

REDACTED

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

**In re: Petition to Recover Costs
of Crystal River Unit 3 Uprate
pursuant to the Nuclear Cost
Recovery Rule**

DOCKET NO. 080009

Submitted for filing:
May 1, 2008

**DIRECT TESTIMONY OF DANIEL L. RODERICK
IN SUPPORT OF 2008 ACTUAL/ESTIMATED COSTS
AND 2009 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. TRIPLET
Florida Bar No. 0872431
CARLTON FIELDS, P.A.
Post Office Box 3239
Tampa, FL 33601
Telephone: (813) 223-7000
Telecopier: (813) 229-4133

DOCUMENT NUMBER-DATE

03563 MAY -1 08

FPSC-COMMISSION CLERK

IN RE: NUCLEAR COST RECOVERY CLAUSE

BY PROGRESS ENERGY FLORIDA

FPSC DOCKET NO. 080009

**DIRECT TESTIMONY OF DANIEL L. RODERICK
IN SUPPORT OF 2008 ACTUAL/ESTIMATED COSTS
AND 2009 PROJECTED COSTS**

I. INTRODUCTION AND QUALIFICATIONS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

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, including the Uprate Project at Crystal River Unit 3 (“CR3”), PEF’s nuclear plant. Formerly, I was Director of Site Operations at CR3.

Q. What are your responsibilities as the Vice President Nuclear Projects and Construction?

DOCUMENT NUMBER - DATE
03563 MAY -1 08
FPSC-COMMISSION CLERK

1 **A.** I am an officer of PEF and I am responsible for all aspects of major
2 projects and construction of nuclear generating assets in Florida.
3 Formerly, as director of Site Operations, I was responsible for the safe,
4 efficient, and reliable generation of electricity from CR3 and all plant
5 functions reported to me and were 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

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

22 **A.** The purpose of my direct testimony is to support the Company's request
23 for cost recovery pursuant to the nuclear cost recovery rule for certain

1 costs incurred in 2008 for the replacement and modification of equipment
2 at CR3 to support an increase in electrical generation power from the
3 nuclear plant. My testimony will also support the Company's
4 actual/estimated and projected costs for the remainder of 2008 and 2009.
5 Finally, my testimony explains why the CR3 Uprate Project is feasible,
6 pursuant to Rule 25-6.0423(5)(c)5, F.A.C.
7

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

9 **A.** Yes, I am sponsoring one exhibit:

- 10 • Exhibit No. __ (DLR-1), which is the Integrated Project Plan ("IPP") for the
11 CR3 Uprate project.

12 I am also sponsoring portions of the schedules attached to Lori Cross' testimony.
13 Specifically, Schedules AE-7 through AE-8 of the Nuclear Filing Requirements
14 ("NFRs"), are included as part of Exhibit No. __ (LC-2) the exhibits to Lori
15 Cross' testimony. Schedule AE-7 is a description of the contracts and work for
16 the nuclear technology selected. Schedule AE-8 is a list of the contracts executed
17 in excess of \$1.0 million that have been executed to date. Schedule AE-8A
18 reflects details pertaining to the contracts executed in excess of \$1.0 million.

19 I am also sponsoring Schedules P-7, P-8, and P-8A, part of Exhibit No. __ (LC-
20 1), which provide similar details for technology selected and contracts as the AE
21 schedules do. Finally, I am sponsoring Schedule TOR-7 included as part of
22 Exhibit No. __ (LC-3) to Lori Cross' testimony.

23 This exhibit and all of these schedules are true and accurate.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22

Q. Please summarize your testimony.

A. From January to March 2008, PEF has incurred reasonable and prudent costs to complete work scheduled for all three phases of the project. The first phase of the CR3 Uprate Project was completed during the 2007 refueling outage. PEF incurred costs for the remaining two phases, scheduled for the 2009 and 2011 refueling outages, because long lead-times to secure contracts and equipment for that work is required. To maintain the time schedule for the project, PEF's goal is to do as much work as possible during the 2009 refueling outage. These costs are appropriate for recovery pursuant to the nuclear cost recovery rule.

As demonstrated in my testimony and the NFRs filed as exhibits to Ms. Cross' testimony, PEF took adequate steps to ensure that the costs it incurred were reasonable and prudent. When selecting vendors, PEF utilized a Request for Proposals ("RFP"), or competitive bidding, process where appropriate, and used reasonable business judgment to select sole-source vendors when an RFP was not used. For all its contracts, PEF negotiated as favorable contract terms as it could given market conditions to provide reasonable cost certainty and appropriate risk-sharing. Accordingly, the Commission should approve PEF's costs incurred for January to March 2008 as reasonable and prudent pursuant to the nuclear cost recovery rule.

1 PEF has also provided reasonable projections for costs to be
2 incurred during the remainder of 2008 and all of 2009. These projected
3 costs were developed using the best available information to the Company
4 at this time. Thus the Commission should approve PEF's projections as
5 reasonable.

6
7 **III. PRUDENCE OF COSTS AND UPDATED INFORMATION FOR**
8 **CR3 UPRATE**

9
10 **Q. Have you previously filed testimony in this docket in support of cost**
11 **recovery for the CR3 Uprate?**

12 **A.** Yes, on February 29, 2008, I provided testimony in which I discussed the
13 prudence of the costs incurred in 2006 and 2007 and supported the true-up
14 schedules that reflected contract information and technology selected.

15
16 **Q. Since you filed that testimony, have there been any changes in the**
17 **technology selected or contracts executed for the CR3 Uprate project?**

18 **A.** There has only been one change in the project, in terms of the status of
19 contracts executed and technology selected. PEF executed the Yuba
20 contract, which at the time of my previous testimony, had been issued but
21 not signed. PEF has continued to prudently administer the contracts
22 previously described in greater detail in my previous testimony.

1 The updated description of the contracts executed for the work
2 required for the technology chosen for the CR3 Uprate Project is
3 contained in Schedule AE-7, which is attached as part of an exhibit to Ms.
4 Cross' testimony. Also, a detailed description of the contracts executed in
5 excess of \$1 million, including the dollar value and term of the contract,
6 the method of vendor selection, the identity and affiliation of the vendor,
7 and current status of the contract, is contained in Schedules AE-8 through
8 AE-8A, attached to an exhibit to Ms. Cross' testimony.

9
10 **Q. Has the Company incurred costs for the CR3 Uprate Project?**

11 **A.** Yes, the total capital expenditures, for January to March 2008, gross of
12 joint owner billing and exclusive of carrying cost, were \$9.0 million.

13
14 **Q. Please generally describe these costs.**

15 **A.** As part of the MUR phase, which PEF completed during the 2007
16 refueling outage, PEF incurred costs related to the installation of improved
17 instruments to allow more accurate measurement of inputs to the
18 secondary heat balance. These costs were reasonable and prudent and
19 include engineering and licensing support, project management, the
20 improved instruments, and installation of those instruments. The MUR
21 went into commercial service on January 31, 2008 and the Company has
22 achieved approximately 12 additional megawatts of nuclear generation,
23 depending on the circumstances, as a result. In addition, PEF incurred

1 costs related to work necessary for the Balance of Plant (“BOP”) and the
2 Extended Power Uprate (“EPU”) phases of the project. This work
3 included engineering support, project management, contract labor, and
4 procurement of materials.

5 The specific cost amounts contained in Ms. Cross’ testimony and
6 exhibits reflect the reasonably and prudently incurred costs which are
7 described above for the CR3 Uprate project work for January to March
8 2008.

9
10 **Q. Why is the Company unable to separate costs specifically between the**
11 **BOP and the EPU phases, as was done in the need determination proceeding?**

12 **A.** In the need determination docket, PEF separated the phases between those
13 associated with making the ‘secondary’ side or BOP more efficient from
14 those necessary to support a higher NRC licensed power level output of
15 the reactor core, referred to as EPU. In that docket, however, PEF also
16 indicated that the goal was to do as much of the work during the 2009
17 outage as possible, so that the customers could obtain the benefit of that
18 work earlier. As the analyses progress, and PEF becomes more certain as
19 to the scope of the work, PEF can better identify what work can be done in
20 what outage. In many cases, significant aspects are absolutely essential to
21 support both. In addition, some of the work performed under certain
22 contracts relate to both the 2009 and 2011 work.

23

1 **IV. PROJECTIONS FOR COSTS TO BE INCURRED FOR THE**
2 **REMAINDER OF 2008 AND 2009**

3
4 **Q. Does the Company plan to incur costs for the CR3 Uprate Project**
5 **during the remainder of 2008 and 2009?**

6 **A.** Yes, PEF must incur costs to maintain the schedule for the uprate.

7
8 **Q. What major costs does PEF estimate incurring for the remainder of**
9 **2008?**

10 **A.** As reflected in Schedule AE-6, PEF estimates costs of \$58.6 million, gross
11 of joint owner billing and exclusive of carrying costs. This amount
12 includes purchase of materials for the moisture separator reheaters
13 (“MSRs”), purchase of generator and exciter components, and work done
14 by Siemens on the wheel disc machining and generator rotor winding.

15
16 **Q. What major costs does PEF project it will incur in 2009?**

17 **A.** As reflected in Schedule P-6, PEF projects costs of \$107.1 million, gross
18 of joint owner billing and exclusive of carrying costs for 2009. This
19 amount includes additional purchases of generator and exciter
20 components, completion of inner casing fabrication, purchase and
21 shipping of the low pressure turbines, progress payments for the delivery
22 of the MSR vessels to CR3, and the mobilization of equipment and labor

1 by Siemens in preparation for the installation work to be done during the
2 2009 scheduled refueling outage.

3
4 **Q. Has the Company made any projections regarding the costs that will**
5 **be incurred in 2009 to address the Point of Discharge (“POD”) issue?**

6 **A.** Yes, PEF has commissioned a study to determine the solution(s) necessary
7 to address the temperature and flow of the water in the discharge canal. The water in
8 the discharge canal is affected not only by CR3 but also by Crystal River Units 1 and
9 2. This study will also identify the respective impacts of CR3 to the discharge canal,
10 so that the appropriate costs of the solution(s) can be properly allocated to the CR3
11 Uprate project. The study is not yet complete, but the Company does have high level,
12 preliminary estimates for the anticipated expenditures for 2009. Because the
13 allocation has not been determined, PEF has assumed, to provide projections for year
14 2009, that 42% of the costs of the POD solution(s) should be allocated to the CR3
15 Uprate project. PEF will update its projections for 2009 costs upon completion of the
16 POD study. The projected expenditures for the POD in 2009 are estimated to be
17 approximately \$12 million, gross of joint owner billing and exclusive of carrying
18 costs. This cost figure is reflected on Line 39 and Line 43 of Schedule P-6, attached
19 as an exhibit to Ms. Cross’ testimony.

20
21 **Q. How were all the projected costs prepared?**

22 **A.** PEF developed its estimates on a reasonable engineering basis, using the
23 best available information. In some instances, PEF utilized actual

1 information received from third parties with which it is negotiating, while
2 in other instances, the contracts have already been executed. In addition,
3 PEF developed these projected costs based on the detailed project
4 schedules which set forth the necessary milestones to maintain the
5 expected in-service date. Accordingly, the projected costs, as set forth in
6 Exhibits No. __ (LC-1) and (LC-2) to Lori Cross' testimony, should be
7 approved as reasonable.
8

9 **V. TRUE UP TO ORIGINAL COST FILING FOR 2008**

10
11 **Q. Has the Company filed schedules to provide information truing up the**
12 **original estimates to the actual costs incurred?**

13 **A.** Yes, these schedules are reflected as an Exhibit to Ms. Cross' testimony.
14

15 **Q. What is the current total project estimate, compared to the original**
16 **estimate?**

17 **A.** As reflected on Schedule TOR-7, the total current project estimate,
18 exclusive of AFUDC and fully loaded is \$364 million. The original
19 estimate provided in the need determination proceeding was \$381 million,
20 which did not reflect the full "Financial View" or fully loaded costs. The
21 original estimate inclusive of the indirect costs is \$439 million as
22 presented in Scheduled TOR-7. This current total project estimate is
23 based on the best available information at the time of this filing.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23

VI. RULE 25-6.0423(5)(c)5: LONG-TERM FEASIBILITY OF COMPLETING CR3 UPRATE

Q. Has the Company conducted an analysis to determine the long-term feasibility of completing the CR3 Uprate project?

A. Yes. In this case, the Company determined the feasibility of completing the CR3 Uprate project as part of its Integrated Project Plan (“IPP”). The IPP is a new, refined process for gaining management approval for expenditures of significant funds. It is another form of Project Plan or Business Analysis Package. The Company uses IPPs to manage non-routine capital projects with more than \$50 million in capital costs. After completion of the MUR phase, an IPP for the CR3 Uprate project was prepared on January 29, 2008. This IPP updates and replaces the Business Analysis Package for the project, which was issued November 10, 2006.

Q. Is the CR3 Uprate project completion feasible?

A. Yes, given the results of the IPP. The IPP provides an update of the status of the project, including the completion of the MUR phase during the 2007 outage and the continued progress on preparing for the 2009 and 2011 outage. It outlines the major work planned, and sets forth the planned schedule and project milestones necessary for timely completion. Updated cost estimates are provided in the IPP, for both capital and operating and maintenance (“O&M”). The total current estimate remains bounded by the initial Business Analysis Package.

1 The IPP also includes potential project risks, and strategies for managing
2 such risks. PEF feels confident that at this time, there is no indication of any risks
3 that would affect the project's feasibility. As indicated in the IPP, PEF has an
4 extensive risk management program in place that allows us to readily identify any
5 potential risks quickly and implement mitigation actions to reduce those risks. Also
6 included in the IPP is an update regarding the necessary regulatory approvals for the
7 project, particularly the Site Certification for the flow and temperature of the water at
8 the discharge canal and approval from the Nuclear Regulatory Commission ("NRC")
9 for the Extended Power Uprate. Obtaining these regulatory permits remains feasible
10 and on schedule.

11 The recommendation of the IPP is that the Company continue with the
12 remaining work for the CR3 Uprate project, to be completed during the 2009 and
13 2011 refueling outages. As set forth in the IPP, the project will result in economic
14 benefits to PEF's customers, in terms of fuel savings, and will provide additional
15 clean energy at low cost to PEF consumers. The implementation of the CR3 Uprate
16 project is an important element of the Progress Energy Balanced Solution. The IPP,
17 which is a confidential document, is attached as Exhibit No. __ (DLR-1) to my
18 testimony.

19
20 **Q. Does the Company plan to complete an updated IPP on an annual**
21 **basis to decide whether to go forward with the CR3 Uprate project?**

22 **A. At this point, PEF does not plan to complete a formal IPP each year.**
23 However, the Company will continue to provide regular updates to senior

1 management, following certain project milestones, so that the progress of the project
2 can be effectively monitored.

3

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

5 **A. Yes, it does.**

6

7

8

9

Crystal River Unit 3

Extended Power Uprate

Integrated Project Plan

MASTER NUMBER: 20058849

Sponsoring Business Unit:	Nuclear Projects and Construction
Funding Legal Entity:	Progress Energy Florida
Date Prepared:	January 29, 2008

Treasury Control No.	20061181
-----------------------------	-----------------

Key Project Contacts:

Role, Department/Group	Name	Phone No.
Sponsor, VP - NPC	Danny Roderick	240-4800
Major Projects Manager, EPU	Steve Huntington	240-4752
EPU Engineering Superintendent,	Ted Williams	240-4356
EPU Implementation Superintendent	TBD	
Regulatory	Dave Varner	240-4983
Project Financial Controls	Terry Hobbs	240-4746

DOCUMENT NUMBER: DATE

03563 MAY -1 88

EPSC-COMMISSION-CLERK

Plan Revision Control

Rev No.	Primary Author(s)	Revision Description	Rev Date
0	Ted Williams	Initial publication	3/18/2008
0	Mark Hickman	Initial Publication	3/18/2008

The following is required to be updated for significant revisions that impact any project cost +/- 5% for:

Project cost
Approved funding (to date)
Annual budget

Or Schedule changes that impact the resource plan

Review & Approval

This section contains formal sign-offs for both review & approval of the IPP. "Reviewing" applies to any party reviewing the IPP for accuracy & clarity, while "Approving" applies to those parties responsible for approving project milestone progression & funding.

Reviewing Party	Reviewing Position	Rev Reviewed	Signature	Date
T. Williams	Engineering Superintendent, EPU			00/00/00
D. Varner	Manager, Major Projects Support			
T. Hobbs	Manager, Major Projects Project Controls			
J. Terry	SGR Project Manager			
S. Huntington	Manager, Major Projects - EPU			
J. Franke	Director Site Operations CR3			
B. Cumbie	Crystal River Plant Manager- Fossil			
D. Roderick	VP, Nuclear Projects & Construction			

Approving Party	Approving Position	Rev Approved	Signature	Date
Tom Sullivan	VP, Treasurer & CRO			00/00/00
Jeff Corbett	Sr. VP Energy Delivery Carolinas			
Michael Lewis	Sr. VP Energy Delivery Florida			
Jeff Lyash	President and CEO, PGN Florida			
Lloyd Yeats	President & CEO PGN Carolinas			
John McArthur	Sr. VP Corporate Relations & General Counsel			
Mark Mulhern	Sr. VP Finance			
Paula Sims	Sr. VP Power			

Extended Power Uprate
MASTER NUMBER: 20058849

Jim Scarola	Sr. VP & CNO			
Peter Scott	President & CEO Service Co., CFO PGN			
William Johnson	Chairman, CEO, and President PGN			

AGENDA

- 1.0 Project Overview / Recommendation
- 2.0 Scope Statement
- 3.0 Major Deliverables & Milestone Schedule
- 4.0 Funding Requirements & Update
- 5.0 Economic Evaluation
- 6.0 Assumptions & Constraints
 - 6.1 Risk Strategy
 - 6.2 Contracting & Procurement Strategy
 - 6.3 Regulatory Strategy
 - 6.4 Quality Plan
 - 6.5 Safety Plan
 - 6.6 Environmental Plan
- 7.0 External Stakeholders
- 8.0 Internal Stakeholders
- 9.0 Project Assurance Plan
- 10.0 Communication Plan / Next Steps

APPENDIX:

Definitions & Acronyms

DOCKET 080009
EXHIBIT DLR-1

CONFIDENTIAL
BATES NOS.
PEF-NCR-04481
THROUGH
PEF-NCR-04502