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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

Submitted for filing:
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**REVISED DIRECT TESTIMONY OF DANIEL L. RODERICK
IN SUPPORT OF ACTUAL/ESTIMATED AND PROJECTED COSTS**

**ON BEHALF OF
PROGRESS ENERGY FLORIDA**

R. ALEXANDER GLENN
JOHN BURNETT
PROGRESS ENERGY SERVICE
COMPANY, LLC
P.O. Box 14042
St. Petersburg, Florida 33733
Telephone: (727) 820-5180
Facsimile: (727) 820-5519

JAMES MICHAEL WALLS
Florida Bar No. 706272
DIANNE M. TRIPLETT
Florida Bar No. 0872431
CARLTON FIELDS, P.A.
Post Office Box 3239
Tampa, FL 33601
Telephone: (813) 223-7000
Telecopier: (813) 229-4133

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**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

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

I. INTRODUCTION AND QUALIFICATIONS

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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

1 Operations. In that capacity, I was responsible for the safe, efficient, and
2 reliable generation of electricity from the Company's CR3 nuclear plant.
3 All plant functions, including the Plant General Manager, Engineering
4 Manager, Training Manager, and Licensing, reported to me and were
5 under my supervision.
6

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

8 **A.** I have a Bachelor of Science and Master of Science degree in Industrial
9 Engineering from the University of Arkansas and have completed the
10 NRC program for a Senior Reactor Operator License. I have been at CR3
11 since 1996, serving in my current position as Vice President Nuclear
12 Projects and Construction and, prior to that position, Director of Site
13 Operations, Plant General Manager, Engineering Manager, and Outage
14 Manager, respectively. Prior to my employment with the Company, I was
15 employed for twelve years with Entergy Corporation at its Arkansas
16 Nuclear One plant in Russellville, Arkansas with responsibilities in Plant
17 Operations and Engineering.
18

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

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

21 **A.** The purpose of my direct testimony is to support the Company's request
22 for cost recovery pursuant to the nuclear cost recovery rule for certain
23 costs incurred, from March 12, 2008 to March 31, 2008, for the

1 construction of the Company's proposed Levy Nuclear Power Plants. My
2 testimony will also support the Company's projected costs for April 1,
3 2008 through December 31, 2009. Finally, my testimony explains why
4 the Levy Nuclear Project is feasible, pursuant to Rule 25-6.0423(5)(c)5,
5 F.A.C.

6
7 **Q. Do you have any exhibits to your testimony?**

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

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

21 All of the portions of these schedules, which I sponsor, are true and
22 accurate.

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Q. Please summarize your testimony.

A. The Company incurred preconstruction costs from March 12, 2008 to March 31, 2008 to continue its evaluation of an advanced reactor technology for its Levy Nuclear Project, and to begin preparation of the Combined Operating License Application (“COLA”). PEF needed to enter into these contracts and incur costs during this time period to maintain the licensing and construction schedule to successfully bring Levy Unit 1 into commercial service in 2016. As demonstrated in my testimony and the NFR schedules attached to Ms. Cross’ testimony, PEF took adequate steps to ensure these preconstruction costs were reasonable and prudent. PEF negotiated favorable contract terms under the then-current market conditions and circumstances.

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

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

1 reactor designs: General Electric ("GE"); Westinghouse; and Areva, for
2 the GE Economic Simplified Boiling Water Reactor ("ESBWR"), the
3 Westinghouse AP-1000 advanced passive pressurized water reactor, and
4 the Areva European Pressurized Reactor ("EPR"), respectively. NPD
5 completed a thorough and extensive evaluation of the vendor proposal
6 responses associated with technical and operational requirements for
7 licensing, design, construction, and capability input by the vendors.
8 Following nearly a year of detailed evaluation, NPD initially selected the
9 Westinghouse AP-1000 design as the best advanced technology for PEF.

10
11 **Q. Following the initial selection of the AP-1000 technology, did PEF**
12 **continue to evaluate this and other advanced reactor technologies?**

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

1 requested all vendors to provided updated pricing information to the extent
2 available.

3
4 **Q. What did your updated analysis show?**

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

9
10 **Q. Please describe any agreements that PEF has entered into regarding**
11 **the potential design and construction of the Levy project.**

12 **A.** PEF has executed a Letter of Intent ("LOI") with Westinghouse Electric
13 Corporation and Shaw Stone & Webster which, among other things,

14 [REDACTED]
15 [REDACTED]
16 [REDACTED]
17 [REDACTED]
18 [REDACTED]
19 [REDACTED]

20 The details of
21 these Work Authorizations are provided in Schedule AE-8, lines 1 through
22 4 and lines 7 through 10, and Schedule AE-8A, pages 1 through 4 and 7
23 through 10, attached as an exhibit to Ms. Cross' testimony. As described
above, the Company first analyzed which advanced reactor design would

1 be the best option for its Levy Nuclear Project. That analysis included a
2 comprehensive RFP process for the technologies. Once that detailed
3 evaluation was completed, and the Company selected the AP-1000 for
4 further evaluation and possible construction, then the Company naturally
5 commenced more detailed negotiations with the Consortium that owned
6 that nuclear reactor design. Because the Consortium is the only vendor
7 offering the chosen AP-1000 technology, the Company obviously cannot
8 engage in another RFP process for the contracts for the engineering,
9 procurement, and construction of the Westinghouse AP-1000 nuclear
10 power plants. PEF negotiated and obtained as favorable contract terms as
11 the market conditions have allowed. The contract terms, as well as the
12 costs incurred pursuant to those contracts, are reasonable and prudent.

13
14 **Q. Why has PEF executed these contracts and incurred costs when the**
15 **final EPC contract has not even been executed?**

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

1 and Shaw Stone & Webster would not have undertaken the cost to develop
2 these estimates.

3 Likewise, [REDACTED]

4 [REDACTED]
5 [REDACTED] PEF executed the LOI with the Consortium.

6 This LOI, among other things, authorizes the Consortium to order long
7 lead time equipment. [REDACTED]

8 [REDACTED]

9 [REDACTED]

10 [REDACTED]

11 [REDACTED]

12
13 **Q. Has the Company incurred any other costs for the Levy Nuclear**
14 **Project?**

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

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

7
8 **Q. To summarize, were all the costs that the Company incurred from**
9 **March 12, 2008 through March 31, 2008 for the Levy Nuclear Project**
10 **reasonable and prudent?**

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

15
16 **IV. ESTIMATES AND PROJECTIONS FOR COSTS TO BE**
17 **INCURRED FOR THE REMAINDER OF 2008 AND 2009**

18
19 **Q. Does the Company plan to incur costs for the Levy Nuclear Project**
20 **during the remainder of 2008 and 2009?**

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

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

A. As reflected in Schedule AE-6, PEF estimates preconstruction costs of \$198.7 million and construction costs of \$5.5 million for 2008 [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

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

A. As reflected in Schedule P-6, PEF projects it will incur \$86.0 million gross of joint owner and exclusive of AFUDC in preconstruction generation costs and \$425.6 million gross of joint owner and exclusive of AFUDC in construction generation costs. The Company will incur costs to support the license application and the clearing, grading, and excavation of the Levy site.

Q. How were these projected costs prepared?

A. PEF developed these estimates on a reasonable engineering basis, using the best available information. In some instances, PEF utilized actual information received from third parties with which it is negotiating, while

1 in other instances, the contracts have already been executed. In addition,
2 PEF developed these projected costs based on the detailed project
3 schedules which set forth the necessary milestones to maintain the
4 expected in-service date. Of course, we are still in the process of
5 negotiating an Engineering, Procurement, and Construction (“EPC”)
6 contract with the Consortium, which, depending on the ultimate terms and
7 conditions of that agreement (and possibly others), could affect the project
8 cost estimate. Based on what we know now, however, the estimated and
9 projected costs, as set forth in Exhibits No. __ (LC-1) and (LC-2) to Lori
10 Cross’ testimony, should be approved as reasonable.

11
12 **V. RULE 25-6.0423(5)(c)5: LONG-TERM FEASIBILITY OF**
13 **COMPLETING LEVY NUCLEAR PROJECT**

14
15 **Q. Has the Company conducted an analysis to determine the long-term**
16 **feasibility of completing the Levy Nuclear Project?**

17 **A.** On April 8, 2008, PEF prepared a revision to its Business Analysis
18 Package (“BAP”), which revises the March 2006 BAP and provides the
19 approval mechanism and official documentation to continue moving
20 forward with the Levy Nuclear Project. In this BAP, the Company
21 analyzed the project schedule and presented updated information
22 regarding project scope and funding requirements. The BAP contains a
23 recommendation that the Company authorize the updated COLA funding

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requirements and the purchase of initial long-lead items for the AP-1000. Accordingly, PEF has no reason to believe that completion of the Levy Nuclear Project is not feasible; in fact, PEF is moving forward with the project because PEF believes it is feasible. In subsequent years, PEF will perform other feasibility analyses, consistent with its standard business practice in evaluating whether to continue with a project like the Levy Nuclear Project, at appropriate milestones in this Project.

Q. Does this conclude your testimony?

A. Yes, it does.