BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Nuclear Cost Recovery Clause

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

DIRECT TESTIMONY
OF JON FRANKE 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 JON FRANKE

I. INTRODUCTION AND QUALIFICATIONS

Q. Please state your name and business address.

A. My name is Jon Franke. My business address is 15760 W. Powerline St., Crystal River, FL 34442.

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

A. I am employed by Progress Energy Florida, Inc. ("PEF" or the "Company") in the Nuclear Generation Group and serve as Vice President – Crystal River Nuclear Plant.

Q. What are your job responsibilities?

A. As Vice President I am responsible for the safe operation of the nuclear generating station. The Plant General Manager, Site Support Services and Training sections report to me. Additionally, I have indirect responsibilities in oversight of major project and engineering activities at the station. Through my management team I have about 420 employees that perform the daily work required to operate and maintain the station.

Q. Please summarize your educational background and work experience.

A. I have a Bachelor's degree in Mechanical Engineering from the United States Naval Academy at Annapolis. I have a graduate degree in the same field from the University of Maryland and a Masters of Business Administration from the University of North Carolina at Wilmington.

I have over 20 years of experience in nuclear operations. I received training by the U.S. Navy as a nuclear officer and oversaw the operation and maintenance of a nuclear aircraft carrier propulsion plant during my service. Following my service in the Navy I was hired by Carolina Power and Light and have been with the Company through the formation of Progress Energy. My early assignments involved engineering and operations, including oversight of the daily operation of the Brunswick nuclear plant as a U.S. Nuclear Regulatory Commission ("NRC") licensed Senior Reactor Operator. I was the Engineering Manager of that station for three years prior to assignment to Crystal River as the Plant General Manager in 2002. Approximately one year ago I was promoted to my current position.

II. PURPOSE AND SUMMARY OF TESTIMONY

Q. What is the purpose of your direct testimony?

A. The purpose of my direct testimony is to support the Company's request for cost recovery pursuant to the Nuclear Cost Recovery Rule for replacement and modification of equipment at CR3 to support an increase in electrical generation power from the nuclear plant. My testimony supports the Company's

actual/estimated and projected costs for 2010 and 2011, and explains why these costs are reasonable. Finally, my testimony explains why the Crystal River 3 ("CR3") Extended Power Uprate project ("CR3 Uprate") is feasible, pursuant to Rule 25-6.0423(5)(c)5, F.A.C.

Q. Have you previously filed testimony in this docket?

A. Yes, I filed testimony on March 1, 2010 in support of the actual costs incurred in 2009 for the CR3 Uprate project.

Q. Do you have any exhibits to your testimony?

A. Yes, I am sponsoring the following exhibits to my testimony:

- Exhibit No. __ (JF-1), a Table summarizing the Company's updated cumulative present value revenue requirements ("CPVRR") analysis of the fuel savings benefits of the CR3 Uprate; and
- Exhibit No. ____(JF-2), a list of the low pressure turbine alternative installation options evaluated by the Company.

Also, I am co-sponsoring portions of Schedules AE-4, AE-4A, AE-6.3 and sponsoring Schedules AE-6A.3 through AE-7B and Appendix B of the Nuclear Filing Requirements ("NFRs"), included as part of Exhibit No. __ (TGF-4) to Thomas G. Foster's testimony. I will also be co-sponsoring portions of Schedules P-4 and P-6.3; sponsoring Schedules P-6A.3 through P-7B and Appendix D & E of Exhibit No. ___ (TGF-5) to Mr. Foster's testimony; and co-sponsoring

Schedules TOR-6 and sponsoring TOR-6A TOR-7 of Exhibit No. _____(TGF-6) 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 costs 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.
- Schedule AE-7B reflects contracts executed in excess of $250,000, yet less than $1.0 million.
- Appendix B reflects the reconciliation of the beginning construction work in progress ("CWIP") balance for those assets placed into rate base that are not yet in service as detailed on AE-2.3.
- Schedule P-4 reflects CCRC recoverable O&M expenditures for the 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.
- Appendix D reflects the revenue requirements calculated for the period 2006-2011.
- Appendix E reflects the capital spend recorded for the period 2006-2011.
- Schedule TOR-6 reflects actual to date and projected monthly expenditures for preconstruction and construction costs for the duration of the project.
- Schedule TOR-6A reflects descriptions of the major tasks.
- Schedule TOR-7 reflects initial project milestones in terms of costs, budget levels, initiation dates, and completion dates.

These exhibits, schedules, and appendices are true and accurate.

Q. Please summarize your testimony.

A. In 2010, PEF incurred reasonable and prudent costs to complete work for the second phase of the CR3 Uprate project during the 2009 refueling outage called the R16 outage. PEF also reasonably and prudently incurred and will continue to incur costs in 2010 to move forward with work for the third and final phase of the project and to finalize the Company's License Amendment Request ("LAR") for the project and support that request before the NRC. Work on the final phase of the CR3 Uprate project and to obtain NRC approval of the LAR for the full uprate

will continue in 2011 as PEF prepares for the next CR3 refueling outage and the completion of the CR3 Uprate project.

As demonstrated in my testimony and the NFRs filed as exhibits to Mr. Foster's testimony, PEF took adequate steps to ensure that the costs it incurred were reasonable and prudent. PEF has also provided reasonable projections for costs to be incurred during the remainder of 2010 and all of 2011 for the final phase of the CR3 Uprate project. These projected costs were developed using the best available information to the Company at this time and the Commission should approve PEF's projections as reasonable.

III. 2010 ACTUAL/ESTIMATED AND 2011 PROJECTED PERIODS

Q. Does the Company plan to incur costs for the CR3 Uprate project during 2010 and 2011?

A. Yes. PEF must incur costs in 2010 and 2011 to prepare for the last phase of the CR3 Uprate project, the Extended Power Uprate ("EPU") phase, which is scheduled for completion during the next plant refueling outage called R17. PEF recently decided that the R17 outage will take place in the spring of 2012. In 2010, PEF incurred costs to complete significant uprate work during the R16 outage. In 2010 and 2011, PEF will incur costs to: (1) continue the engineering design work for the third phase of the uprate to be completed during the next refueling outage; (2) provide detailed field implementation planning of the engineering design work; (3) complete and submit the EPU LAR to the NRC and work through the licensing review process with the NRC; (4) develop CR3 Uprate

vendor oversight plans and schedules for the R17 outage manufacturing cycle; and (5) work on vendor selection and procure long lead equipment for the EPU work during the R17 outage. In 2011, PEF expects to complete the planning, long-lead equipment procurement, and preparation work for the installation of EPU equipment and other EPU work in time for the 2012 R17 outage.

Q. What is left to do in the third and last phase of the CR3 Uprate project to accomplish the power uprate?

A. We will complete the supporting engineering and design calculation work and install and test major components. Several new components will need to be installed. These components include two condensate pumps and associated motors, two booster feed pumps and associated motors, two feedwater pumps, two feedwater heaters, a high pressure turbine ("HPT") and the low pressure turbines ("LPTs"). Engineering design work is necessary to develop the specifications for this equipment and material. During this last phase new cooling towers will also be installed. Additional safety related equipment will be installed including a fast cool down system. At this time, the EPU work during the next refueling outage is estimated to take 45 days. This estimate will be refined as the 2012 outage date approaches.

Q. Why was the next CR3 refueling outage moved to the spring of 2012?

A. The CR3 unit is currently in an extended outage. Refueling outages at CR3 typically occur on an eighteen to twenty-four month cycle. The exact term of the

refueling cycle depends on such factors as the most efficient use of nuclear fuel, the timing of required inspections and tests, the cost of replacement generation and Company resources. As a result of the current extended refueling outage at CR3, and taking into account these factors, the Company determined the most reasonable time for the next CR3 refueling outage is the spring of 2012. As we complete the current outage, this decision will continue to be evaluated.

Q. Was the current refueling outage extended as a result of the CR3 Uprate project?

A. No, it was not. The current extended outage occurred because of a delamination of concrete in an area of the containment building wall which was discovered while work was being done for the Steam Generator Replacement project during the R16 refueling outage. This event had nothing to do with the CR3 Uprate project work during the same refueling outage.

Q. Has the extended outage associated with the Steam Generator Replacement increased the costs of the EPU project?

A. The impact on overall project costs is minimal. The EPU project cost is expected to be impacted somewhat by escalations, maintenance of staffing levels, and storage of materials and equipment that were previously procured for the project. However, PEF does not expect any such impacts to be material given the relatively short delay of the R17 outage and no change in work scope.

A. Low Pressure Turbine Installation Deferral

Q. The Company originally planned to install new low pressure turbines during the R16 refueling outage. Did the Company do so, and if not, why?

A. No, the Company did not install new LPTs as initially planned during the R16 refueling outage. As I explained in my May 2009 testimony, the DC Cook plant in Michigan experienced problems with similar LPTs in September 2008 resulting in a forced outage and turbine repairs. Since the event at DC Cook, PEF has evaluated the technical issues surrounding the DC Cook problems, including a review of the root cause analysis undertaken by AEP, the owner and operator of DC Cook, and Siemens, the manufacturer of the LPTs in question. Based on that evaluation, it appeared to the Company that issues at DC Cook were sufficiently unique to that facility and its turbine operating characteristics that they were not a deterrent to installation of the planned LPTs at CR3. Accordingly, PEF planned to follow its initial plan of installing the new LPTs during the R16 refueling outage. However, two additional issues have arisen that have caused PEF to defer the installations until the R17 refueling outage. The first issue deals with the results of a performance test of the LPTs which occurred on April 29, 2009. The second issue is related to insurance coverage for the new LPTs.

Q. Please describe the issue related to the performance test of the LPTs.

A. During the manufacturer's bunker spin test of the last row of rotor blades for the LPTs designed for CR3, a blade row disk slipped. This test result was determined to be a manufacturing problem and not a design issue. Nevertheless, PEF

determined that it would be prudent to exercise its rights under the equipment contract to require assurances from the manufacturer regarding the performance and reliability of the LPTs. On May 11, 2009, PEF sent a letter to the manufacturer requesting such assurances. In response the manufacturer has undertaken additional testing and has designed additional monitoring protocols. Information received to date appears to confirm PEF's initial assessment that the design of the LPTs is sound and that the failure of the bunker spin test was a manufacturing issue that can be corrected.

Q. Please describe the insurance coverage issue related to the new LPTs.

A. In the aftermath of the incident at DC Cook, Nuclear Electric Insurance Limited ("NEIL"), PEF's primary insurance carrier for its nuclear property, expressed concerns regarding the provision of coverage for LPTs similar to the ones that had been installed at DC Cook. PEF worked with NEIL to assess the issue and NEIL's current position is that it would only provide partial coverage for the new LPTs after 18 months of operation and full coverage after 36 months of operation. Specifically, NEIL has indicated it would not insure the last row (L0) blades. NEIL's position is based on the fact that, at this time, a definitive root cause for the DC Cook event has not been established. NEIL has not identified to PEF any design flaw or technical reason for limiting the coverage for the LPTs.

In light of NEIL's position on this matter, PEF has begun discussions with other insurance providers to assess the availability of alternative coverage for the

new LPTs. The Company will also continue to discuss this matter with NEIL as circumstances develop that may alter NEIL's current stance.

Q. How did the issues related to the testing of the LPTs and insurance coverage for the LPTs effect PEF's plans regarding this equipment?

A. The Company concluded that it would be prudent, in light of these issues, and Siemens' inability to deliver the LPTs to support the original schedule for R16 per the original specifications, to defer the installation of the new LPTs until the next refueling outage. This decision will provide the Company with additional time to analyze the LPT issues further and to work with the turbine manufacturer to resolve any issues.

Q. What LPT options has the Company evaluated?

A. The Company's current plan is to install the new LPTs with the last row of blades in the next refueling outage. The Company has considered and evaluated alternative options for the LPTs as part of the CR3 Uprate project. As shown in Exhibit No. ___(JF-2), one option would be to continue to operate the existing LPTs. Option 2 is the original plan to install the full new LPTs with the last row of blades at the next refueling outage. Option 3 would be to install the new LPTs for the CR3 Uprate without the last row of turbine blades during the next refueling outage. Because the problem at DC Cook was limited to the last row of blades PEF believes that NEIL would provide full coverage for the new LPTs if they are installed without the last row of blades, but that configuration, would

reduce the MW uprate for CR3. If the Company elects to install the LPTs initially without the last row of blades, the Company would still have the option of installing those blades during a subsequent refueling outage. Finally, the Company also considered installation of an alternative LPT design at a refueling outage following the next planned outage.

Q. What option did the Company choose and why?

A. The Company plans to install the 18 M^2 with the last row of blades as originally contemplated for the CR3 Uprate project. The installation will take place in the R17 refueling outage with the remaining EPU work. This will result in the full increase of approximately 180MWe for the CR3 plant when the EPU phase is completed and the plant is brought back on-line. As explained in the feasibility discussion below, PEF's customers would benefit from additional fuel savings over the remaining operational life of the nuclear unit regardless of what option PEF chose regarding the LPTs, but this option provides the most benefit.

Q. What types of costs does PEF project to incur for the CR3 Uprate project during 2010 and 2011?

A. As reflected in Schedule AE-6.3 of Mr. Foster's Exhibit No. __ (TGF-4), the total 2010 actual/estimated construction costs are broken down into six categories: License Application cost of $1.6 million; Permitting costs of $0.1 million; Project Management costs of $9.7 million; On-Site Construction Facilities costs of $0.7 million; Power Block Engineering, Procurement, and related construction costs of

$43.0 million; and Non-Power Block Engineering, Procurement and related construction costs of $11.3 million.

As reflected in Schedule P-6.3 of Mr. Foster's Exhibit No. __ (TGF-5), the 2011 projected construction costs are broken down into six categories: License Application cost of $0.5 million; Permitting costs of $0.1 million; Project Management costs of $4.7 million; On-Site Construction Facilities costs of $0.2 million; Power Block Engineering, Procurement, and related construction costs of $45.4 million; and Non-Power Block Engineering, Procurement and related construction costs of $16.9 million.

B. Planned License Application Work

Q. What Licensing Application work must be performed in 2010 and 2011?

A. For 2010, these costs include work to prepare and submit the Company's LAR to the NRC in support of the EPU for the CR3 Uprate. The LAR is necessary to complete the CR3 Uprate because PEF cannot operate CR3 at the increased megawatt level for the EPU without NRC approval. As previously discussed in my March 1, 2010 testimony, PEF contracted with AREVA to assist in preparing the LAR. Specifically, this work involved conducting engineering analyses and providing engineering support necessary for the preparation of the LAR content along with oversight and assistance in the actual preparation of the LAR document. PEF anticipates filing the LAR with the NRC by June 1, 2010. The NRC LAR review is expected to take 12 to 14 months with NRC approval well before the planned EPU work during the R17 refueling outage. For the remainder

of 2010 and into 2011, PEF will work closely with the NRC throughout the review process, providing additional information and assistance as required. The License Application costs for 2010 and 2011 includes the work necessary to obtain NRC approval of the LAR.

PEF developed the License Application cost estimates using a reasonable licensing and engineering basis, with the best available information, consistent with utility industry standard cost estimation practices. PEF incorporated "lessons learned" on other LARs in its estimates of the cost to prepare the LAR and obtain NRC approval. PEF also used its engineering judgment and experience to determine the costs needed to ensure timely submittal and approval of the LAR. The 2010 and 2011 licensing application cost projections are, therefore, reasonable.

Q. Does PEF expect the NRC to approve the LAR for the CR3 Uprate in 2011?

A. Yes, it does. The Company expects its updated LAR to be approved in 2011 by the NRC following a typical set of requests for additional information ("RAIs"). PEF's LAR contains more detail and additional analysis than LARs previously submitted by other companies and approved by the NRC. PEF incorporated the "lessons learned" from these prior LARs in its LAR for the CR3 Uprate. The Company has also worked closely with the NRC and various outside experts to assure that the LAR contains sufficient detail based on present NRC standards to obtain NRC approval.

Q. What Permitting work was and will be done in 2010 and 2011 and why does the Company need to incur the cost of that work?

A. PEF expects work on a revision to CR3's Initial Site Certification, which represents an integrated environmental approval by federal, state, regional and local agencies. This revision to the Certification is needed to implement recirculation to intake if this option is pursued. To mitigate the additional heat generated at uprated conditions in the site cooling water discharge canal, an additional cooling tower will be constructed as part of the EPU project. The purpose is to maintain the cooling water temperature below the permitted maximum temperature at the point of return to the Gulf of Mexico. One feature of the new cooling tower is the return of a portion of the cooled water back to the plant intake canal to be reused in the plant's cooling systems. This feature will reduce the volume of water drawn from the Gulf of Mexico each day needed to support plant operation but must be certified via the revision to the Initial Site Certification. Additional permits or permit changes are also necessary to support operation of the currently planned new cooling tower at the Crystal River Energy Complex. As I explained last year, the Florida Department of Environmental Protection ("FDEP") approved the Company's application to construct this cooling tower. The additional permit work that is necessary in 2010 and 2011 to support the operation of the new cooling tower includes the canal interfaces reviewed by the Army Corps of Engineers, Environmental Resource Permits for percolation pond over-flow by DEP, and any National Pollutant Discharge Elimination System ("NPDES") changes that are addressed with DEP and the

U.S. Environmental Protection Agency ("EPA"). These permitting activities for the CR3 Uprate project are well underway and on-schedule to be completed before project completion.

PEF's estimates for the permitting work necessary for the CR3 Uprate project in 2010 and 2011 are based on PEF's experience with similar permitting work on this and other projects. PEF reasonably incorporated industry knowledge and experience in its estimates. As a result, PEF's cost estimates reasonably reflect the cost of performing the permitting work necessary for the CR3 Uprate project.

Q. What Project Management work was and will be done in 2010 and 2011 and why does the Company need to incur the cost of that work?

A. After successfully managing the completion of the CR3 Uprate project work in the first two phases during the 2007 and 2009 CR3 refueling outages, PEF will continue to manage the CR3 Uprate project through the successful completion of the EPU and final phase of the project in the next planned refueling outage. Project management costs are on-going as we wrap up the uprate project phase two work in 2010 and prepare for the uprate phase three work in 2012. Our project management costs include the activities conducted pursuant to PEF's project management and cost control oversight policies and procedures necessary to support, supervise and manage the final phase of the CR3 Uprate project. These project management and cost control policies and procedures were described in my March 1, 2010 testimony.

The Company's project management work consists of: (1) project administration, including project instructions, staffing, roles and responsibilities, and interface with accounting, finance, and senior management; (2) contract administration, including status and review of project requisitions, purchase orders, and invoices, contract compliance, and contract expense reviews; (3) project controls, including schedule maintenance and milestones, cost estimation, tracking and reporting, risk management, and work scope control; (4) project management, including project plans, project governance and oversight, task plans, task monitoring plans, lessons learned, and task item completions; (5) project training, including the uprate project training program, training of personnel in accordance with the training program, and maintaining training records; and (6) management of the CR3 Uprate licensing work. These activities are necessary to ensure that the CR3 Uprate project work scope, schedule, and cost to implement the work scope achieve the CR3 Uprate project objectives.

The CR3 Uprate project management cost estimates were developed using the best available information to the Company on the scope of the project management activities, our experience and "lessons learned" from managing the uprate and other projects, knowledge gained from industry and PEF best management practices. As a result, PEF project management costs for 2010 and 2011 are reasonable.

Q. What On-Site Construction Facilities work was and will be done in 2010 and 2011 and why does the Company need to incur the cost of that work?

A. The 2010 costs are related to demobilizing the facilities used during the fall 2009 refueling outage by EPU project staff. The 2011 costs are related to installing temporary equipment storage and personnel staging facilities in preparation for the 2012 outage.

PEF developed these on-site construction facilities cost estimates on a reasonable engineering basis, using the best available information, consistent with utility industry and PEF practice. Based on PEF's experience with other construction projects, which involve similar types of activities that are necessary before construction can commence, PEF developed reasonable estimates for the on-site construction facilities costs for the CR3 Uprate project. In addition, PEF has successfully completed phases one and two of the CR3 Uprate project and has added to its knowledge base regarding estimating personnel, building and other facilities necessary to accomplish the required scope of work. These costs are therefore reasonable.

Q. Please describe the total costs PEF will incur for the Power Block Engineering, Procurement and related construction cost items and explain why the Company needs to incur them in 2010 and 2011.

A. These costs include engineering, design specification of material, and equipment procurement costs associated with the CR3 refueling outage, R17 outage work scope, scheduled for spring of 2012. The work scope includes the HPT and LPTs.

This work also includes the specifications for and procurement of long lead materials including: feed water booster pump motors, condensate pumps motors, atmospheric dump valves, and safety related motor operated valves and low pressure injection system components, among other material and equipment, to be installed during the EPU phase.

This work scope is necessary to achieve the power uprate objectives of the CR3 Uprate project and therefore the costs of this work scope are reasonable and prudent. PEF projected its 2010 and 2011 power block engineering, procurement, and related construction item costs using actual contract figures and project schedule milestones. From existing contracts, PEF estimated the procurement and construction costs for the equipment not yet under contract. PEF expects to have the additional contracts in place by the third quarter of 2010. The procurement of material is scheduled with end dates selected to support pre-outage milestones established by outage and project management. For example, for the planned outage in 2012, PEF must order and make payments on certain equipment during a particular timeframe. These payment amounts and the times for payment will be set forth in various contracts, and these payment terms are used for the projections. The 2010 and 2011 power block engineering, procurement, and related construction item cost projections are, therefore, reasonable.

Q. What process does PEF employ to ensure that its vendor costs are reasonable and prudent?

A. First, a requisition is created in the Passport Contracts module for the purchase of services. The requisition is reviewed by the appropriate Contract Specialist in Corporate Services or field personnel on the CR3 Uprate project, to ensure sufficient data has been provided to process the contract requisition. The Contract Specialist prepares the appropriate contract document from pre-approved contract templates in accordance with the requirements stated on the contract requisition. The contract requisition then goes through the bidding or finalization process discussed below. Once the contract is ready to be executed, it is approved online in accordance with the Approval Level Policy and a contract is created. Contract invoices are received by the CR3 Uprate project managers. The invoices are validated by the project managers and payment authorizations approving payment of the contract invoices are entered and approved in the contracts module of the Passport system.

PEF is employing a competitive bidding process to choose the vendors with which it will contract in 2010 and 2011 for the EPU. PEF issues Request For Proposals ("RFPs"), evaluates the RFP responses based on a variety of factors including price, dependability of the vendor, technical considerations and the like, and then chooses the vendor that will provide the best value for the price. A list of contracts executed in excess of $1 million is included in Schedule AE-7 and a detailed description is provided on Schedule AE-7A.

Procurement under contracts, purchase orders, and invoices are all addressed on a regular basis by project management. The administration of contracts with outside vendors is constantly monitored. Project managers meet regularly with outside vendors to monitor work scope, implementation, schedule, and costs.

Q. Does PEF anticipate having any new sole or single source vendor contracts in 2010 and 2011?

A. At this time, PEF does not anticipate entering into any new single or sole source vendor contracts to complete the CR3 Uprate project.

Q. Are there any other costs included in the Company's projections for 2010 and 2011 for the CR3 Uprate project?

A. Yes, PEF projects that it will incur approximately $12.0 million in 2010 and $17.3 million in 2011, gross of joint owner billing and exclusive of carrying costs, to address the Point of Discharge ("POD") issue. As I explained above, a new cooling tower will be constructed at the Crystal River Energy Complex to eliminate the additional heat from the uprate project in the discharge canal. PEF currently expects to place the cooling tower in service before completion of the EPU work on the CR3 Uprate project during the next refueling outage in 2012. These POD costs are part of the Non-Power Block Engineering, Procurement, and related construction cost categories on Schedules AE-6 and P-6 of Exhibits Nos. ____ (TGF-4) and (TGF-5), respectively. These costs are necessary to achieving

the objectives of the final uprate. The cost estimates are based on the Company's experience with similar projects and similar industry projects. The costs are therefore reasonable.

Q. Please describe the projected costs being placed in-service for the CR3 Uprate project in 2011.

A. Approximately $80.5 million on a system basis or $73.3 million of assets on a retail basis will be placed into service as reflected on Line 3 of Schedule P-2.3 of Exhibit No. __(TGF-5). This is net of joint owners and does not include AFUDC. These costs are primarily associated with the LAR which will allow the plant to operate the increased megawatt output from the EPU, and the POD Recirculation Line and Forced Draft Cooling Tower which will handle the additional heat output.

Q. Are the costs projected for the CR3 Uprate project in 2010 and 2011 separate and apart from those that the Company would have incurred to operate CR3 during the extended life of the plant.

A. Yes, they are. PEF has only included for recovery in this proceeding those costs that were incurred solely for the CR3 Uprate that would not have been incurred but for the CR3 Uprate project. There are no costs included in the CR3 Uprate project that would be needed to continue the operation of the plant for an additional twenty (20) years.

IV. TRUE UP TO ORIGINAL COST FILING FOR 2010

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

A. Yes, these schedules are provided in Exhibit No. _ (TGF-6) to Mr. Foster's testimony, Schedules TOR-1 through TOR-7.

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

A. As reflected on Schedule TOR-7, the total current project estimate, exclusive of AFUDC and including fully loaded costs, is $418.6 million. The original estimate provided in the need determination proceeding was $381 million, which did not reflect the full "Financial View" or fully loaded costs but instead reflected the estimated direct costs. The original estimate inclusive of the indirect costs is $439.3 million as presented in Schedule TOR-7. As I explained above, we now have many contracts in place for the CR3 Uprate project work, and our current cost estimates are based on these contract costs and estimates of supporting project management and other work by PEF. Another change in the estimate is the elimination of the transmission costs that were included in the original estimate. The current total project estimate is, therefore, based on the best available information at the time of this filing.

V. PROJECT MANAGEMENT AND COST CONTROL OVERSIGHT

Q. Has the Company implemented any additional project management and cost control oversight mechanisms for the CR3 Uprate project since the testimony you filed on March 1, 2010?

A. The Company has not implemented any additional project management or cost control oversight policies or procedures for the CR3 Uprate since the discussion of these procedures in my March 1, 2010 testimony.

As discussed in my March 1, 2010 testimony, the Company utilizes several policies and procedures to ensure that costs for the CR3 Uprate project are reasonably and prudently incurred. First, the CR3 Uprate is managed in accordance with the Company's Project Management Manual, which is used to manage all capital projects, together with the Company's policies and procedures for Major Capital Projects – Integrated Project Plan (scheduled to be updated on May 27, 2010). The IPP is being updated to account for changes in the work plan since the last update including the shift in the R17 outage schedule and the deferral of the LPTs.

The CR3 Uprate project is also managed in accordance with the Project Evaluation and Authorization process and subject to PEF's Project Governance Policy. In addition, the Company has many control mechanisms in place to manage project costs. PEF's project management team for the CR3 Uprate conducts regular internal meetings to monitor the progress of the project and its costs and to incorporate collective knowledge and experience of the team in addressing work scope, costs, the implementation of the work, and schedule

performance. Project management team members continually review the project, including roles and responsibilities, and create and implement lessons learned on a continuing basis.

Procurement under contracts, purchase orders, and invoices are all addressed on a regular basis by project management. The administration of contracts with outside vendors is constantly monitored. Project managers meet regularly with outside vendors to monitor work scope, implementation, schedule, and costs. Project training is also provided on a regular basis.

In addition, there are other regular project cost reviews. Cost reports for contract labor, equipment, material, and other project cost transactions recorded to the CR3 Uprate project are regularly produced, updated, and monitored. Project management also regularly reviews the project Cost Management Reports produced by PEF Accounting. PEF also implements internal and external audits to ensure that its program management and cost oversight controls are being implemented and are effective. For 2010, two internal audits are presently scheduled on Florida Plant Cost Recovery and Crystal River 3 Extended Power Uprate.

In addition to the yearly audits on CR3 Uprate cost and activities, there are several Nuclear Oversight Committees that review the EPU on a continuing basis, including the Plant Nuclear Safety Committee ("PNSC"), the CR3 Nuclear Safety Review Committee ("NSRC"), and the Nuclear Safety Oversight Committee ("NSOC"). There is also the Nuclear Oversight Department that independently assesses CR3 performance including uprate activities.

We believe that our project management and cost oversight policies and procedures and are consistent with best practices for capital project management in the industry and are reasonable and prudent. PEF has employed these project management policies and procedures to successfully implement two phases of the CR3 Uprate project, during two separate plant outages, and completed the work scope necessary for the first two phases of the CR3 Uprate project.

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

Q. Did the Company prepare an updated feasibility analysis for the CR3 Uprate?

A. Yes it did. The CR3 Uprate project consists of three phases of modification and efficiency enhancements that will increase the power output of CR3 from about 900 MWe by 180 MWe to 1,080 MWe. The Company analyzed qualitative and quantitative factors to determine if the CR3 Uprate project remains feasible going into phase three. First, the Company performed a qualitative analysis of the technical and regulatory capability of completing the EPU. The second step was an updated, quantitative CPVRR economic analysis that included an update of the fuel cost savings to customers and an examination of the impact based on which LPT option is ultimately installed. This analysis was completed assuming a 2011 outage date. A shift in the outage date to 2012 will not materially impact these numbers.

Q. Is completion of the CR3 Uprate technically feasible?

A. Yes it is. The first two phases of the CR3 Uprate project have been successfully completed and all equipment has been installed with the exception of the installation of the new LPTs. Even pending completion of the third phase, PEF's customers will receive the benefit of an additional 16 MWe upon the restart of CR3.

Phase one, the MUR, was installed during the 2007 refueling outage and went on-line on January 31, 2008. The MUR is a series of engineering analyses to measure the "secondary heat balance" with improved accuracy through modifications to plant instrumentation and associated calculations. The improved accuracy in measuring the secondary heat balance allows the rated thermal power to be increased by 41 thermal megawatts ("MWt") and plant electrical generation to increase by approximately 12 MWe.

Phase two of this project was a series of improvements to the efficiency of the secondary plant also known as the Balance of Plant ("BOP"). The BOP Phase two work was completed during the 2009 CR3 refueling outage and included the installation of thirteen equipment items. This phase will provide an additional 4 MWe when the CR3 unit returns to service this summer.

The third and final phase is the EPU, which will include the installation of six major components, as well as significant engineering work, and the installation of cooling towers. The Company is confident these components and related material can be successfully installed and operate to achieve the full uprate. The Company completed several technical feasibility studies during 2009

related to the EPU components and the EPU work. These technical feasibility studies confirmed that the EPU components and work can be installed and the EPU achieved. Additionally, we have successfully completed two full phases of the CR3 Uprate project and, with the exception of the LPTs which were deferred, have successfully installed all necessary equipment on schedule with no material issues.

Q. Is the CR3 Uprate project feasible from a regulatory and legal perspective?

A. Yes. PEF believes that all legal and regulatory licenses and permits for the CR3 Uprate project can be obtained. The EPU requires a number of permits and license changes to support operation at the higher power level including environmental permitting and a LAR from the NRC. The Company's LAR is complete and ready to submit to the NRC. PEF plans to submit it to the NRC by June 1, 2010. Even though the LAR was completed in time for a March 31, 2010 submittal, because of the shift in the R17 outage schedule PEF decided to hold off on the submittal of its LAR. PEF utilized this additional time to review and monitor the progress of other LAR applications pending before the NRC and questions from the NRC on such submittals, and also conducted an additional expert review of its LAR. A June submittal still provides PEF 21 months before the planned R17 outage to obtain NRC approval of the LAR. The NRC commitment is to review and approve LARs in 14 months (12 months from LAR acceptance). Thus, ample review time is built into the schedule for LAR approval. Additional time is also provided in the event LAR revisions are

necessary to address emerging issues. For example, Point Beach, also a Pressurized Water Reactor, is going through EPU review now. CR3 can take advantage of any RAIs and the responses thereto as lessons learned as it proceeds through its own LAR review with the NRC.

PEF is currently on schedule to obtain all necessary licenses and permits for the EPU. There is no reason to believe that the necessary licenses and permits will not be obtained and that the EPU cannot be achieved.

Q. What was the result of the Company's updated economic analysis of the CR3 Uprate project?

A. The updated economic analysis also demonstrates that the CR3 Uprate project is feasible. The CR3 power uprate will provide customers substantial fuel savings for the extended life of the CR3 plant and enhanced fuel diversity on PEF's system. In addition, PEF's customers receive additional, reliable base load capacity from the lowest cost fuel generation resource available to PEF. We expect that all of these benefits will be achieved and the full 180 MWe will be realized when the project is completed after the next CR3 refueling outage.

Q. Did the Company update its project costs for the economic analysis?

A. Yes, it did. The Company included its current estimated cost to complete the CR3 Uprate project in its analysis. As can be seen in Exhibit (TGF-6) Line 12 PEF's current estimate of total project costs excluding carrying costs and gross of joint owners is $418.6 million. When you pull out the joint owner portion shown

on Line 15, this decreases to $387 million. Through February of 2010, PEF has incurred $215 million net of joint owners in costs. This leaves approximately $172 million of additional investment expected associated with completing the CR3 Uprate project. As explained more fully below, it clearly makes financial sense to move forward with the project.

The results of these analyses are included in Exhibit No. ___ (JF-1) to my testimony and the LPT alternatives under evaluation are identified in Exhibit No. ___ (JF-2) to my testimony. As demonstrated, the net present value of the fuel savings range from $474 million to over $801 million. The estimate to complete the CR3 Uprate Project is $172 million. As described more fully above, PEF's plan is to install the 18 M^2 LPTs identified as Option 2 in Exhibit No. _____(JF-1). Taking into consideration the additional spend needed of approximately $47 million for the 18 M^2 turbine option this option shows estimated NPV fuel savings of just less than $800 million and when compared to the remaining investment it is clearly beneficial to customers to move forward. The Company also analyzed the different LPT alternatives that the Company evaluated that I have previously described in the updated CPVRR of fuel savings analysis. The result of these analyses confirmed that PEF's customers will benefit from additional fuel savings over the remaining operational life of the nuclear unit regardless of what option PEF chose regarding the LPTs. Directionally, the fuel savings versus cost to complete the project utilizing these alternative options also shows favorability. All viable options for installing new LPTs of the same or another design will achieve fuel savings.

Q. Did the Company consider the environmental emission benefits from additional nuclear generation in its quantitative analysis of the feasibility of the Uprate project?

A. No. The Company performed its updated CPVRR analysis in the same manner that it performed the initial CPVRR analysis for the CR3 Uprate project during the determination of need proceeding for the project. This analysis compared the costs of the project to the fuel savings benefits only. Because the fuel savings benefits of the project exceeded the project costs on a net present value basis there was no need to consider the further benefits of additional nuclear generation from the project. Similarly, when we updated the CPVRR analysis the fuel savings benefits still exceed the costs to complete the project on a net present value basis so there was no need to quantify further the benefits of the project.

This does not mean those additional benefits do not exist. The CR3 Uprate project will provide additional carbon-free, clean nuclear generation from the lowest cost fuel source available to the Company. This additional nuclear generation will add to the Company's fuel diversity and reduce its reliance on fossil fuels. As a result, implementation of the CR3 Uprate project is an important element of Progress Energy's Balanced Solution.

Q. Is continuing the CR3 Uprate project through completion of the EPU phase in the best interest of the Company and its customers?

A. Yes, it is. The CR3 Uprate remains feasible and will benefit the Company and its customers as I have discussed. As a result, the Company remains committed to completion of the CR3 Uprate project.

Q. Does this conclude your testimony?

A. Yes, it does.

Table Summarizing Fuel Savings Comparisons and Options

Options	Description	Fuel Savings Compared to Option 1 (Nominal $000's)	Fuel Savings Compared to Option 1 (NPV @8.1%, $000's)	Fuel Savings Compared to Option 1 (NPV @6.75%, $*1,000)
Option 1	Stop work following current outage		-	
Option 2	Install 18 M^2 in 2011 with L0 blades.	$2,174,658	$678,596	$801,600
Option 3	Install 18 M^2 in 2011 without L0 blades. Operate permanently.	$1,284,381	$401,299	$474,073
Option 3A	Install 18 M^2 in 2011 without L0 blades. Install L0 blades 2013	$2,131,713	$645,747	$767,303
Option 3B	Install 18 M^2 in 2011 without L0 blades. Install L0 blades 2015.	$2,080,978	$612,612	$731,815
Option 4	Install 13.9 M^2 in 2013	$2,021,631	$585,763	$702,541

LPT Options:

- Continued operation of the existing Alstom low pressure turbines, which yields a project MW increase of 16MWe.
- Installation of the Siemens 18m^2 low pressure turbines with the L0 blades in 2011. This is the original project scope and would yield a project MW increase of 180MWe.
- Installation of the Siemens 18m^2 low pressure turbines without the L0 blades in 2011 and continue operation to the end of equipment life. This option yields a 100Mwe increase.
- Installation of the Siemens 13.9m^2 low pressure turbines in 2013. This option yields a 172MWe increase.

Options	Description	MWe Output
Option 1	Stop work following current outage	916 MWe
Option 2	Install 18 M^2 in 2011 with L0 blades.	1080 MWe
Option 3	Install 18 M^2 in 2011 without L0 blades. Operate permanently.	1000 MWe
Option 4	Install 13.9 M^2 in 2013	1072 MWe