

# Hopping Green & Sams

Attorneys and Counselors

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June 4, 2012

## BY HAND DELIVERY

Ann Cole  
Director, Office of the Commission Clerk  
Florida Public Service Commission  
2540 Shumard Oak Boulevard  
Tallahassee, FL 32399-0850

RECEIVED--FPSC  
12 JUN -4, PM 4:45  
COMMISSION  
CLERK

Re: Docket No. 120103-EI  
Notice of Service of Discovery Responses

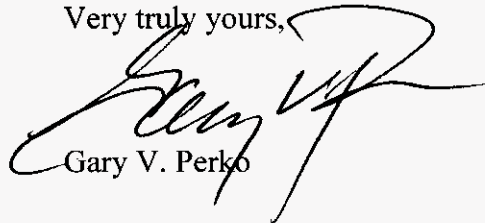
Dear Ms. Cole:

On May 30, 2012, Progress Energy Florida, Inc. filed its Response to the Staff's First Set of Interrogatories (Nos. 1-8). PEF inadvertently omitted page 6 from the redacted version of its response. Therefore, enclosed for filing is a corrected copy of the response. I have also included, for reference purposes, a copy of Progress Energy Florida, Inc.'s Response to Staff's First Request for Production of Documents (Nos. 1-4), that describes the documents filed with the Request for Confidential Classification on May 30, 2012.

By copy of this letter, the responses have been furnished to all parties of record.

If you have any questions regarding this notice, please give me a call at 425-2359.

Very truly yours,



Gary V. Perko

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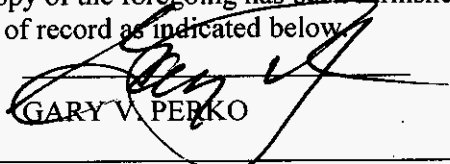
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GVP/dg  
Enclosures  
cc: Certificate of Service

[CLK Note: Interrogats  
& PODs forwarded  
to GCL.]  
#mckean

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**CERTIFICATE OF SERVICE**

I HEREBY CERTIFY that a true and correct copy of the foregoing has been furnished via hand-delivery this 4<sup>th</sup> day of June, 2012 to all parties of record as indicated below.

  
GARY V. PERKO

<p>Charles Murphy, Esq. Office of General Counsel Florida Public Service Commission 2540 Shumard Oak Blvd. Tallahassee, FL 32399-0850 <a href="mailto:cmurphy@psc.state.fl.us">cmurphy@psc.state.fl.us</a></p>	
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**REDACTED**

In re: Petition of Progress Energy Florida, Inc. to modify scope of existing environmental program.

DOCKET NO. 120103-EI

DATED: MAY 30, 2012

**PROGRESS ENERGY FLORIDA'S RESPONSE TO STAFF'S  
FIRST SET OF INTERROGATORIES (NOS. 1-8)**

PROGRESS ENERGY FLORIDA, INC. ("PEF"), pursuant to Rule 28-106.206, Florida Administrative Code, Rule 1.340, Florida Rules of Civil Procedure, and the Order Establishing Procedure in this matter, hereby responds to Staff's First Set of Interrogatories (Nos. 1-8):

**RESPONSES**

The following questions relate to PEF's March 29, 2012 Petition to Modify Scope of Existing Environmental Program.

1. In Paragraph 6 it is stated that the MATS rule "potentially" will apply to Anclote units 1 and 2. In Paragraph 7 it is stated that the Anclote "units would be subject to the new MATS for oil-fired EGUs." Please reconcile these two statements.

**PEF Response:** The intent of both paragraphs is to simply indicate that the Anclote units would be subject to the new MATS in their current configuration as defined by EPA for oil-fired units because they must fire oil to achieve 100% capacity. As explained in the Petition, however, PEF's compliance strategy is to convert the units to fire 100% natural gas so that they would be classified as natural gas-fired units and not be required to install emission controls to meet the MATS for oil-fired units.

2. Referring to Paragraph 8:

- a. Please identify when these analyses were initiated by the Company.

**PEF Response:** Analyses leading to the final decisions were initiated in the fourth quarter of 2011.

- b. Please identify when these analyses were finalized by the Company.

**PEF Response:** These analyses were finalized in February 2012.

- c. Please identify when these analyses were first presented to senior management.

DOCUMENT NO. DATE

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**PEF Response:** These analyses were first presented to senior management on January 20, 2012.

- d. **Please identify when the conversion option was approved by senior management.**

**PEF Response:** The conversion option was approved by senior management on March 26, 2012.

- e. **Please describe the "unit performance implications" associated with each of the options analyzed.**

**PEF Response:** There were a number of ways in which the unit with gas conversion would perform differently from the unit with environmental controls. Two significant examples are that operation on gas results in a slightly higher heat rate and that the gas conversion eliminates the need for certain auxiliary loads required for the oil operation (oil heating and oil circulating pumps). The effects of these differences were accounted for when projecting the performance of the unit in each case.

- f. **Referring to the third option considered but rejected, please describe this option's "negative effect on fleet capacity and the resulting requirement to purchase or construct additional generation."**

**PEF Response:** The two Anclote units provide 1,011 MW of summer capacity on the PEF system. If the units were simply retired, the bulk of this capacity would need to be replaced with newly constructed or purchased generation in order to maintain reliable available capacity. There was also significant concern regarding the existing uncertainty around the final MATS compliance plans for other affected PEF units, especially Crystal River Units 1 and 2. In addition, because of the proximity of the Anclote Units to the Pinellas County load area, retirement of these units would result in the need for additional transmission system upgrades. Given these factors and the relatively low cost of the other two unit modification alternatives, it was concluded that retirement and replacement of the Anclote units in the near term was not a cost effective solution to MATS compliance.

- g. **Is the referenced \$12 million in 2012 dollars? Please clarify.**

**PEF Response:** No. The referenced dollars are nominal dollars. However, all the referenced spending is in 2012 or 2013, so the difference is minimal.

- h. **Please describe the results of the analysis of the fuel cost differential of the two options considered, including the net impact on system fuel costs.**

**PEF Response:** The results of the analysis showed that the Anclote units are projected to save approximately \$57 million (nominal) in fuel costs over the period 2013 – 2018 due to the displacement of residual oil with less expensive natural gas. However, the impact on overall system fuel costs was much larger. The opportunity to operate the Anclote units more efficiently reduces the need to operate other units which are either less efficient, or had been projected to operate in less efficient ways (e.g. at partial loads or making extra starts). This is particularly noticeable in operation of simple cycle combustion turbines, both owned and contracted via Purchase Power Agreement (PPA). The cumulative impact of these changes across the fleet leads to a projected fuel savings of more than \$250 million (nominal) during that period.

3. Referring to Paragraph 10, please provide a break down of the yearly amounts shown, by work performed.

**PEF Response:**

Description	2012	2013	2014	NA	Total Forecast
Equipment	14.8	14.9	0.0		29.7
M&R station	█	█	█		█
Construction	█	█	█		█
Owner cost	1.5	2.2	0.7		4.4
<b>Direct Total</b>	█	█	█	█	█
Burdens	0.3	0.4	0.2		0.9
AFUDC	█	█			█
<b>Total Project Forecast Cost (\$ in M)</b>	<b>\$25.6</b>	<b>\$51.8</b>	<b>\$1.9</b>	<b>\$0.0</b>	<b>\$79.3</b>

4. Please identify any compliance alternatives analyses, analogous to those performed for the Anclote units, that have been performed or are in progress for Crystal River Units, 1, 2, 4, and 5, and Suwannee Units 1, 2, and 3.

**PEF Response:** Analyses for the other MATS affected units listed here are ongoing and have not yet been finalized. Data to identify specific solutions and costs are still being gathered and reviewed. In general, the three Suwannee Steam Units are currently capable of reaching full capacity on 100% natural gas fuel. Evaluations are being considered to identify the long term impacts of operation in this mode, and whether modification to the units are required to maintain reliable operation in this configuration. Evaluations

regarding Crystal River Units 1 and 2 are focused on the feasibility, cost and constructability of environmental controls on the units relative to alternative power options, and the cost and system impacts of those options. Crystal River Units 4 and 5 have demonstrated emissions in compliance with the future requirements. Ongoing evaluations of these units are focused on potential modifications necessary to maintain continuous compliance in accordance with the specific monitoring and averaging requirements of the MATS rule.

5. **Since the Crystal River coal units and the Suwannee units presumably are also subject to the MATS rule, please explain why the Company chose the Anclote units as the first units for which to pursue a MATS compliance option.**

**PEF Response:** Compliance options for all affected units are under way and have been ongoing throughout the MATS rule development and finalization process. Early evaluations of the Anclote units identified that with persistently low near term gas prices relative to residual oil prices, there was an opportunity to move forward with a conversion that would cause minimal disruption to fleet reliability (short outage periods), meet environmental compliance objectives, and produce a concomitant fuel savings for PEF customers.

Because of the intricacies of the compliance rules for coal fired power plants and the fact that many important details of these rules changed from the proposed rule to the final rule, evaluations of the options for the four coal fired units are more complex. In the case of Suwannee, the units are already able to operate in compliance on 100% natural gas, thus capturing the fuel savings value to customers in current operation. The ongoing evaluations are intended to identify projects necessary to ensure safe and reliable operation in this configuration over a long period.

6. **Please identify what types of emission control devices are currently in place at the Crystal River coal units and the Suwannee units. Please also identify separately any planned emission control devices to be installed for these units.**

**PEF Response:**

Unit	Current Emission Control Devices ( May 2012)	Planned Emission Control Devices
Crystal River 1	Electrostatic Precipitator Low NOx Burners	None
Crystal River 2	Electrostatic Precipitator Low NOx Burners	None
Crystal River 4	Electrostatic Precipitator Low NOx Burners Selective Catalytic Reduction Flue gas desulfurization	None
Crystal River 5	Electrostatic Precipitator Low NOx Burners Selective Catalytic Reduction Flue gas desulfurization	None
Suwannee Steam 1	None	None
Suwannee Steam 2	None	None
Suwannee Steam 3	None	None

7. **Please identify any projects known to the Company involving the recovery through the ECRC of the costs of a generating unit conversion.**

**PEF Response:** PEF is not aware of any instances in which Florida utilities have pursued an environmental compliance strategy involving a fuel conversion. However, the Commission consistently has allowed utilities to recover costs incurred in complying with numerous air pollution regulations similar to MATS. For purposes of ECRC cost recovery, the conversion proposed by PEF in this case is no different than the installation of emission controls insofar as the costs of the conversion are being incurred in complying with a new environmental regulation. As such, the costs are eligible for recovery under the ECRC, section 366.8255, F.S..

As the Commission has previously recognized: “[F]rom the beginning of our administration of section 366.8255, we have applied the statute on a case-by-case basis, not formalistically, but with enough flexibility to respond reasonably to complex and variable circumstances. This approach is consistent with the broad language of the statute, which provides that we *shall* allow recovery of prudently incurred environmental compliance costs . . . .” See Order No. PSC-07-0722-FOF-EI, at p. 5 (Sep. 5, 2007). Moreover, the Commission repeatedly has stated that “[u]tilities are expected to take steps to control the level of costs that must be incurred for environmental compliance.” See e.g., Order No. Order No. PSC-08-0775-FOF-EI (Nov. 24, 2008). Consistent with

this longstanding policy, PEF has developed an innovative compliance strategy that will benefit the ratepayers by avoiding the need to install more-expensive emission controls while at the same time producing fuel costs savings.

8. In PEF's response to staff's data request question number 26 in the 2011 10-year site plan review, PEF identified Anclote as a possible candidate for repowering with combined cycle technology. A similar question was asked and answered during the 2010 10-year site plan review (see question numbers 17 and 18 from 2010). A review of PEF's A-4 schedules for Anclote's capacity factors and heat rates for the past few years indicates Anclote was often dispatched less than 30 percent of its capabilities and achieved a heat rate between 13,000 and 14,000 Btus per kwh.
- a. Please state the estimated annual fuel savings for the period 2016-2026 associated with PEF's proposed 100% natural gas direct boiler fired option, and state the projected annual capacity factors and heat rates.

**PEF Response:** Because the Anclote units are candidates for potential repower as identified above, PEF analyzed the fuel savings over the period 2013 – 2018, demonstrating that the project would produce savings even if a repower were selected as a project in the late part of the decade. No analysis of the period 2016 – 2026 was performed, but given the savings demonstrated for the time period PEF did analyze, and based on current information, PEF would expect there to be additional fuel savings for the 2016-2026 period. PEF's analysis for the period 2013 – 2018 showed a projected savings of approximately \$268 million in total nominal dollars. The table below shows the projected annual capacity factors and heat rates.

	Anclote #1		Anclote #2		System Fuel Savings \$,000
	Capacity Factor %	Heat Rate Btu/KWh	Capacity Factor %	Heat Rate Btu/KWh	
2013	28.4	11,228	29.6	10,802	14,868
2014	29.7	11,196	39.1	10,735	45,326
2015	23.3	11,372	30.8	10,886	35,323
2016	25.8	11,256	35.5	10,822	55,115
2017	26.4	11,267	36.1	10,815	54,192
2018	26.9	11,241	36.2	10,808	63,629



- b. **Please describe any analysis that supports the data provided in response to question 8.a.**

**PEF Response:** Production costs and operating characteristics including fuel consumption, heat rates and capacity factors were modeled using the Prosym® production cost modeling tool. Two cases were modeled: one in which the units were dispatched utilizing the current mix of natural gas and oil firing and a second in which the units were dispatched utilizing 100% natural gas fuel. The model calculated for each case how the unit would be dispatched within the system in combination with the other units in PEF's fleet. A differential between the two cases was calculated to demonstrate the impact of the change in fuel capability on operation of the Anclote units as well as other units in the fleet.

- c. **Please state the estimated annual fuel savings for the period 2016-2026 associated with an equivalently sized combined cycle facility at Anclote rather than PEF's proposed 100% natural gas direct boiler fired option. Include in your response the projected annual capacity factors and heat rates.**

**PEF Response:** The analysis for this project compared the operation and costs of the PEF fleet in the case that the Anclote units were dispatched on 100% natural gas fuel to the case that the Anclote units were dispatched on their current mix of natural gas and residual oil assuming that the necessary environmental controls had been installed, evaluated over the period 2013 – 2018 as described above. It would not be feasible to construct a combined cycle for a 2015 in-service date for MATS compliance.

- d. **Please describe any analysis that supports the data provided in response to question 8.c.**

**PEF Response:** No analysis was performed.

DATED this 30<sup>th</sup> day of May, 2012.

HOPPING GREEN & SAMS, P.A.

By: 

Gary V. Perko (Fla. Bar No. 855898)

P.O. Box 6526

Tallahassee, FL 32301

(850) 222-7500

Attorneys for Progress Energy Florida, Inc.

**AFFIDAVIT**

(STATE OF FLORIDA

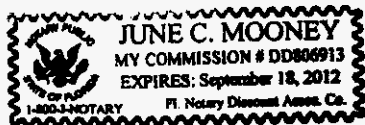
COUNTY OF PINELLAS)

I hereby certify that on this 29<sup>th</sup> day of May, 2012, before me, an officer duly authorized in the State and County aforesaid to take acknowledgments, personally appeared PATRICIA Q. WEST, who is personally known to me, and she acknowledged before me that she provided the answers to interrogatory number(s) 1 and 6 from STAFF'S FIRST SET OF INTERROGATORIES TO PROGRESS ENERGY FLORIDA (NOS. 1 - 8) in Docket No. 120103-EI, and that the responses are true and correct based on her personal knowledge.

In Witness Whereof, I have hereunto set my hand and seal in the State and County aforesaid as of this 29<sup>th</sup> day of May, 2012.

Patricia Q. West  
Patricia Q. West

June C. Mooney  
Notary Public  
State of Florida



My Commission Expires:

September 18, 2012

**AFFIDAVIT**

(STATE OF FLORIDA

COUNTY OF Piellas)

I hereby certify that on this 30<sup>th</sup> day of May, 2012, before me, an officer duly authorized in the State and County aforesaid to take acknowledgments, personally appeared GEOFF FOSTER, who is personally known to me, and he acknowledged before me that he provided the answers to interrogatory number(s) 7 from STAFF's FIRST SET OF INTERROGATORIES TO PROGRESS ENERGY FLORIDA, INC. (NOS. 1 - 8) in Docket No. 120103-EI, and that the responses are true and correct based on his personal knowledge.

In Witness Whereof, I have hereunto set my hand and seal in the State and County aforesaid as of this 30<sup>th</sup> day of May, 2012.

Geoff Foster  
Geoff Foster



Suzanne H. Miller  
Notary Public  
State of Florida

My Commission Expires:

3/27/13

**REDACTED**

In re: Petition of Progress Energy Florida, Inc. to modify scope of existing environmental program. | DOCKET NO. 120103-EI  
DATED: MAY 30, 2012

**PROGRESS ENERGY FLORIDA'S RESPONSES TO STAFF'S  
FIRST REQUEST FOR PRODUCTION OF DOCUMENTS (NOS. 1-4)**

Pursuant to Rule 28-106.206, Florida Administrative Code, and Rule 1.350, Florida Rules of Civil Procedure, PROGRESS ENERGY FLORIDA, INC. (PEF) hereby responds to Staff's First Request for Production of Documents (Nos. 1-4).

**RESPONSES**

1. Referring to Paragraph 8 of the Petition, please provide all work papers and supporting documents associated with each of the two compliance alternatives considered by the Company.

**Response:** Please see the documents listed below and enclosed with this response.

1. Estimate of cost for ESP (Est #112 Anclote U1u2 ESP 2014\_BB.pdf)
2. Estimate of cost for Low NOx burners (Short Form Nox Reduction Estimate Spring 2014\_LJTU.pdf)
3. Estimate of capital costs for Natural Gas Conversion (Est # 190 U1 Gas Burner AdditionsRev3.pdf)
4. Estimate of capital cost & revenue requirements for Natural Gas Conversion (Anclote Gas Conversion Capital Costs\_Jan2012.pdf)
5. January Presentation to Management (Anclote\_Conversion\_IPP\_Rev 0\_2011\_final MS com.pdf)
6. March Presentation to Management (Anclote\_Conversion\_IPP\_Rev 1\_March 2012\_final.pdf)
7. Production Cost Results for Gas Conversion Case (PEF Anclote Gas Mix IO (Conversion).pdf)
8. Production Cost Results for No Conversion Case (PEF Anclote Gas Mix IO (No Conversion).pdf)
9. Analysis of Results and Cost Impact
10. 2009 Engineering Study (Sirois Engineering Report Rev 1.pdf)
11. Internal Summary and Update of Engineering Study (Anclote Engineering Study Update 09.26.2011.pdf)
12. 2012 Engineering Study (Anclote Phase 1 Report FINAL REVISION 3-20-12.pdf)
13. Updates to 2012 Engineering Study (PE Anclote 2 Final Revised Report 3-25-09.pdf)
14. Appendices to 2012 Engineering Study (all\_appendix\_sheets Final R1.pdf)
15. Estimate of capital costs for Natural Gas Conversion (Est # 190 U1 Gas Burner AdditionsRev4.pdf)

DOCUMENT NO.      DATE

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2. **Referring to Paragraph 8 of the Petition, please provide all work papers and supporting documents associated with the fuel cost differential analysis.**

**Response:** Please see items 6, 7, and 8 in response to Request No. 1 above.

3. **Referring to Paragraph 9 of the Petition, please provide the "preliminary studies" and analyses performed to identify the components to be upgraded or replaced.**

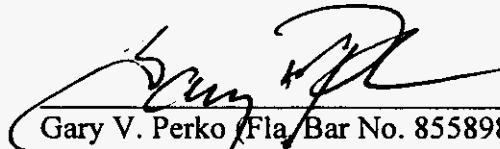
**Response:** Please see items 10 through 14 in response to Request No. 1 above.

4. **Please provide all analyses identified in response to Interrogatory No. 4.**

**Response:** Please refer to PEF's response to Staff's First Set of Interrogatories No. 4. At this time, there are no completed studies or analyses that are responsive to this request.

DATED this 30<sup>th</sup> day of May, 2012.

HOPPING GREEN & SAMS, P.A.



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