

ORIGINAL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET No. 070290-EI

In re: Petition of Progress Energy Florida, Inc.  
to increase base rates to recover the full revenue requirements of the Hines Unit 2  
and Unit 4 power plants pursuant to Commission Order No. PSC-05-0945-S-EI.

**DIRECT TESTIMONY OF  
GARY FURMAN**

April 30, 2007

1 **Q. Please state your name and business address.**

2 A. My name is Gary Furman. My business address is 3300 Exchange Place,  
3 Lake Mary, Florida.

4  
5 **Q. By whom are you employed and in what capacity?**

6 A. I am employed by Progress Energy Florida, Inc. ("PEF") as Manager,  
7 Transmission Engineering, in the Transmission Department.

8  
9 **Q. What are your responsibilities and duties as Director, Project  
10 Engineering?**

11 A. As Manager, Transmission Line Engineering, for PEF's Transmission  
12 Operations and Planning Department, I oversee the design, engineering and  
13 construction of PEF's transmission facilities, including the siting, design,  
14 engineering, land right acquisition, and construction of the Hines-West Lake

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1 Wales transmission facilities necessary to support the Hines Unit 4 power  
2 plant. Prior to becoming Manager, I have held a number of engineering and  
3 management positions in the electric utility industry and have worked in  
4 PEF's Transmission Department since joining the company in 2003.

5

6 **Q. What is your educational background?**

7 A. I hold a Bachelor of Science degree in Mechanical Engineering from the  
8 University of Florida and a Masters in Business Administration from the  
9 University of Tampa. I am a licensed Professional Engineer in the State of  
10 Florida.

11

12 **Q. What is the purpose of your testimony?**

13 A. The purpose of my testimony is to explain the reasonable and prudent steps  
14 PEF took in siting, designing, acquiring the necessary land, and constructing  
15 the transmission facilities associated with the Hines Unit 4 power plant and  
16 the extraordinary circumstances that led to the increases in the overall costs  
17 of the transmission facilities.

18

19 **Q. Are you sponsoring any Exhibits with your testimony?**

20 A. Yes. I am sponsoring the following Exhibits:

- 21 • Exhibit \_\_ (GF-1), which summarizes to the total projected in-service cost of  
22 the Hines Unit 4 power plant, including associated transmission facilities,

1 and the total, estimated increase over the estimate PEF provided in its  
2 Need filing.

3  
4 **Q. Please summarize your testimony.**

5 A. Consistent with its past practice in supporting power plant projects, in 2003  
6 PEF's Transmission Department reviewed and identified the transmission  
7 upgrades that likely would be necessary to support the December 2007  
8 commercial operation of the proposed Hines 4 power plant. At that time, the  
9 Transmission Department also developed cost estimates for the likely  
10 upgrades based upon recent transmission projects. PEF included these  
11 estimates in its November 17, 2003 Request for Proposals ("RFP") for  
12 generating alternatives to the proposed Hines 4 self build option. PEF  
13 estimated the transmission costs to be approximately \$37.6 million. These  
14 formed the basis for PEF's bid evaluations and for the Need Petition.  
15 Following the Commission Order granting the need, in 2005, PEF finalized  
16 the line design and route and went out to bid. PEF executed contracts in  
17 2006. PEF estimates that the 22-mile Hines-West Lake Wales 230kV line  
18 will cost approximately \$60.1 million. PEF's transmission costs in excess of  
19 its estimate in the 2004 need petition were prudently incurred and due to  
20 extraordinary circumstances. Despite the difficulties in siting and constructing  
21 new transmission facilities, PEF is on track to complete the 22-mile Hines-  
22 West Lake Wales 230kV transmission line in a timely manner to ensure that  
23 the Hines Unit 4 power plant will meet its December 2007 commercial in-

1 service date in time for the 2008 winter peak months. From the time PEF  
2 issued its RFP, filed its need case, and received Commission approval to  
3 build the Hines Unit 4 plant and the associated transmission facilities,  
4 commodity, labor, and land prices increased extraordinarily. In addition, the  
5 number and cost of eminent domain proceedings required to obtain the  
6 necessary transmission right-of-way for the 230kV transmission line  
7 increased significantly over PEF's recent experience in siting other  
8 transmission lines. These extraordinary increases were not foreseeable to  
9 PEF and were beyond its reasonable control.

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**Q. How did PEF estimate in 2003 the transmission costs associated with the Hines Unit 4 power plant?**

A. In 2003, PEF reviewed the costs of transmission projects it had recently completed, including its Vandaloh-Whidden double-circuit 230kV project. PEF also developed a preliminary design, which called for 178 structures at an average height of 180 feet. PEF estimated the number of parcels to be acquired and the likely cost of obtaining such parcels based on recent experience and the most recent land prices paid. PEF's estimates were reasonable at the time made and based on our real life experience to date. PEF used these estimates in its Hines 4 RFP and in the Need Petition, which PEF filed with the Commission in August 2004.

1 **Q. What was PEF's estimate of the transmission costs as set forth in the**  
2 **RFP and Hines 4 Need Petition?**

3 A. PEF estimated that the transmission facilities associated with the Hines 4  
4 power plant would be \$37.6 million.

5  
6 **Q. Why did PEF use 2003 cost estimates in its RFP and Need Petition?**

7 A. PEF had to issue the RFP when it did, conduct the evaluation, and upon  
8 completion proceed with the need determination in order to obtain the siting  
9 and need approval to build the plant on time to meet the Company's reserve  
10 margin obligation. The Company also could not reasonably enter into  
11 contracts until it had finished the RFP evaluation and obtained a need  
12 determination otherwise there would have been no plant or transmission  
13 lines to be built. This meant that by August 2004 when PEF filed its Need  
14 Petition it was operating off of 2003 numbers, as were all the other  
15 respondents to the RFP, even though by the time the numbers were  
16 approved in the Need proceeding and PEF could enter into contracts the  
17 market impacts were starting to occur. To go back and start over at that  
18 point in late-2004 and early-2005 would have meant missing the Company's  
19 commitment to provide 20 percent reserves and subjecting PEF's customers  
20 to potentially even higher costs.

21

1 **Q. What happened between the time PEF issued its RFP and filed its Need**  
2 **Petition and when PEF began contracting for services to construct the**  
3 **Hines-West Lake Wales 230kV transmission line?**

4 A. During that time, materials, equipment, and labor costs increased  
5 extraordinarily. For example, PEF estimated in 2003 that labor costs  
6 associated with the Hines 4 transmission project would be about \$4.7 million.  
7 This included a 10% escalation factor in order to attempt to project escalation  
8 under normal market conditions and based on what we had seen in the  
9 market at that time for similar projects. When PEF awarded the contracts in  
10 2006, labor costs had risen to \$14 million due to, among other factors, a  
11 significant increase in the demand for labor because of numerous public and  
12 private construction projects. Similarly, commodity costs for transmission-  
13 related products experienced extraordinary increases during this time period.  
14 The costs of steel on PEF's 2004 Vandolah-Whidden double circuit 230kV  
15 line was \$.74/lb. In 2005, my group saw the price of steel alone rise to nearly  
16 \$1.10/lb, or nearly a 50% increase over 2003 and 2004 prices.

17  
18 **Q. What other factors caused increases in the cost of the transmission**  
19 **project?**

20 A. Design changes due to landowner negotiations and environmental permitting  
21 also affected the project cost. We based our original estimate on a design of  
22 178 structures. The final design required 185 structures due to final  
23 easement negotiations. In addition, in order to obtain state environmental

1 permits to cross a portion of the Peace River, we were required to re-design  
2 the line to increase the height of four poles from 185 feet to nearly 300 feet.  
3 The total cost for poles alone increased from the preliminary design estimate  
4 of \$4.4 million to \$12 million in 2006 at the time of contract execution. These  
5 changes could not have been foreseen by PEF at the time of its preliminary  
6 estimates.

7

8 **Q. How did land acquisition, including eminent domain proceedings, affect**  
9 **the project?**

10 A. We estimated that it would costs approximately \$1.1 million to acquire 66  
11 easements identified in the preliminary design in 2003 and 2004. We based  
12 this reasonable estimate on our recent, prior experience at that time and on a  
13 need to obtain relatively few "danger tree" easements -- easements that allow  
14 a utility to trim trees that could fall into the transmission line due to the tree's  
15 height and proximity to the line. In 2005, following the final route selection,  
16 we found that we needed to acquire danger tree easements on 32 additional  
17 parcels. We also estimated, based on our experience up to that point, that  
18 eminent domain proceedings would be necessary only in approximately 5-  
19 10% of the cases. To date, about 35% of the parcels have required  
20 condemnation. These extraordinary circumstances have increased the  
21 estimated land acquisition costs by an additional \$5 million.

22

1 **Q. Can you summarize the prudent price increases due to extraordinary**  
2 **circumstances?**

3 A. Yes. The cost of the Hines-Lake Wales 230kV transmission line has  
4 increased from the initial 2003 estimate by \$22.5 million. This includes  
5 approximately \$7.5 million in material and commodity increases, \$10 million  
6 in labor and equipment, and \$5 million in land acquisition costs.

7  
8 **Q. What steps did PEF take to mitigate these price increases?**

9 A. Among other things, PEF competitively bid the project contracts. This helped  
10 PEF obtain the lowest possible cost for the project work. PEF also completed  
11 detailed route selection studies, which analyzed and identified the most  
12 direct, lowest cost route possible.

13 **Q. Was PEF prudent in incurring the costs in excess of its initial Hines Unit**  
14 **4 RFP estimate?**

15 A. Yes. PEF aggressively and prudently managed the costs of the Hines-Lake  
16 Wales transmission project. PEF uses a three phase approval process to  
17 monitor and control cost and schedule changes to any project. If changes of  
18 over an established criteria occur the financial statements, variance reports  
19 and schedule deviations are presented to management for review and  
20 approval or denial. Transmission went through this process as per procedure  
21 ACT-SUBS-00261; Study phase PPA, Design Phase PPA, Design Phase  
22 PAR, Implementation Phase PPA and Implementation PAR were filed



1 accordingly. In addition, reviews between the Transmission Department and  
2 Plant Construction Department occurred regularly.

3 **Q. Were the cost increases over the initial estimate due to extraordinary**  
4 **circumstances?**

5 A. Yes. As I have noted in my testimony above, PEF had never seen increases  
6 of this magnitude on similar transmission projects, including projects that PEF  
7 had recently undertaken. These increases were not foreseeable to PEF at  
8 the time it issued its RFP or evaluated the bids.

9

10 **Q. Does this conclude your testimony?**

11 A. Yes, it does.



Hines Power Block 4  
 Summary By Year  
 Project Cost Detail for Year Ending 12/31/2006

Regulatory Amounts Excluding Common Change Order Items  
 Total Approx. \$2.6M

CATEGORY	2006 YTD Actual	2006 YTD Budget	2006 YTD Variance	Project to Date Actual	Project to Date Budget	Project to Date Variance	Total Projection	Total Project Budget	Total Project Budget vs Projection Variance
<b>Generation</b>									
Major Equipment / EPC	90,608,394	78,134,825	(12,473,569)	190,012,667	160,775,983	(29,236,684)	201,454,763	193,645,455	7,809,308
Permitting	-	-	-	654,685	400,000	(254,685)	705,568	1,188,924	(483,356)
Natural Gas Infrastructure Upgrades	2,179,358	2,000,000	(179,358)	2,179,358	2,000,000	(179,358)	2,220,283	2,067,694	152,589
Operations and Start-Up	-	-	-	-	-	-	3,780,000	6,097,629	(2,317,629)
Project Management	4,711,902	6,714,800	2,002,898	7,449,155	12,935,246	5,486,091	14,398,484	8,180,830	6,217,654
Owners Cost	865,305	1,616,690	751,385	1,387,655	2,045,316	657,661	3,738,522	10,338,469	(6,599,947)
AFUDC	14,844,955	15,830,353	985,398	20,724,339	17,717,604	(3,006,735)	40,706,112	27,043,000	13,663,112
<b>Total Generation</b>	<b>113,209,914</b>	<b>104,296,668</b>	<b>(8,913,246)</b>	<b>222,407,859</b>	<b>195,874,149</b>	<b>(26,533,710)</b>	<b>267,003,732</b>	<b>248,562,001</b>	<b>18,441,731</b>
<b>Transmission</b>									
Transmission Integration & Interconnection	2,527,650	2,619,542	91,892	2,575,127	2,619,542	44,415	5,706,243	6,897,189	(1,190,946)
Hines-West Lake Wales 230kV Line	29,465,889	16,619,087	(12,846,802)	32,519,012	22,206,607	(10,312,405)	49,943,655	26,488,909	23,454,746
AFUDC	656,390	1,262,350	605,960	656,390	1,721,033	1,064,643	4,420,756	4,228,548	192,208
<b>Total Transmission</b>	<b>32,649,929</b>	<b>20,500,979</b>	<b>(12,148,950)</b>	<b>35,750,529</b>	<b>26,547,182</b>	<b>(9,203,347)</b>	<b>60,070,654</b>	<b>37,614,646</b>	<b>22,456,008</b>
<b>Total:</b>	<b>145,859,843</b>	<b>124,797,647</b>	<b>(21,062,196)</b>	<b>258,158,388</b>	<b>222,421,331</b>	<b>(35,737,057)</b>	<b>327,074,386</b>	<b>286,176,647</b>	<b>40,897,739</b>