

**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

**In re: Petition to Establish  
Discovery Docket Regarding  
Actual and Projected Costs for  
Levy Nuclear Project, by Progress  
Energy Florida, Inc.**

DOCKET NO. 080149-**H**

Submitted for filing:  
May 1, 2008

**REDACTED**

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**DIRECT TESTIMONY OF DANIEL L. RODERICK IN SUPPORT OF  
ACTUAL/ESTIMATED AND PROJECTED COSTS**

**ON BEHALF OF  
PROGRESS ENERGY FLORIDA**

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FPSC - COMMISSION CLERK

**IN RE: PETITION TO ESTABLISH DISCOVERY DOCKET REGARDING  
ACTUAL AND PROJECTED COSTS FOR LEVY NUCLEAR PROJECT BY  
PROGRESS ENERGY FLORIDA, INC.**

**BY PROGRESS ENERGY FLORIDA**

**FPSC DOCKET NO. 080149**

**DIRECT TESTIMONY OF DANIEL L. RODERICK IN SUPPORT OF  
ACTUAL/ESTIMATED AND PROJECTED COSTS**

**I. INTRODUCTION AND QUALIFICATIONS**

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

**A.** My name is Daniel L. Roderick. My business address is Crystal River Energy Complex, Site Administration 2C, 15760 West Power Line Street, Crystal River, Florida 34428.

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

**A.** I am employed by Progress Energy Florida (“PEF” or the “Company”) in the capacity of Vice President – Nuclear Projects & Construction. As Vice President – Nuclear Projects & Construction, I am responsible for the management and oversight of all large, capital nuclear projects for the Company. These include the Crystal River Unit 3 (“CR3”) power uprate project, the CR3 steam generator replacement project scheduled for 2009, and the development, siting, engineering, and construction of two new nuclear generating facilities at the Company’s Levy County site. Prior to assuming my current position, I served as the CR3 Director of Site Operations. In that capacity, I was responsible for the safe, efficient, and

DOCUMENT NUMBER - DATE

03568 MAY -1 88

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1 reliable generation of electricity from the Company's CR3 nuclear plant. All  
2 plant functions, including the Plant General Manager, Engineering Manager,  
3 Training Manager, and Licensing, reported to me and were under my supervision.  
4

5 **Q. Please summarize your educational background and work experience.**

6 **A.** I have a Bachelor of Science and Master of Science degree in Industrial  
7 Engineering from the University of Arkansas and have completed the  
8 NRC program for a Senior Reactor Operator License. I have been at CR3  
9 since 1996, serving in my current position as Vice President Nuclear  
10 Projects and Construction and, prior to that position, Director of Site  
11 Operations, Plant General Manager, Engineering Manager, and Outage  
12 Manager, respectively. Prior to my employment with the Company, I was  
13 employed for twelve years with Entergy Corporation at its Arkansas  
14 Nuclear One plant in Russellville, Arkansas with responsibilities in Plant  
15 Operations and Engineering.  
16

17 **II. PURPOSE AND SUMMARY OF TESTIMONY**

18 **Q. What is the purpose of your direct testimony?**

19 **A.** The purpose of my direct testimony is to support the Company's request  
20 for cost recovery pursuant to the nuclear cost recovery rule for certain  
21 costs incurred, from March 12, 2008 to March 31, 2008, for the  
22 construction of the Company's proposed Levy Nuclear Power Plants. My  
23 testimony will also support the Company's projected costs for April 1,

1 2008 through December 31, 2009. Finally, my testimony explains why  
2 the Levy Nuclear Project is feasible, pursuant to Rule 25-6.0423(5)(c)5,  
3 F.A.C.  
4

5 **Q. Do you have any exhibits to your testimony?**

6 **A.** No, I am not sponsoring any exhibits. I am, however, sponsoring portions  
7 of Schedules AE-7 through AE-8B of the Nuclear Filing Requirements (“NFRs”),  
8 which are included as part of the exhibits to Lori Cross’ testimony. Specifically, I  
9 will support all of Schedule AE-7, which is a description of the nuclear  
10 technology selected for 2008. I am sponsoring those portions, not related to  
11 transmission, of Schedule AE-8, which is a list of the contracts executed in excess  
12 of \$1.0 million for 2008. Accordingly, I sponsor pages 1 through 4 and 7 through  
13 10 of Schedule AE-8A, which reflects details pertaining to the contracts executed  
14 in excess of \$1.0 million.

15 I am also sponsoring Schedules P-7, P-8, and P-8A, which provide similar  
16 details for technology selected and contracts as the AE schedules do.

17 All of the portions of these schedules, which I sponsor, are true and  
18 accurate.  
19

20 **Q. Please summarize your testimony.**

21 **A.** The Company incurred preconstruction costs from March 12, 2008 to  
22 March 31, 2008 to continue its evaluation of an advanced reactor  
23 technology for its Levy Nuclear Project, and to begin preparation of the

1 Combined Operating License Application (“COLA”). PEF needed to  
2 enter into these contracts and incur costs during this time period to  
3 maintain the licensing and construction schedule to successfully bring  
4 Levy Unit 1 into commercial service in 2016. As demonstrated in my  
5 testimony and the NFR schedules attached to Ms. Cross’ testimony, PEF  
6 took adequate steps to ensure these preconstruction costs were reasonable  
7 and prudent. PEF negotiated favorable contract terms under the then-  
8 current market conditions and circumstances.

9 For all the reasons provided in my testimony and in the NFR  
10 schedules, the Commission should approve PEF’s costs incurred from  
11 March 12, 2008 to March 31, 2008 as reasonable and prudent pursuant to  
12 the nuclear cost recovery rule.

13 The Company is also presenting projected costs for April 1, 2008  
14 through December 31, 2009. These estimates are based on the best  
15 currently-available information. These planned expenditures are  
16 necessary to keep the Levy Nuclear Project on schedule to meet the  
17 planned in-service date, and they should be approved as reasonable.

18  
19 **III. ACTUAL COSTS INCURRED FROM MARCH 12, 2008 TO MARCH 31,**  
20 **2008 FOR LEVY NUCLEAR PLANT**

21  
22 **Q. Has PEF incurred any costs from March 12, 2008 to March 31, 2008**  
23 **for its Levy Nuclear Project?**

1           **A.**           Yes, PEF incurred preconstruction costs associated with its continued  
2 evaluation of the reactor technology for its Levy Nuclear Project and the negotiation  
3 of the contract for the engineering, design, and construction of all facilities necessary  
4 to place this reactor technology in commercial operation at the Levy site. PEF also  
5 incurred costs for the process of obtaining a COLA for the project. Levy Units 1 and  
6 2 are scheduled to be built at a site selected in Levy County, Florida for commercial  
7 service in 2016 and 2017, respectively.

8

9           **Q.**           **Turning first to the costs incurred related to the choice of the**  
10                   **advanced nuclear reactor technology, what technology was chosen**  
11                   **and how did PEF make this choice?**

12           **A.**           The Company has initially chosen the Westinghouse AP-1000 as the  
13 advanced reactor technology for the Levy Nuclear plants. To make this decision, the  
14 Company's Nuclear Plant Development Group ("NPD") performed a methodical,  
15 detailed quantitative and qualitative evaluation of commercially available advanced  
16 reactor technologies. NPD issued Request for Proposals ("RFPs") to the three  
17 vendors that had advanced reactor designs: General Electric ("GE"); Westinghouse;  
18 and Areva, for the GE Economic Simplified Boiling Water Reactor ("ESBWR"), the  
19 Westinghouse AP-1000 advanced passive pressurized water reactor, and the Areva  
20 European Pressurized Reactor ("EPR"), respectively. NPD completed a thorough and  
21 extensive evaluation of the vendor proposal responses associated with technical and  
22 operational requirements for licensing, design, construction, and capability input by

1 the vendors. Following nearly a year of detailed evaluation, NPD initially selected  
2 the Westinghouse AP-1000 design as the best advanced technology for PEF.

3  
4 **Q. Following the initial selection of the AP-1000 technology, did PEF continue to**  
5 **evaluate this and other advanced reactor technologies?**

6 **A.** Yes. Since the preliminary selection of the Westinghouse AP-1000 design in  
7 January 2006, NPD continued to monitor industry changes, advanced reactor  
8 technology developments, and other information that might affect PEF's  
9 technology selection, or the assumptions NPD used in its initial analysis. In  
10 January 2007, NPD updated its January 17, 2006 technology evaluation. Among  
11 other things, NPD included a review of the GE Advanced Boiling Water Reactor  
12 ("ABWR"), a 1,350 MW plant similar to existing boiling water reactor  
13 technology. NPD chose to analyze the GE ABWR because two U.S. utilities  
14 announced their intent to construct the ABWR following NPD's initial technology  
15 evaluation. In addition, NPD requested all vendors to provided updated pricing  
16 information to the extent available.

17  
18 **Q. What did your updated analysis show?**

19 **A.** Following the same evaluation criteria as our initial analysis, NPD's updated  
20 evaluation confirmed the initial recommendation to utilize the Westinghouse AP-  
21 1000 design. This technology is further described in Schedule AE-7, attached as  
22 part of the exhibit to Lori Cross' testimony.

23

1 **Q. Please describe any agreements that PEF has entered into regarding the**  
2 **potential design and construction of the Levy project.**

3 **A.** [REDACTED]  
4 [REDACTED]  
5 [REDACTED]  
6 [REDACTED]  
7 [REDACTED]  
8 [REDACTED]  
9 [REDACTED] The details of  
10 these Work Authorizations are provided in Schedule AE-8, lines 1 through 4 and lines  
11 7 through 10, and Schedule AE-8A, pages 1 through 4 and 7 through 10, attached as  
12 an exhibit to Ms. Cross' testimony. As described above, the Company first analyzed  
13 which advanced reactor design would be the best option for its Levy Nuclear Project.  
14 That analysis included a comprehensive RFP process for the technologies. Once that  
15 detailed evaluation was completed, and the Company selected the AP-1000 for  
16 further evaluation and possible construction, then the Company naturally commenced  
17 more detailed negotiations with the Consortium that owned that nuclear reactor  
18 design. Because the Consortium is the only vendor offering the chosen AP-1000  
19 technology, the Company obviously cannot engage in another RFP process for the  
20 contracts for the engineering, procurement, and construction of the Westinghouse AP-  
21 1000 nuclear power plants. PEF negotiated and obtained as favorable contract terms  
22 as the market conditions have allowed. The contract terms, as well as the costs  
23 incurred pursuant to those contracts, are reasonable and prudent.

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**Q. Why has PEF executed these contracts and incurred costs when the final EPC contract has not even been executed?**

**A.** It is customary with a project of this size for companies to expend money even during the negotiation process. For example, in order for Westinghouse and Shaw Stone & Webster to develop the site specific cost estimates for the Levy units, they had to perform detailed analyses and studies specific to the site. Factors such as soil suitability, geographic proximity to roads for delivery of supplies, and labor costs in the area, among other things, all impact the cost of building a nuclear plant in a particular location. If PEF did not execute these contracts, Westinghouse and Shaw Stone & Webster would not have undertaken the cost to develop these estimates.

[REDACTED]

**Q. Has the Company incurred any other costs for the Levy Nuclear Project?**

1           **A.**           Yes, PEF has incurred costs for the development of a COLA for the Levy  
2 Nuclear Project. These costs were incurred pursuant to a contract executed with the  
3 Joint Venture team of Sargent & Lundy, CH2M Hill, and Worley Parson. This  
4 vendor was chosen as a result of an RFP, in which six vendors were solicited and  
5 provided bids. After consideration of a number of factors, including cost, experience,  
6 technical expertise, and ability to timely complete the COLA, PEF awarded the  
7 contract to the Joint Venture team.

8           The costs incurred under the Sargent & Lundy, CH2M Hill, and Worley Parson  
9 contract are reasonable and prudent, given the nature and circumstances of the  
10 transaction. The remainder of the contract provisions are also reasonable and  
11 prudent. Further details of this contract are contained in Schedule AE-8 and AE-8A,  
12 attached as an exhibit to Ms. Cross' testimony.

13

14           **Q.**           **To summarize, were all the costs that the Company incurred from**  
15 **March 12, 2008 through March 31, 2008 for the Levy Nuclear Project**  
16 **reasonable and prudent?**

17           **A.**           Yes, the specific cost amounts contained in the schedules, which are  
18 attached as exhibits to Ms. Cross' testimony, reflect the reasonably and  
19 prudently incurred costs which are described above for the Levy Nuclear  
20 Project work from March 12, 2008 to March 31, 2008.

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22           **IV.           ESTIMATES AND PROJECTIONS FOR COSTS TO BE**  
23 **INCURRED FOR THE REMAINDER OF 2008 AND 2009**

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**Q. Does the Company plan to incur costs for the Levy Nuclear Project during the remainder of 2008 and 2009?**

**A.** Yes, PEF must incur costs to maintain the schedule for the expected commercial in-service dates of the units.

**Q. What major costs does PEF estimate incurring for the remainder of 2008?**

**A.** [REDACTED]

**Q. What major costs does PEF project it will incur during 2009?**

**A.** [REDACTED] The Company will incur costs to support

1 the license application and the clearing, grading, and excavation of the  
2 Levy site.

3  
4 **Q. How were these projected costs prepared?**

5 **A.** PEF developed these estimates on a reasonable engineering basis, using  
6 the best available information. In some instances, PEF utilized actual  
7 information received from third parties with which it is negotiating, while  
8 in other instances, the contracts have already been executed. In addition,  
9 PEF developed these projected costs based on the detailed project  
10 schedules which set forth the necessary milestones to maintain the  
11 expected in-service date. Of course, we are still in the process of  
12 negotiating an Engineering, Procurement, and Construction (“EPC”)  
13 contract with the Consortium, which, depending on the ultimate terms and  
14 conditions of that agreement (and possibly others), could affect the project  
15 cost estimate. Based on what we know now, however, the estimated and  
16 projected costs, as set forth in Exhibits No. \_\_ (LC-1) and (LC-2) to Lori  
17 Cross’ testimony, should be approved as reasonable.

18  
19 **V. RULE 25-6.0423(5)(c)5: LONG-TERM FEASIBILITY OF**  
20 **COMPLETING LEVY NUCLEAR PROJECT**

21  
22 **Q. Has the Company conducted an analysis to determine the long-term**  
23 **feasibility of completing the Levy Nuclear Project?**

1           A.           On April 8, 2008, PEF prepared a revision to its Business Analysis  
2 Package ("BAP"), which revises the March 2006 BAP and provides the approval  
3 mechanism and official documentation to continue moving forward with the Levy  
4 Nuclear Project. In this BAP, the Company analyzed the project schedule and  
5 presented updated information regarding project scope and funding requirements.  
6 The BAP contains a recommendation that the Company authorize the updated COLA  
7 funding requirements and the purchase of initial long-lead items for the AP-1000.  
8 Accordingly, PEF has no reason to believe that completion of the Levy Nuclear  
9 Project is not feasible; in fact, PEF is moving forward with the project because PEF  
10 believes it is feasible. In subsequent years, PEF will perform other feasibility  
11 analyses, consistent with its standard business practice in evaluating whether to  
12 continue with a project like the Levy Nuclear Project, at appropriate milestones in this  
13 Project.

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

16           A.           Yes, it does.  
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