,

Joel Y Kamya

President and General Manger

DeSoto County Generating Company, LLC

JYK/pde(02-69ltr.doc)

**Enclosures** 

c: Mr. J. Michael Kennedy

Mr. A. A. Linero

Mr. C. M. Ogburn

Table 1
Unit 1 Exhaust - Natural Gas, 100% Load
Progress Energy - DeSoto County Generating Company, LLC
Arcadia, Florida

Run Identification	1GB1	1GB2	1GB3	Average	Allowable
Run Date	14May02	14May02	14May02		
Start Time	10:10	141v1ay02 11:44	13:18		
Stop Time	11:14	12:48	14:22		
Stop Time	11.14	12.40	14.22		
Exhaust Gas Conditions					
Oxygen (dry volume %)	13.86	13.84	13.87	13.86	
Fuel Feed Rate (lb/sec)	20.00	20.00	19.00	19.67	
Fuel HHV (Btu/lb)	22,769	22,769	22,769		
Nitrogen Oxides			•		
ppm, dry @ 15% O <sub>2</sub>	7.31	7.35	7.34	7.33	9.0
lb/MMBtu	0.0269	0.0271	0.0271	0.0270	
lb/hr	44.2	44.4	42.2	43.6	64.1
Carbon Monoxide	-				
ppm, dry @ 15% O <sub>2</sub>	0.23	0.28	0.39	0.30	12.0
lb/MMBtu	0.00053	0.00062	0.00.087	0.00067	
lb/hr	0.9	1.0	1.3	1.1	42.5
Total Hydrocarbons			• 4		
ppm, dry @ 15% O <sub>2</sub>	0.00	0.00	0.02	0.01	1.4
lb/MMBtu	0.00000	0.00000	0.00002	0.00001	
lb/hr	0.00	0.00	0.04	0.01	2.8
Opacity			~ ^		
percent	0.0	0.0	0.0 .	0.0	10.0
Particulate Matter					
lb/hr	*	*	*	*	10.0
Sulfur Dioxide	•	•			
Fuel sulfur content (gr/hcf)	0.138	0.138	0.138	0.138	1.00

<sup>\*</sup> Opacity is the surrogate for particulate emissions compliance per the air permit.

Table 2
Unit 1 Exhaust - Fuel Oil, 100% Load
Progress Energy - DeSoto County Generating Company, LLC
Arcadia, Florida

Run Identification	loH1	loH2	1oH3	Average	Allowable
Run Date	18May02	18May02	18May02		
Start Time	9:32	11:02	12:34		
Stop Time	10:36	12:06	13:38		
Exhaust Gas Conditions					
Oxygen (dry volume %)	12.80	12.79	12.75	12.78	
Fuel Feed Rate (lb/sec)	26.00	26.00	26.00	26.00	-
Fuel HHV (Btu/lb)	19,531	19,531	19,531		
Nitrogen Oxides					
ppm, dry @ 15% O <sub>2</sub>	37.9	38.1	37.9	37:9	42.0
lb/MMBtu	0.1473	0.1482	0.1473	0.1476	
lb/hr	269.3	270.9	269.2	269.8	351.0
Carbon Monoxide					
ppm, dry @ 15% O <sub>2</sub>	0.57	0.67	0.89	0.71	20.0
lb/MMBtu	0.00135	0.00158	0.00211	0.00168	
. lb/hr	2.5	2.9	3.9	3.1	71.4
Total Hydrocarbons		•			
, ppm, dry @ 15% O <sub>2</sub>	0.11	0.12.,	0.40	0.21	7.0
lb/MMBtu	0.00015	0.00016	0.00054	0.00028	
lb/hr	0.27	0.29	0.99	0.52	16.2
Opacity	·.				
percent	0.0	0.0	0.0	0.0	10.0
Particulate Matter					
lb/hr	*	*	*	*	17.0
Sulfur Dioxide				•	,
Fuel sulfur content (%)	0.04	0.04	0.04	0.04	0.05

<sup>\*</sup> Opacity is the surrogate for particulate emissions compliance per the air permit.

Table 3
Unit 2 Exhaust - Natural Gas, 100% Load
Progress Energy - DeSoto County Generating Company, LLC
Arcadia, Florida

Run Identification	1GB1	1GB2	1GB3	Average	Allowable
Run Date	17May02	17May02	17May02		
Start Time	8:19	9:40	10:56		
Stop Time	9:19	10:40	11:56		
Exhaust Gas Conditions					
Oxygen (dry volume %)	13.60	13.60	13.60	13.60	
Fuel Feed Rate (lb/sec)	20.00	20.00	20.00	20.00	
Fuel HHV (Btu/lb)	22,908	22,908	22,908		1
Nitrogen Oxides					
ppm, dry @ 15% $\mathrm{O_2}$	7.00	7.00	7.20	7.07	9.0
lb/MMBtu	0.0260	0.0260	0.0270	0.0263	
lb/hr	42.9	42.9	44.5	43.4	64.1
Carbon Monoxide			•		
ppm, dry @ $15\% O_2$	0.40	0.30	0:20	0.30	12.0
lb/MMBtu	0.00100	. 0.00100	0.00000	0.00067	
lb/hr	1.6	. 1.6	0.0	1.1	42.5
Total Hydrocarbons		• •	•		
ppm, dry @ 15% O <sub>2</sub>	0.30	0.30	0.40	0.33	1.4
lb/MMBtu	0.00100	0.00100	0.00100	0.00100	
lb/hr	1.65	1.65	1.65 `	1.65	2.8
Opacity			•		
percent	0.0	0.0	0.0	0.00	10.0
Particulate Matter					
lb/hr	*	*	. *	*	10.0
Sulfur Dioxide	•		•		
Fuel sulfur content (gr/hcf)	0.133	0.133	0.133	0.133	1.00

<sup>\*</sup> Opacity is the surrogate for particulate emissions compliance per the air permit.

Table 4
Unit 2 Exhaust - Fuel Oil, 100% Load
Progress Energy - DeSoto County Generating Company, LLC
Arcadia, Florida

Run Identification	1oH1	loH2	1oH3	Average	Allowable
Run Date	18May02	18May02	18May02		
Start Time	9:33	12:58	14:40		
Stop Time	10:33	13:58	15:40		
Exhaust Gas Conditions	-				
Oxygen (dry volume %)	12.48	12.52	12.52	12.51	
Fuel Feed Rate (lb/sec)	26.00	26.00	26.00	26.00	
Fuel HHV (Btu/lb)	19,520	19,520	19,520	,	
Nitrogen Oxides					
ppm, dry @ 15% O <sub>2</sub>	37.6	37.9	37.9	37.8	42.0
lb/MMBtu	0.1460	0.1470	0.1470	0.1467	
lb/hr	266.8	268.6	268.6	268.0	351.0
Carbon Monoxide					
ppm, dry @ 15% O <sub>2</sub>	0.60	0.40	0.40	0.47	20.0
lb/MMBtu	0.00100	0.00100	0.00100	0.00100	
lb/hr .	1.8	1.8	1.8	1.8 .	71.4
Total Hydrocarbons				,	
ppm, dry @ 15% O <sub>2</sub>	0.40	0.30	0.20	0.30 .,	7.0
lb/MMBtu	0.00100	0.00100	0.00100	0.00100	
lb/hr	1.83	1.83	1.83	1.83 ·	16.2
<u>Opacity</u>					
percent .	0.0	0.0	0.0	0.0	10.0
Particulate Matter				,	
lb/hr	. *	*	*	* .	17.0
Sulfur Dioxide					
Fuel sulfur content (%)	0.04	0.04	0.04	0.04	0.05

<sup>\*</sup> Opacity is the surrogate for particulate emissions compliance per the air permit.

SENDER: COMPLETE THIS SECTION	C	COMPLETE THIS SECTION ON DELIVERY				
<ul> <li>Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</li> <li>Print your name and address on the reverse so that we can return the card to you.</li> <li>Attach this card to the back of the mailpiece, or on the front if space permits.</li> <li>Article Addressed to:</li> <li>Mr. Joel Y. Kamya</li> <li>President &amp; General Manager</li> <li>DeSoto County Generating Co.,</li> </ul>		A Received by (Please Print Clearly)  B. Date of Del 7—8—  C. Signalure  X				
5625 Dillard Drive, Suit Mail Code: XRDS-2 Cary, N.C. 27511-9227	3	Service Type Certified Mail Registered Insured Mail Restricted Deliver	☐ C.O.D.	il eipt for Merchandise		
7001 (0320) 0001 (3692	! <u>  8</u> 390			: 1		
PS Form 3811, July 1999	Domestic Return	Receipt		102595-00-M-0952		

