

**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

**In re: Nuclear Cost Recovery  
Clause**

**DOCKET NO. 100009  
Submitted for filing:  
April 30, 2010**

**REDACTED**

**DIRECT TESTIMONY  
OF KENNETH KARP IN SUPPORT OF  
ACTUAL/ESTIMATED AND PROJECTED COSTS**

**ON BEHALF OF  
PROGRESS ENERGY FLORIDA**

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**IN RE: NUCLEAR COST RECOVERY CLAUSE**

**BY PROGRESS ENERGY FLORIDA**

**FPSC DOCKET NO. 100009-EI**

**DIRECT TESTIMONY OF KENNETH KARP**

**I. INTRODUCTION AND QUALIFICATIONS**

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

**A.** My name is Kenneth Karp. My business address is 3300 Exchange Place,  
Lake Mary, FL 32746.

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

**A.** I am employed by Progress Energy Florida, Inc. ("PEF" or the  
"Company") and my title is General Manager of Levy Baseload  
Transmission Projects. In this role, I am responsible for leading a cross-  
functional, multi-disciplinary team in the development and execution of  
the transmission line projects associated with the Levy Nuclear Plant.

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

**A.** I have a Bachelor's degree in civil engineering from the Old Dominion  
University in 1982 and a MBA degree from the University of North  
Carolina in 2000. I have been working in the electric utility industry for  
over 27 years in various generation, transmission and distribution roles.

1 Prior to assuming my current role, I was the General Manager of  
2 Distribution for the eastern region of North Carolina for the Company.  
3 From 2004 to 2006, I was the Distribution Operations Manager for the  
4 southern region in the Carolinas. From 2002 to 2004, I was the  
5 Transmission Substation Maintenance Supervisor for the eastern  
6 transmission area in North Carolina. Prior to this, I held a number of  
7 supervisory, project management and engineering positions within the  
8 Company and in consulting roles in the industry.  
9

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

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

12 **A.** The purpose of my direct testimony is to support the Company's request  
13 for cost recovery pursuant to the Nuclear Cost Recovery Rule for  
14 transmission work in support of the Levy Nuclear Project ("LNP"). My  
15 testimony supports the reasonableness of the Company's actual/estimated  
16 costs for 2010 and the projected costs for 2011.  
17

18 **Q. Have you previously filed testimony in this docket?**

19 **A.** Yes, I filed testimony on March 1, 2010 in support of the prudence of the  
20 actual costs incurred from January 2009 through December 2009 for the  
21 transmission work necessitated by construction of the Company's Levy  
22 Nuclear Power Plants.  
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**Q. Do you have any exhibits to your testimony?**

**A.** No, however, I am sponsoring portions of the schedules attached to Thomas G. Foster's testimony. Specifically, I am co-sponsoring portions of Schedules AE-4, AE-4A, and AE-6 and sponsoring Schedules AE-6A through AE-7B of the Nuclear Filing Requirements ("NFRs"), included as part of Exhibit No. \_\_ (TGF-1) to Thomas G. Foster's testimony. I will also be co-sponsoring portions of Schedules P-4 and P-6 and sponsoring Schedules P-6A through P-7B included as part of Exhibit No. \_\_ (TGF-2) to Mr. Foster's testimony, and co-sponsoring Schedules TOR-4, TOR-6, and TOR-6A which is Exhibit No. \_\_\_\_ (TGF-3) to Mr. Foster's testimony. A description of these Schedules follows:

- Schedule AE-4 reflects Capacity Cost Recovery Clause ("CCRC") recoverable Operations and Maintenance ("O&M") expenditures for the period.
- Schedule AE-4A reflects CCRC recoverable O&M expenditure variance explanations for the period.
- Schedule AE-6 reflects actual/estimated monthly expenditures for site selection, preconstruction and construction cost for the period.
- Schedule AE-6A reflects descriptions of the major tasks.
- Schedule AE-6B reflects annual variance explanations.
- Schedule AE-7 reflects contracts executed in excess of \$1.0 million.
- Schedule AE-7A reflects details pertaining to the contracts executed in excess of \$1.0 million.

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- Schedule AE-7B reflects contracts executed in excess of \$250,000, yet less than \$1.0 million.
  - Schedule P-4 reflects CCRC recoverable O&M expenditures for the projected period.
  - Schedule P-6 reflects projected monthly expenditures for preconstruction and construction costs for the period.
  - Schedule P-6A reflects descriptions of the major tasks.
  - Schedule P-7 reflects contracts executed in excess of \$1.0 million.
  - Schedule P-7A reflects details pertaining to the contracts executed in excess of \$1.0 million.
  - Schedule P-7B reflects contracts executed in excess of \$250,000, yet less than \$1.0 million.
  - Schedule TOR-4 reflects CCRC recoverable actual to date and projected O&M expenditures for the duration of the project.
  - Schedule TOR-6 reflects actual to date and projected annual expenditures for site selection, preconstruction and construction costs for the duration of the project.
  - Schedule TOR-6A reflects descriptions of the major tasks.
- These schedules are true and accurate.

**Q. Please summarize your testimony.**

**A.** Based on the LNP schedule shift, explained in more detail in the testimony of Mr. Jeff Lyash and Mr. John Elnitsky, the Company revised its base

1 load transmission schedule, scope, budget and work plan to align with  
2 LNP schedule activities. This resulted in a decrease in work and cost for  
3 2009 as explained in my March 1, 2010 testimony, and in a re-sequencing  
4 and deferral of 2010 work and planned 2011 work as will be discussed in  
5 more detail below.

6 From January to February 2010, PEF incurred reasonable and  
7 prudent costs on construction expenditures for the transmission line  
8 relocation and upgrade due to the Sunshine Grove Road widening project  
9 in Hernando County, for continuing wetlands delineation and survey  
10 work, and for the associated labor and related indirects, overheads and  
11 contingency to perform general project management, project scheduling  
12 and cost estimating, legal services, and external community relations  
13 efforts related to Levy transmission projects.

14 During the remainder of 2010 and 2011, costs will be incurred for  
15 environmental permitting and engineering design work continued on the  
16 Crystal River Switchyard expansion, land acquisition costs associated with  
17 strategic Right of Ways ("ROWS"), environmental impacts analysis,  
18 transmission wetland mitigation planning and implementation, and for the  
19 associated labor and related indirects, overheads and contingency to  
20 perform general project management, project scheduling and cost  
21 estimating, legal services, and external community relations efforts in  
22 support of the activities listed above.

1 PEF has provided reasonable projections for costs that will be  
2 incurred during the remainder of 2010 and all of 2011. These projected  
3 costs were developed using the best available information to the Company  
4 at this time and taking into consideration the LNP schedule shift. The  
5 Commission should approve PEF's projections as reasonable.

6  
7 **Q. What is the status of the base load transmission activities for the Levy  
8 Nuclear Project?**

9 **A.** As explained in Mr. Elnitsky and Mr. Lyash's testimony, based on various  
10 factors including the Nuclear Regulatory Commission ("NRC") licensing  
11 timeline, there will be a partial suspension of pre-construction and  
12 construction activity under the Company's Engineering, Procurement and  
13 Construction Agreement ("EPC Agreement") and a schedule shift for the  
14 completion of the LNP. As a result, PEF continues to review the impact  
15 of the schedule shift on the transmission portion of the LNP continuing  
16 into 2010. Most of the LNP transmission activities will be deferred past  
17 the receipt of the Combined Operating License ("COL") and will be  
18 rescheduled based on new in-service dates for the Levy plants. The overall  
19 scope of the pre-construction and construction transmission activities  
20 planned for the LNP have not materially changed. Rather, the schedule  
21 within which this work will be performed has been adjusted to account for  
22 the schedule shift.

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**Q. What impact, if any, will the schedule shift have on PEF's 2010 and 2011 transmission costs?**

**A.** The schedule shift will result in a decrease in the amount of planned engineering and construction costs for the project in 2010 and 2011 primarily related to land acquisition and transmission line and substation engineering construction labor, material, and equipment costs. The actual/estimated and projected figures for both 2010 and 2011, explained in more detail below, reflect these reductions in costs. Although we will be decreasing our LNP transmission engineering and construction spending in 2010 and 2011 resulting in minimized cash flows in the near term, we plan to focus on continued Crystal River Switchyard expansion engineering design and permitting, environmental impacts analysis, transmission wetland mitigation planning and implementation, strategic land acquisition, project management, project scheduling and cost estimating, legal services, and external community relations activities for the project, which we believe is a reasonable and prudent course of action at this time.

**III. TRANSMISSION PRE-CONSTRUCTION ACTIVITIES**

**Q. What pre-construction activities are you undertaking in 2010 and 2011?**

**A.** The principal pre-construction activities to be performed in 2010 and 2011 include (i) environmental permitting and engineering design work on the



1 Crystal River Switchyard expansion, (ii) environmental impacts analysis,  
2 (iii) transmission wetland mitigation planning and implementation, and  
3 (iv) general project management, project scheduling and cost estimating,  
4 legal services, and external community relations activities such as  
5 responding to customer inquiries via telephone and email and web and  
6 outreach to local, state and federal agencies. These efforts are required to  
7 manage the overall transmission work necessitated by the LNP.  
8

9 **Q. What costs has PEF included in this filing for transmission pre-**  
10 **construction costs?**

11 **A.** PEF has filed actual/estimated 2010 and projected 2011 pre-construction  
12 costs for transmission for the LNP. Schedule AE-6 of Exhibit No. \_\_\_\_  
13 (TGF-1) to Mr. Foster's testimony shows total actual/estimated  
14 transmission pre-construction costs for 2010 to be ■■■ million in the  
15 following categories: Substation Engineering ■■■ million; and Other ■■■  
16 million.

17 Projected transmission pre-construction costs for 2011 are ■■■  
18 million. Schedule P-6 of Exhibit No. \_\_\_\_ (TGF-2) to Mr. Foster's  
19 testimony breaks down the 2011 projected transmission pre-construction  
20 costs into the following categories: Substation Engineering \$■■■ million;  
21 and Other \$■■■ million.  
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**Q. Please describe what the pre-construction Substation Engineering costs are and explain why the Company has to incur them.**

**A.** For 2010, these costs include design and engineering work on the Crystal River Switchyard Substation expansion project and costs for environmental permitting work. Costs for design and engineering on the Crystal River Switchyard expansion project and environmental permitting costs will continue into 2011 and also make up the 2011 projected costs. As previously discussed, PEF is in the beginning stages of this long-term expansion project which is a necessary addition to improve grid stability and system capacity based on the addition of the Levy units.

**Q. Please describe what the Other category of transmission pre-construction costs include and explain why the Company needs to incur them.**

**A.** For 2010 and 2011 these costs include labor and related indirects, overheads and contingency in support of permitting and engineering design work for Crystal River Switchyard expansion project, environmental impacts analysis, transmission wetland mitigation planning and implementation. They also include general project management, project scheduling and cost estimating, and legal services and external community activities. All of these pre-construction costs are necessary to support the LNP transmission work.

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**Q. Please describe how the transmission pre-construction cost estimates were prepared.**

**A.** PEF developed the Substation Engineering and Other pre-construction cost estimates on a reasonable engineering basis, in accordance with Association for the Advancement of Cost Engineering International (“AACEI”) standards, using the best available engineering and utility market information at the time, consistent with utility industry and PEF practice. The substation portion of the estimate, based on conceptual and preliminary designs, was done on a site-by-site basis for the equipment required. The management and indirect costs within the project estimates were developed based on the project schedule and staffing requirements. Costs include PGN labor and related overheads and indirects, contingency and escalation related to the inherent risk associated with a conceptual and preliminary design. These cost estimates used preliminary transmission project plans and project schedules to determine what transmission pre-construction work will be done and when it will be done to ensure that the transmission facilities will be ready and necessary project milestones are met consistent with the LNP schedule shift. These costs were prepared with the best available information PEF has to date taking into consideration the shift in the schedule of the COL receipt and the in-service dates for the Levy nuclear plants.

1           **IV. TRANSMISSION CONSTRUCTION ACTIVITIES**

2           **Q. What costs has PEF included in this filing for transmission**  
3           **construction costs?**

4           **A.** PEF has actual/estimated 2010 and projected 2011 Construction costs for  
5           transmission for the LNP. Schedule AE-6 of Exhibit No. \_\_\_\_ (TGF-1)  
6           shows actual/estimated transmission construction costs for 2010 in the  
7           total amount of \$█ million in the following categories: Real Estate  
8           Acquisition \$█ million; Line Construction \$█ million; and Other \$█  
9           million.

10                       The total projected transmission construction costs for 2011 are  
11           \$█ million. Schedule P-6 of Exhibit No. \_\_\_\_ (TGF-2) breaks down the  
12           2011 projected transmission construction costs into the following  
13           categories: Real Estate Acquisition \$█ million; Substation Construction  
14           \$█ million; and Other \$█ million.

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16           **Q. Please describe the Real Estate Acquisition costs and explain why the**  
17           **Company needs to incur them.**

18           **A.** For 2010, these costs include acquisition of strategic ROWs and  
19           associated costs necessary for the transmission facilities to support the  
20           addition of the Levy Units to PEF's system. These costs are necessary to  
21           ensure that the ROW and other land upon which the transmission facilities  
22           will be located are available for the LNP. In addition, PEF finalized and  
23           plans to submit its Wetland Mitigation Plan to the Florida Department of

1 Environmental Protection (“FDEP”) and began negotiations with local and  
2 state government entities and private parties over use of the land.

3 Thereafter the plan will be submitted to the U.S. Army Corps of Engineers  
4 (“USACE”) for review and comment. PEF anticipates that costs will be  
5 incurred for the review with the FDEP and the USACE.

6 In 2011, PEF projects activity to revolve around ongoing costs  
7 related to strategic ROW acquisition and continuing wetland mitigation  
8 plan submittal negotiations and other associated activities.

9  
10 **Q. Please describe the Line Construction costs and explain why the**  
11 **Company needs to incur them.**

12 **A.** For 2010, these costs include expenditures for the construction of a portion  
13 of the Brookridge to Brooksville West 230kV line project. As part of the  
14 LNP Transmission Project, a new circuit between the existing Brookridge  
15 and Brooksville West substations is required. Hernando County is  
16 performing a road widening project along Sunshine Grove Road making it  
17 necessary for the PEF Transmission, Operations, and Planning Department  
18 (“TOPD”) to relocate the existing 115kV wood structure line out of the  
19 path of the wider roadway. The relocation of the existing transmission  
20 line structures provided the opportunity for LNP to gain efficiencies by  
21 installing new structures that will accommodate the existing 115kV  
22 transmission line and the new 230kV transmission line needed for the  
23 LNP Transmission Project. The LNP Transmission team funded the

1 incremental costs associated with installing structures large enough to  
2 accommodate the planned future addition of the Brookridge to Brooksville  
3 West 230 kV line to the existing 115kV transmission line. The joint  
4 project work with TOPD, completed in early 2010, minimized the impact  
5 on the community and the environment, and negated the need to replace  
6 these structures when the new Levy-required circuit is installed.

7 PEF has not projected any Line Construction costs for 2011 at this  
8 time.

9  
10 **Q. Please describe the Substation Construction costs and explain why the**  
11 **Company needs to incur them.**

12 **A.** PEF has not estimated any Substation Construction costs for 2010. For  
13 2011, projected costs include (i) Crystal River Switchyard expansion  
14 work, (ii) work on the vehicle barrier system expansion modifications, and  
15 (iii) construction activities for a storm water retention pond required due  
16 to increasing the impervious surface area.

17  
18 **Q. Please describe what the Other transmission construction costs are**  
19 **and explain why the Company needs to incur them.**

20 **A.** For 2010 and into 2011, these costs include labor and related indirects,  
21 overheads and contingency in support of construction of a portion of the  
22 Brookridge to Brooksville West 230kV transmission line project, Crystal  
23 River Switchyard expansion construction activities, and strategic

1 transmission ROWs and wetlands acquisition activities. They also include  
2 general project management, project scheduling and cost estimating, legal  
3 services and external community relations outreach to local, state and  
4 federal agencies. These construction costs are necessary for the LNP  
5 transmission project work.

6  
7 **Q. Please describe briefly how the transmission construction cost**  
8 **estimates were prepared.**

9 **A.** PEF developed these Line Construction, Substation Construction, Real  
10 Estate Acquisition, and Other transmission construction cost estimates on  
11 a reasonable engineering basis, in accordance with AACEI standards,  
12 using the best available construction and utility market information at the  
13 time, consistent with utility industry and PEF practice. The transmission  
14 construction portion of the estimate, based on conceptual and preliminary  
15 designs, was developed on a cost per mile basis. Various rates were used  
16 based on voltage of the proposed lines. Real estate costs within the project  
17 estimates are based on an expected dollar per acre amount based on the  
18 type and location of the property using current route selection analysis.  
19 The substation construction portion of the estimate, based on conceptual  
20 and preliminary designs, was done on a site-by-site basis for the  
21 equipment required. The management and indirect costs within the  
22 project estimates were developed based on the project schedule and  
23 staffing requirements. Costs include PGN labor and related overheads and

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indirects, contingency and escalation related to the inherent risk associated with a conceptual and preliminary design. These estimates reasonably reflect the necessary LNP transmission project work taking into account the shift in the LNP schedule. Because transmission facilities must be designed, constructed, and operational in time for the expected commercial in-service of the LNP, we have assessed the work plan based on the schedule shift and preliminarily identified what work must be done to ensure the transmission facilities will be ready and necessary project milestones met with this schedule shift. The construction costs included for 2010 and 2011 in this filing reasonably reflect that preliminary assessment.

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

**A. Yes, it does.**