

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Nuclear Power Plant Cost Recovery Clause

Docket No. 080009

**PROGRESS ENERGY FLORIDA'S REQUEST FOR
CONFIDENTIAL CLASSIFICATION AS TO STAFF'S TESTIMONY EXHIBITS**

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REVIEW OF

**Progress Energy-
Florida's
Project Management
Internal Controls**

FOR

**Nuclear Plant Uprate
and Construction
Projects**

AUGUST 2008

By Authority of
The State of Florida
Public Service Commission
Division of Regulatory Compliance
Bureau of Performance Analysis

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Review of
**Progress Energy - Florida's
Project Management Internal Controls for
Nuclear Plant Uprate and Construction Projects**

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August 2008

**By Authority of
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1.0 Executive Summary

1.1 Purpose and Objectives

At the request of the Florida Public Service Commission's (Commission) Division of Economic Regulation, the Division of Regulatory Compliance conducted this review of the project management internal controls employed by Progress Energy-Florida (PEF) to execute the Crystal River Unit 3 uprate and the Levy Units construction.

The primary objective of this review was to document and evaluate the adequacy of project controls and internal controls the company has in place or plans to employ for these projects. The information and evaluations provided in this report are to be used by Division of Economic Regulation staff to assist in the assessment of the reasonableness of PEF's cost recovery requests for the two projects.

1.2 Scope

The internal controls examined were those related to the following key areas of project activity:

- ◆ Project Planning
- ◆ Project Management and Organization
- ◆ Cost and Schedule Controls
- ◆ Contractor Selection and Contractor Management
- ◆ Auditing and Quality Assurance

Internal controls are the vital mechanisms by which company operations are managed to stay within budget and on schedule. According to the Institute of Internal Auditors' *Standards for the Professional Practice of Internal Auditing*, appropriate internal controls allow the organization to accomplish the following:

- ◆ Produce accurate and reliable data
- ◆ Comply with applicable laws and regulations
- ◆ Safeguard assets
- ◆ Employ resources efficiently
- ◆ Accomplish goals and objectives

Well-constructed internal controls assist with the challenges of risk management and decision-making. Risks must be identified and appropriate protections must be established to prevent or control these risks. Prudent decision-making results from orderly, well-defined processes that address known risks, needs, and capabilities. Adherence to written procedures, effective communication, vigilant contractor oversight, and ongoing auditing and quality assurance are all essential for ensuring that project costs are incurred prudently.

1.3 Methodology

Planning and research for this review were performed in January and February 2008. Data collection, site visits and interviews, analysis and report writing were conducted between March and June 2008. The information compiled in this report was gathered via company responses to staff document requests, visits to both the Crystal River Unit 3 and the Levy County sites, and interviews with key project personnel. Staff also reviewed testimony, discovery and other filings in Docket Nos. 080009-EI, 080148-EI, and 080149-EI.

A large volume of information was collected and analyzed. Specific information collected from PEF included the following categories of documents:

- ◆ Company policies and procedures
- ◆ Organizational charts
- ◆ Requests for proposals
- ◆ Contractor bids and proposals
- ◆ PEF's bid evaluation analyses
- ◆ Project scope analysis studies by PEF and consultants
- ◆ Internal audit reports

Analysis of this information is discussed in detail in chapters 2 and 3.

1.4 Observations and Overall Opinion

The early stage of these projects limits audit staff's ability to draw final conclusions regarding some areas of controls that are in development or that will not to be deployed until later stages of the projects. Therefore, staff has examined only the completed portions of the project and internal control structure that are presently in place. Many of PEF's internal control systems are still in development and will continue to evolve as the projects progress.

These internal control tools will ultimately determine the success of these projects and the prudence of the company's actions. A complete determination of the reasonableness of the eventual control systems for management of these projects cannot be made at that this time. Further, any assessment made at this point in time cannot be expected to remain valid for the entire duration of the project activities.

In any controls assessment, adequate controls may be in place at any point, but the ultimate proof of adequacy comes when the project work is actually performed. Beyond planning, the vast majority of the work of these projects has not yet been performed.

Further, though internal controls in place for any undertaking may be deemed adequate at the outset, it cannot ensure that they will be followed and used properly. Verification of adherence to procedures and careful examination of changes to control systems are essential

ingredients to evaluating the reasonableness of management's actions. Audit staff believes continued internal and external oversight is necessary over the lifespan of these projects. Of particular importance are internal audits and quality assurance audits. These audits should provide broad coverage of internal controls, procedural adherence, and project management issues.

The unique first-time nature of the 2008 nuclear cost recovery proceedings presented several challenges. Audit staff believes its review was limited in time and depth by schedule constraints in this first year of cost recovery filings. Also, though PEF fully accommodated requests for access to key managers and plant sites, audit staff has concerns about the completeness of some responses to its data requests. Audit staff believes that PEF should work to eliminate these issues in future reviews.

Crystal River 3 Uprate Project Observations

Audit staff made the following observations for the key areas of activity it examined on the Crystal River 3 Uprate Project. The conclusions in each instance are subject to the limitations inherent in the information that was available to staff during March through June 2008.

Project Planning

- ◆ The PEF scope evaluation process appropriately provided technical and managerial evaluation of the risks, costs, benefits, and overall feasibility of the Crystal River 3 uprate project.
- ◆ PEF has appropriately proceeded with the required regulatory approvals, scheduling, and preparation of applications in a manner that will accommodate the planned project completion dates.
- ◆ PEF's approach to project planning has been appropriate and adequate progress has been made in developing the project plan. PEF project management believes no threats to meeting uprate project schedules exist at this time.
- ◆ PEF has conducted a reasonable identification and assessment of potential risks to successful completion of the uprate project. Project success will require continued vigilance in risk management by PEF.

Project Management and Organization

- ◆ Oversight of the CR3 uprate project by PEF's Nuclear Projects and Construction organization will be an essential element to the project's success. Though still being staffed, the project management organization appears to be appropriately structured and managed at this time.

- ◆ A framework for adequate oversight of project management by senior management exists. Plans for communications within the project management organization appear to be appropriate at this time.

Cost and Schedule Monitoring Controls

- ◆ Cost and schedule monitoring controls are still in the process of development and deployment at this early stage. Limited results are available for assessing these controls at this time.

Contractor Selection and Contractor Management

- ◆ PEF appears to have followed its contractor selection procedures. Given the unique challenges and circumstances of the nuclear industry, PEF's use of sole source selections for the CR3 uprate project to date is in keeping with reasonable business practices.
- ◆ PEF's approach to contractor oversight and evaluation appears to be appropriate to date. Proactive project management by PEF should require frequent communication and updates, demand contractor accountability, and challenge information provided by contractors.
- ◆ PEF has made efforts to ensure effective contractor performance by means of protective contract provisions and contract structure. This approach appears to have appropriately sought risk-sharing through incentives and penalties.

Auditing and Quality Assurance

- ◆ PEF's audit and quality assurance capabilities are appropriate. At this early stage, audit coverage appears adequate. These controls have already proven their value in encouraging adherence to procedures. As the project progresses, more frequent internal audits and quality assurance audits will be necessary for the success of the Crystal River 3 uprate project.

Levy Units 1 and 2 Construction Project Observations

Audit staff made the following observations for the key areas of activity it examined on the Levy Units 1 and 2 construction projects. The conclusions in each instance are subject to the limitations inherent in the information that was available to staff during March through June 2008.

Project Planning

- ◆ PEF's site selection and acquisition efforts appear to have been appropriate and in keeping with good business practices.

- ◆ PEF's plant design selection process was reasonable and effective in positioning the company to meet the anticipated need for capacity in 2016.
- ◆ PEF's efforts to secure an engineering, procurement, and construction contract appear to have been effective and appropriate. The basic structure of the Letter of Intent regarding engineering, procurement, and construction services appears reasonable.
- ◆ PEF has appropriately proceeded with the required regulatory approvals, scheduling, and preparation of applications in a manner that will accommodate the planned project completion dates.
- ◆ PEF appears to have taken a reasonable approach to developing project plans at this early stage.
- ◆ PEF has conducted a reasonable identification and assessment of potential risks to successful completion of the Levy project. Project cost and schedule success will require continued vigilance in risk management and re-assessment of project viability at key decision points.

Project Management and Organization

- ◆ Effective oversight of the Levy project by PEF's Nuclear Projects and Construction organization will be an essential element to the project's success. Though still being staffed, the project management organization appears to be appropriately structured and managed at this time.
- ◆ A framework for adequate oversight of project management by senior management exists. Plans for communications within the project management organization appear to be appropriate at this time.

Cost and Schedule Monitoring Controls

- ◆ Cost and schedule monitoring controls are still in the process of development. Limited results are available for assessing these controls at this time.

Contractor Selection and Contractor Management

- ◆ PEF appears to have followed its contractor selection procedures. Given the unique challenges and circumstances of the nuclear industry, PEF's use of sole source selections for the Levy project to date is in keeping with reasonable business practices.
- ◆ PEF's approach to contractor oversight and evaluation appears to be appropriate to date. Proactive project management by PEF should require frequent

communication and updates, demand contractor accountability, and challenge information provided by contractors.

- PEF has made efforts to ensure effective contractor performance by means of protective contract provisions and contract structure. This approach appears to have appropriately sought risk-sharing through incentives and penalties.

Auditing and Quality Assurance

- ◆ PEF's audit and quality assurance capabilities are appropriate. At this early stage, audit coverage appears adequate. These controls have already proven their value in managing contractor effectiveness. As the project progresses, more frequent internal audits and quality assurance audits will be necessary for the successful completion of Levy Units 1 & 2.

2.0 Crystal River Unit 3 Uprate Project

2.1 Project Planning

How did PEF identify the scope of work for the CR3 uprate project?

PEF conducted early internal engineering assessments of the viability of pursuing a CR3 uprate. This effort yielded a set of targeted desired CR3 output and operating parameters that appeared to be attainable. The uprate project was proposed to senior management and the Board of Directors for approval through the Business Analysis Package (BAP) process in November 2006. The benefits and justification for the uprate were analyzed and addressed in the BAP presentation. It included cost/benefit ratio analyses, cost scenario analyses (base case/worst case/best case), schedule estimates and risk analyses. Approval of the BAP by senior management and the Board set the stage for detailed evaluation of the project.

Since PEF had not conducted an uprate of this magnitude in Florida, PEF began formal evaluation by commissioning a scoping study by AREVA NP, Incorporated. The major task was to identify the component change-outs needed to accommodate the uprate and its targeted MW gain. AREVA assessed existing component conditions and plant margins to determine which components were capable of supporting post-uprate operations, and it identified those which needed to be replaced or modified.

AREVA's study was presented to PEF project management in May 2007. It confirmed the need to replace low pressure and high pressure turbines, the turbine generator, moisture separator reheaters and their belly drains, feed water heaters, heat exchangers, and other components such as pumps, motors, piping, valves and drains. AREVA also assessed the timetable for the uprate and recommended a basic plan for the timing of the work based upon PEF's refueling outages scheduled for 2009 and 2011.

PEF assembled an advisory panel to help evaluate AREVA's study and recommendations to ensure that adequate design margin was preserved. The panel was comprised of company employees, independent industry experts, and vendors. Along with the feasibility and scoping effort, the company and AREVA's engineering assessments helped further quantify costs of the work.

The PEF scope evaluation process appropriately provided technical and managerial evaluation of the risks, costs, benefits, and overall feasibility of the Crystal River 3 uprate project.

What regulatory approvals are required for completion of the project?

Since uprates change a nuclear unit's licensed power level, utilities must apply for NRC permission to amend their operating licenses. The license amendment request (LAR) process for

requesting NRC approval to increase a plant's authorized power level is governed by 10 CFR 50.90-92. The application is required to provide full descriptions of the planned changes. The first phase of uprate work has been approved by the NRC and was completed by PEF during the 2007 refueling outage. The second phase, consisting largely of preparation for the third phase, did not require NRC approval. The third phase, which provides the bulk of the MW gain, requires NRC approval and PEF plans to submit the application in 2009. Approval is expected in 2010 and the work is scheduled for the 2011 refueling outage.

The NRC reviews data and accident analyses submitted by a licensee to confirm that the plant can operate safely at the higher power level. The NRC uses a review standard for extended power uprates that has been endorsed by the Advisory Committee on Reactor Safeguards. After the NRC completes its review of the application and takes action on any applicable public comments, hearing requests, or Advisory Committee on Reactor Safeguards recommendations, the agency may approve or deny the request.

At the state level, the Florida Public Service Commission's approval for the CR3 uprate was obtained under the requirements of Sections 403.507(4) and 403.519(3), Florida Statutes. A Determination of Need proceeding, Docket No. 060642-EI, led to approval of the planned uprate in February 2007.

Florida Department of Environmental Protection (DEP) approval of a Site Certification Application is required for plant uprates of 75 MW or more. As directed by Sections 403.501-401.518 Florida Statutes, DEP coordinates with other state and local agencies to assess public health and environmental aspects of the planned uprates. Ultimately, certification is decided by the Siting Board (Governor and Cabinet) or in a non-contested case by the Secretary of the Department of Environmental Protection on behalf of the Board. PEF submitted its CR3 Phase III application in late 2007; approval is expected in late 2008.

PEF must ensure continued compliance with DEP's requirements under its increased power level operations. For example, the company has conducted an analysis of the impact of higher temperatures at the plant's discharge canal. This led to studies of cooling tower options discussed later in this report. Placement of possible new cooling towers on the existing site required communication with the Department of Environmental Protection regarding environmental impact and tower placement.

PEF has appropriately proceeded with the required regulatory approvals, scheduling, and preparation of applications in a manner that will accommodate the planned project completion dates.

Has PEF developed a project plan to meet the desired project completion dates?

Since the ongoing operation of CR3 is essential to PEF's customers, the uprate activities were scheduled for completion during the 2007, 2009, and 2011 refueling outages. Detailed

planning is intended to allow these biennial outages to provide windows of time that will allow completion of the uprate work in three phases.

The first phase of work, the Measurement Uncertainty Recapture phase, was completed on schedule during the fall 2007 refueling outage. Sensitive and highly accurate digital metering equipment was installed to more precisely measure main feed water flow. This more precise read-out on main feed water flows provides better data to CR3's plant operators, allowing safe operation at higher pressures and temperatures. This modification yielded a 12 MW generating capacity gain.

The second and third phases of work are currently being planned and scheduled in detail. These phases are expected to add 168 MW of capacity, resulting in the total gain of 180 MW. Phase 2 will occur during the approximately [REDACTED] 2009 refueling outage. Work will proceed for about 70 days of the outage, but the longer critical path of work will be the replacement of the steam generator which is needed apart from the uprate.

Future phases include installation of the major components. Long-lead items will drive the critical path of the entire project, and are key plant components for which few manufacturers exist worldwide.¹ This limited production capacity has required PEF to carefully consider the timing of procurement decisions and component ordering.

Negotiations with key contractors were undertaken at an early stage so PEF could determine when orders had to be placed in order to reserve production capacity. Management believed that the substantial lead time on components such as turbines required quick decision making and vendor selection. By entering into negotiations at an early point with vendors such as Siemens Corporation for long lead-time components, PEF believes it secured advantageous prices and a position in queue that will support the needed project completion date. According to project management, similar orders of these components by other utilities have since been placed at much higher prices.

PEF's approach to project planning has been appropriate and adequate progress has been made in developing the project plan. PEF project management believes no threats to meeting uprate project schedules exist at this time.

Was PEF's risk evaluation for the CR3 uprate project reasonable?

As mentioned, Progress Energy Corporation has completed uprates of its North Carolina nuclear units. PEF is also familiar with the nationwide experience with uprates by other nuclear utilities through industry sources and associations. Information regarding lessons learned from uprate activities is readily shared through industry organizations such as the Institute for Nuclear Power Operations (INPO). In its uprate project plan, PEF emphasized maintaining a focus on industry experience as a key success factor.

¹ *Toronto Star*, "Nuclear revival bumps against atrophy" May 3, 2008
<<http://www.thestar.com/Business/article/420941>>

Several project risks were identified and considered in the company's decision to go forward with the CR3 uprate project. At the time of the CR3 uprate decision, PEF's procedures regarding major capital projects (those in excess of \$50 million) required it to be proposed via a Business Analysis Package (BAP.) During 2007, PEF began to migrate its major projects towards its new Integrated Project Plan (IPP) process for approval and control. The IPP process still includes the identification and assessment of key risks and risk management approaches, but provides senior management with more frequent and continuing opportunities to endorse or redirect the project. Like the BAP, the IPP documents assumptions, constraints and decisions to be made, defines approval requirements for funding, and provides a baseline for the progress measurement and project control.

The initial BAP for the uprate project was completed in November 2006. It outlined the project's phases and a cost estimate of about \$427 million. This was comprised of a base \$250 uprate work estimate plus \$89 million for transmission upgrades, and \$88 million for cooling tower upgrades. This cost estimate also included studies that would allow for development of the plant-specific project plan including schedule and specifications. In the BAP, PEF used modeling to develop sensitivity analyses of assumptions and to quantify potential outcomes of the risks being assessed. These model runs led to outputs of base case, worst case, and best case scenarios for various combinations of assumptions. For each scenario, PEF developed cost/benefit ratios, break-even year projections, and net present value analyses.

The BAP identified and examined potential project risks. The following risks were identified and addressed:

- ◆ Project costs incurred exceeding current estimates
- ◆ Delays caused by late ordering of key equipment components
- ◆ Delays caused by increasing demand on nuclear industry manufacturers
- ◆ Derates of coal-fired Units CR1 and CR2 caused by insufficient cooling water temperature reduction
- ◆ Increasing project costs due to over-estimated cooling needs and capacity
- ◆ Projected fuel savings eroded by falling gas, oil, and coal prices
- ◆ Delays in NRC approval of uprate

A central strategy identified for mitigating several of these risks, including potential cost overruns, late ordering of key components, and the high demand for manufacturers, was to engage a primary contractor for the uprate design and implementation work and to provide project management oversight through the new Nuclear Projects and Construction Department. PEF project management stressed that active contractor oversight and control are essential to both cost control and overall project success.

Both the uprate activity and the planned new units will create and sustain a high demand among nuclear industry suppliers, manufacturers, contractors, and contract employees for years to come. Concerns regarding the availability of manufacturers and contractors prompted the company to maintain an accelerated contract award process. The company targeted completing major contracts in early 2008. PEF management sought further protection from cost overruns by negotiating contracts that required some risk sharing with vendors for schedule delays or quality problems.

Through the use of fixed-price contracts, some risk is assumed by contractors. Standard contract provisions specify liquidated damages and/or remedies for breaches and performance failures. PEF planned to also address labor and material cost uncertainty by making contingency funding available.

To address the risk that the uprate could adversely affect the coal-fired Crystal River Units 1 and 2 next door, the company contracted with Sargent & Lundy for an engineering study of possible cooling tower solutions. The risk was that higher point of discharge temperature by the updated CR3 plant could require PEF to reduce the temperature in the shared canals by "throttling back" CR2 operation. A Phase I study addressed the challenge of correctly sizing cooling needs, and was completed in 2008. The Phase I study recommended specific cooling tower sizing and configurations that are under consideration by project management. A Phase II study is underway.

The risk of NRC approval being delayed was considered unlikely based upon prior approvals granted. Though the CR3 uprate represents the first major uprate of a Babcock & Wilcox plant, PEF did not expect this fact to extend the approval process.

An additional challenge identified by project management is the site logistics for a peak employee population of 3,000 during 2009 uprate work. Solutions are in progress, with several options explored for parking, worker transport, and on-site worker support.

The resurgence of the U.S. nuclear industry has already impacted the NRC as it processes the numerous license applications that will be involved. The CR3 extended power uprate LAR will be submitted to the NRC in mid-2009, and PEF expects the NRC review and approval process to take 12 to 18 months. PEF management has viewed early application as being essential to reducing schedule risk and has acted to carry out this priority. Therefore, staff believes that backlog issues at the NRC are beyond the company's control, and early application with a well-prepared License Amendment Request is the only viable countermeasure. At present, PEF project management believes the company's NRC application efforts and schedule should produce approvals without delays to project completion.

PEF has conducted a reasonable identification and assessment of potential risks to successful completion of the uprate project. Project success will require continued vigilance in risk management by Progress Energy-Florida.

2.2 Project Management and Organization

Is an appropriate project management organization in place for the CR3 uprate project?

PEF created a new support organization to manage and support the CR3 uprate and Levy projects. This organization, headed by the Vice-President – Nuclear Projects and Construction, is displayed in Exhibit 1. Having served previously as the Director of Site Operations for CR3, he had complete responsibility for CR3 and is appropriately familiar with its configuration, history, and operation.

PEF NUCLEAR PROJECTS AND CONSTRUCTION ORGANIZATION

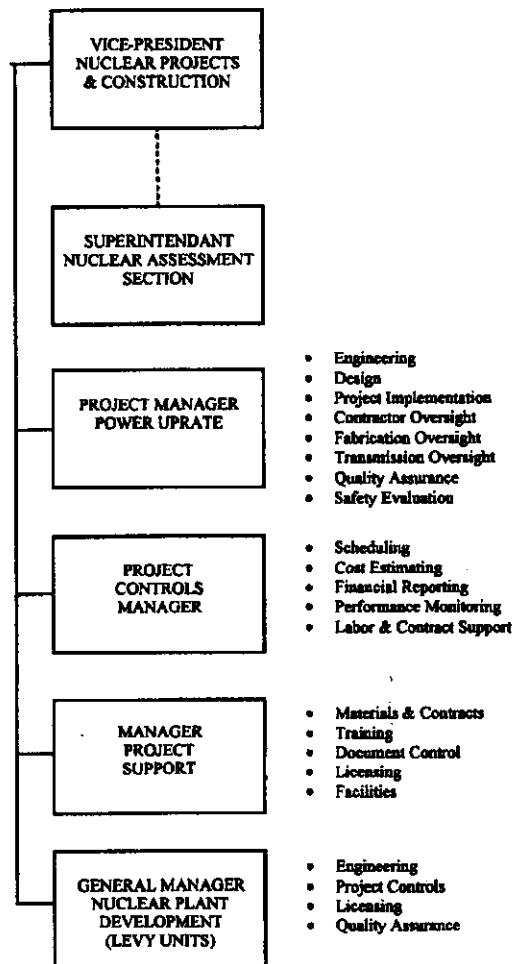


EXHIBIT 1

Source: PEF Response to Data Request 3-4.

Nuclear Projects and Construction provides dedicated resources focused on the CR3 uprate and the Levy project. This structure is intended to provide adequate resources for management of these major projects, while also reducing potential negative impacts upon the essential ongoing CR3 plant operations. The NRC has instructed utilities to prevent uprate work activities from becoming impediments to normal operations. The potential for disruption to ongoing CR3 operations would increase if plant employees were "borrowed" for uprate work and support.

Operating apart from the existing CR3 operations structure, approximately 140 Nuclear Projects and Construction employees will provide project management and support for the work activities of contractors and vendors. As of February 2008, approximately 90 of these positions were filled or in the process of being hired. Most of the remaining positions were being actively recruited, while some were not planned for hiring until later stages of the project.

A key component of this organization from the standpoint of project management is the Project Controls group. The three sections of this unit are responsible for schedule monitoring and reporting, financial reporting and cost tracking, and work management and estimating. The Project Controls group is charged with detecting and reporting emerging problems with costs and schedules. This reporting is essential to allow management to take timely action to prevent or control problems. The Manager of Project Controls reports to the Vice-President – NP&C.

Other work units in the Nuclear Projects and Construction Department also support the uprate work. A large dedicated engineering group will perform vital oversight of work plan execution and fieldwork by contractors. A dedicated support group will provide material acquisition and licensing expertise.

To govern the activities of this new project management organization, the company is developing specific and detailed written procedures. A large portion of these procedures are complete. The procedures still in the process of development, are largely those pertinent to activity scheduled for future years. Where applicable, general PEF procedures still govern. Staff has obtained and reviewed a large sample of the completed procedures for appropriateness and completeness.

Oversight of the CR3 uprate project by PEF's Nuclear Projects and Construction organization will be an essential element to the project's success. Though still being staffed, the project management organization appears to be appropriately structured and managed at this time.

Are appropriate oversight and accountability controls over project management in place?

The reporting structure within the Nuclear Projects and Construction Department provides checks and balances to maintain oversight of work and independent assessment of work quality. CR3 project management is held accountable to senior management through a variety of information sharing mechanisms. Regular meetings and reports are intended to provide

information on schedule and budget status. Properly constructed, these reporting tools prevent problems from worsening due to lack of detection or intentional cover-up.

The key project managers are involved in a series of internal meetings where the project team self-examines progress and status. The Vice-President – Nuclear Projects and Construction meets daily with his direct reports and weekly with a larger segment of the project management team. Monthly, the entire project management team meets for an entire workday to assess progress, identify key challenges, and define solutions.

Quarterly updates on the uprate project are to be held with senior management under the Integrated Project Plan (IPP) process which was adopted in 2007. These meetings address significant project status, events and changes, and risks. The IPP process tracks schedule progress and budget performance for senior management information and decision-making. These IPP meetings provide senior management with opportunities to authorize continued work, or if warranted, to suspend a project.

CR3 project management also meets quarterly with the PEF Finance Committee. These meetings examine the project status, budget status, and capital needs.

Within the project structure itself, a series of periodic meetings exists. The following is a list of standing meetings specified in the project plan:

- Weekly
 - ▶Project Schedule Updates
 - ▶Progress and Issues
 - ▶Offsite Vendor Calls

- Monthly
 - ▶All Hands Meeting
 - ▶Management Review
 - ▶Vendor Status and Issues
 - ▶Project Sponsor Update

- ◆ Quarterly
 - ▶Project Overview with Senior Management
 - ▶Major Contractor Executive Management
 - ▶Financial Status
 - ▶Plant Nuclear Safety Committee
 - Safety Evaluations Risk Updates and Issues

A framework for adequate oversight of project management by senior management exists. Plans for communications within the project management organization appear to be appropriate at this time.

2.3 Cost and Schedule Monitoring Controls

Has PEF developed an adequate control system for monitoring uprate project schedules and costs?

As noted, the Project Controls group within NP&C is dedicated to the cost and schedule tracking of the CR3 uprate. The three sections of this unit are responsible for schedule monitoring and reporting, financial reporting and cost tracking, and work management and estimating. The Project Controls group is the first line of defense for detecting emerging problems with costs and schedules. Once detected, any concerns can be further evaluated by Project Controls and/or brought to the attention for analysis by the on-site managers involved.

PEF's primary scheduling and schedule tracking tool is Artemis/ProjectView, a widely used project tracking and scheduling system. Through Artemis/ProjectView, actual versus projected schedule variances can be identified, analyzed, and recovery plans developed. Recurring reports can be provided to management, and customized reports can be developed as requested.

The Work Breakdown Structure is a key component of the project plan for every phase of the CR3 uprate activities. It is the detailed plan that allows each work activity to be identified, assigned, and sequenced. Each of the hundreds of specific tasks is assigned to a functional area manager and also to a specific task manager. The functional area manager is responsible for development of the task instructions and procedures for its completion, and the task manager is responsible for actual task completion. Once these tasks are compiled and planned for completion, they are reflected in Artemis/ProjectView and depicted in Gantt chart format to simultaneously illustrate the status of all tasks or rolled-up groups of tasks.

Monthly cost reports and financial summaries are provided to PEF business unit managers and executives. Similarly, project cost reports detailing the transactions charged to the project are provided to project managers. PEF indicates that similar monthly information is provided to the Chief Operating Officer and other senior management committee members.

As of December 31, 2007, project management reports showed total project costs and schedule were on target and satisfactory. This reflects the timely completion of the measurement uncertainty recapture phase of the project. Capital spending for the project will be spread out across the five years of the project's duration, with the largest portion in 2009.

As the project progresses with Phase II and the 2009 outage work, cost tracking will become an increasingly important activity. Cost status is also provided in the purchase order and invoicing process, where the Project Controls group examines each against the total contract and the remaining authorized funds.

Cost and schedule monitoring controls are still in the process of development and deployment at this early stage. Limited results are available for assessing these controls at this time.

2.4 Contractor Selection and Management

Has PEF's selection of the current set of CR3 uprate contractors and vendors been reasonable?

Vendors and contractors for the CR3 uprate work must be approved by PEF and included on its Approved Suppliers List. PEF procedures specify that only vendors who are determined capable and commercially qualified should be included on the list.² Often, inclusion on the list depends upon obtaining references from other utilities, researching PEF's own history with the vendor and inspection of the vendor's facilities and products. Depending upon the nature of the work to be done, PEF is required by NRC regulations to make a full assessment of the vendor's Quality Assurance program as well.

Due to the highly technical and specialized nature of electric generation, and the nuclear industry in general, many services and products are provided by a small number of major vendors worldwide. This configuration creates some concerns, since the possibility of price-fixing increases in markets where there are few suppliers.³ Industry mergers, partnerships, and corporate consolidations also present challenges that will require vigilance by PEF management to ensure the company receives fair pricing.

PEF's current vendors and contractors for the CR3 uprate were selected both through the competitive bid process and through the use of sole sourcing. In maintaining or enhancing an existing plant, the utility often must consult with and/or employ the original designer or original equipment manufacturer. Usually, these vendors continue to play major roles in the plant over its useful life.

PEF's procedures define sole sourcing as the selection of one single contractor, not on the basis that it is the only one qualified, but that it is the only one acceptable or available. Further, the procedures require sole source activity to be justified by the contract originator, and it must be approved at the appropriate management level for the dollar amount of expenditure involved.⁴

On the CR3 uprate project, eight contracts in excess of one million dollars are included in PEF's nuclear cost recovery filings. As shown in Exhibit 2, the key contract and the largest by far in dollar amount is the turbine retrofit contract with Siemens Corporation. The second, fourth, and fifth largest contracts are engineering contracts with AREVA-NP. The third largest contract is with Thermal Engineering for four moisture separator reheater units. The sixth largest contract

² Progress Energy Procedure MCP-NGGC-0001, p 21.

³ In 2007, the European Union fined a group of major electric industry plant engineering firms and component suppliers for price-fixing. The fines totaled nearly one billion dollars. Several of the companies fined are either contractors for the new PEF and FP&L nuclear units, or have bid on components for these projects. "Siemens Hit with £400 Million Fine," *Der Spiegel* January 25, 2007 <<http://www.spiegel.de/international/0,1518,druck-462199,00.html>>, "European Union Fines Siemens, AREVA, Alstom for Price Fixing," *The Economic Times* January 25, 2007 <<http://economictimes.indiatimes.com/articleshow/msid-1438615,prtpage-1.cms>>.

⁴ Progress Energy Procedure MCP-NGGC-0001, pp 8 & 20.

with Yuba Heat Transfer will supply replacement feed water heaters and secondary cooling heat exchangers for CR3.

The Siemens contract was awarded through a request for proposal process. PEF's analysis of the two bids received selected Siemens as better in terms of [REDACTED]

As noted, the early completion of this contract was necessary to secure access to manufacturing resources, competitive pricing, and to expedite completion by the targeted 2011 date. PEF project management reports that other utilities have subsequently entered into contracts of similar nature at significantly higher prices.

Crystal River 3 Uprate Project Contracts Greater Than \$1 Million			
Siemens	Turbine retrofit, all equipment & installation	RFP	[REDACTED]
AREVA -NP	NSSS and fuel engineering, LAR support	Sole Source -orig equipment manufacturer	[REDACTED]
AREVA -NP	Flow meter engineering and design	Sole Source -orig equipment manufacturer	[REDACTED]
AREVA -NP	Uprate balance of plant	RFP	[REDACTED]
Thermal Engineering	4 Moisture Separator Reheaters	RFP	[REDACTED]
Yuba Heat Transfer	Feed water heater	RFP	[REDACTED]
NuFlo Technologies	Purchase and installation of flow meter	Sole Source - master fleet contract	[REDACTED]
Atlantic Group	Flow meter installation	Sole Source - master fleet contract	[REDACTED]

EXHIBIT 2

Source: Schedule AE-8

Two AREVA contracts are sole-source contracts, while a third resulted from competitive bidding. Combined, the three AREVA contracts total less than the Siemens contract. AREVA has a long history of involvement in the plant.⁵ The largest of AREVA's contracts is for Nuclear Steam Supply Systems engineering, fuel engineering and License Amendment Request support. Due to its familiarity with the CR3 Nuclear Steam Supply System design and safety analysis, PEF project management considered them more qualified for this work than any other vendor. The second largest AREVA contract is for balance of plant engineering work. An RFP was issued for this contract, and AREVA was selected based upon detailed assessments of the capabilities of the three bidders. Evaluation criteria included experience with similar projects and staff capabilities. PEF analysis of the bids and proposals received indicated AREVA was the most capable and its selection would reduce project risk. The third and smallest AREVA contract was also a sole source award for engineering design of the measurement uncertainty work completed in late 2007. This award was also based upon AREVA's ownership of the CR3 design and safety analysis.

⁵ AREVA NP purchased Babcock & Wilcox and its original CR3 NSSS design.

The Thermal Engineering and Yuba contracts were competitively bid, and in both instances, provided lower cost options than competitors. The remaining contracts of one million dollars or more are with NuFlo Technologies and Atlantic Group. Both were sole-source awards under existing Master Contracts for the Progress Energy nuclear fleet and provide installation labor. The Atlantic contract had been competitively bid and prior work for Progress Energy indicated a high degree of qualification. According to PEF, the NuFlo contract was based upon [REDACTED] and the use of an existing contract allowed the tight timetable for the 2007 outage work to be met.

PEF appears to have followed its contractor selection procedures. Given the unique challenges and circumstances of the nuclear industry, PEF's use of sole source selections for the CR3 uprate project to date is in keeping with reasonable business practices.

Is an appropriate set of internal controls for contractor management and evaluation in place for the CR3 uprate project?

As noted, PEF management believes that contractor management is critical to the success of the uprate project. Staff agrees that without adequate contractor internal controls and oversight, a greater possibility exists for mistakes, schedule delays, and cost overruns. Within the Nuclear Projects and Construction Department, contractor oversight is the responsibility of the Power Uprate Project Manager. His work group is also responsible for fabrication oversight as old components are removed, and as new ones are staged and installed on site. Since this group also has engineering and design responsibilities for much of the uprate work, its oversight of contractors to maintain design conformance is appropriate.

PEF's contract administration procedures require daily communication between PEF and the contractor. Work progression is to be tracked and logged in the contract file. Deficiencies are to be noted and promptly reported to line management within PEF.⁶

Contractor evaluation will also be accomplished through the activities of the Nuclear Assessment Section for the CR3 plant. To provide stronger independence, this section's reporting line is being changed so that it reports outside of PEF to Progress Energy Corporation's Nuclear Oversight Vice-President, and ultimately to Progress' Chief Nuclear Officer. However, for project communication, the Nuclear Assessment Section's superintendent has a matrix reporting relationship to the Vice-President – NP&C. The Nuclear Assessment Section evaluates both internal plant work by PEF and external work by contractors.

In some instances, Progress Energy's Audit Services Department and Performance Evaluation Section both have a role in contractor evaluation. The full responsibilities of these organizations are discussed in more detail in section 2.5 below.

PEF's efforts to secure an engineering, procurement, and construction contract appear to have been effective and appropriate. The basic structure of the Letter of Intent regarding engineering, procurement, and construction services appears reasonable.

⁶ Progress Energy Procedure MCP-NGGC-0001, p. 24.

Has PEF implemented appropriate protections from contractor cost overruns or poor performance on the CR3 uprate project?

PEF project management has stressed that effective supervision and management of contractors must be maintained to avoid schedule delays or cost overruns. The company states that contracts have been negotiated to support this effort. A primary objective of CR3 project management has been negotiating fixed price contracts. With the total payment limited to a not-to-exceed amount, contractors place their profit margin at risk should the work progress lag or even exceed the estimate upon which bids were based. This risk-sharing approach prevents contractors from benefitting from failures to meet deadlines. All of the eight CR3 contracts exceeding one million dollars are [REDACTED]

Other contract provisions provide [REDACTED]

Standard contract provisions cover contingencies such as damages, breach, work stoppages, cancellation for cause or without cause by PEF, and dispute resolution to ensure quality work and contract adherence. Each contract specifies audit and work inspection rights for PEF.

PEF has made efforts to ensure effective contractor performance by means of protective contract provisions and contract structure. This approach appears to have appropriately sought risk sharing through incentives and penalties.

2.5 Auditing and Quality Assurance

Does PEF have appropriate auditing and quality assurance functions in place for the CR3 uprate project?

Major projects such as the CR3 uprate and the Levy units will be the subjects of the Progress Energy Corporation's Audit Services Department since they represent a substantial investment and therefore risk to the company. Appropriately, the Audit Services Department is headed by a Vice-President who is accountable to the Progress Board of Directors' Audit Committee. This allows the organization to provide independent assessments of procedural adherence and adequacy of internal controls on company operations and activities such as the CR3 uprate.

An audit of the CR3 uprate project was conducted in late 2007 by Audit Services. Its scope included assessing the effectiveness of project management, cost management, and project accounting practices related to the CR3 project. The December 28, 2007 audit report was entitled

Audit of Crystal River 3 Extended Power Uprate Project. Exceptions were noted in five areas. Corrective actions, where applicable, were implemented by the end of March 2008.

Findings relevant to FPSC audit staff's review were noted in the areas of [REDACTED]. These findings were relatively minor. However, continued attention to the areas cited will be required in future years for effective project management. [REDACTED]

Appropriately, a follow-up to the 2007 CR3 audit is planned for the third quarter of 2008. Audit Services plans to re-audit the areas from the first audit. The scope is not finalized but will likely assess adherence to key written procedures governing project planning and project management. The audit may also evaluate the adequacy of budget metrics, delineation of roles and responsibilities, and implementation of lessons learned.

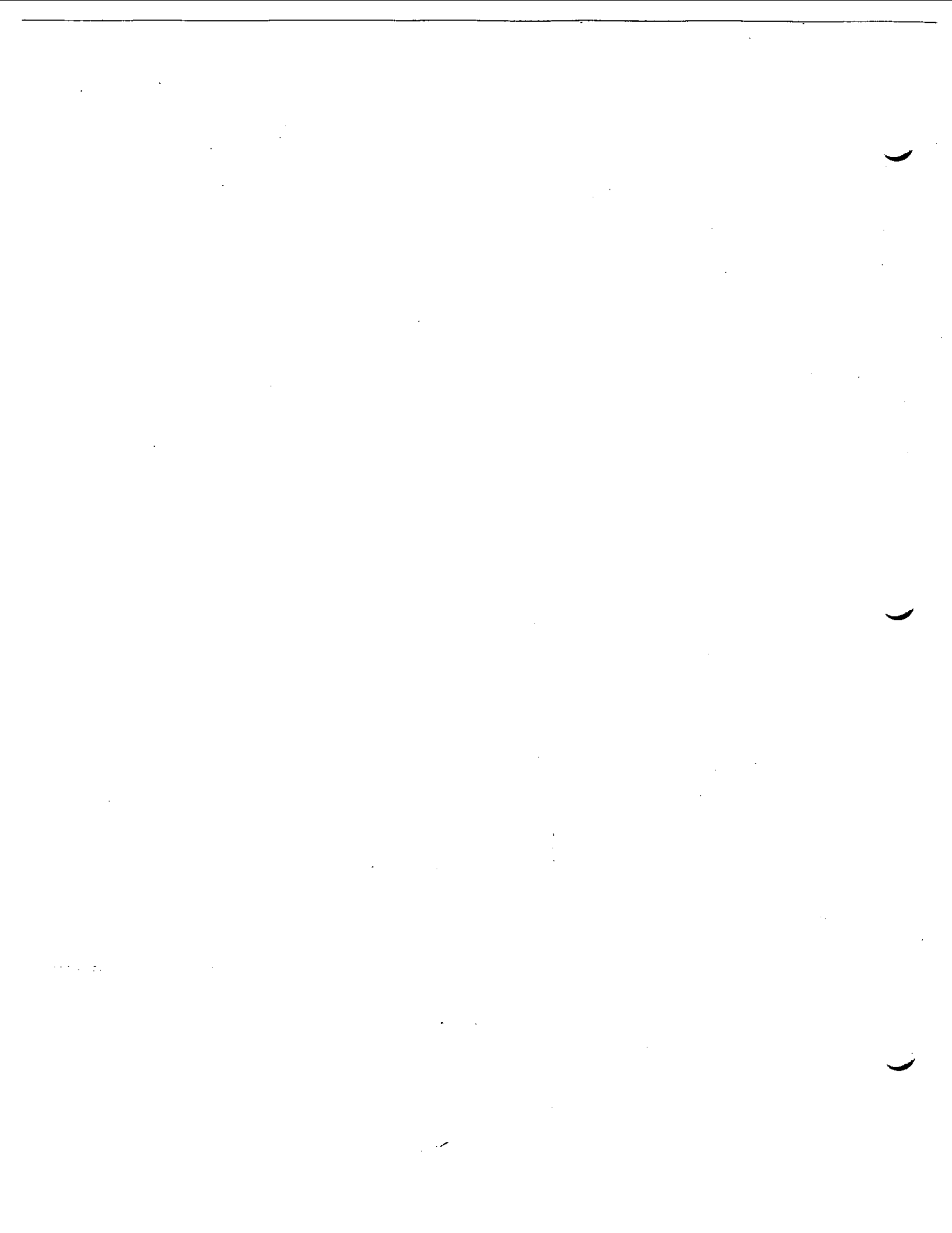
Progress Energy's newly-formed Project Assurance Group was created to provide an internal review of project decision-making processes by ensuring that proper procedural adherence and documentation are maintained. In carrying out this function, the group's efforts are intended to support PEF's nuclear cost recovery filings. This group ultimately reports to the Progress Energy Vice-President of Audit Services, and though it does not perform audit function, it will provide monthly feedback to both project management and corporate management. According to PEF, the staffing of this function is still in progress, and basic policies and procedures are in place.

Within Progress Energy Corporation's Nuclear Generation Group, the Performance Evaluation Section performs reviews of major projects such as the CR3 uprate. The Performance Evaluation Section also performs cross-functional reviews of CR3 plant operations and management-directed reviews. During 2008, Progress Energy began reorganization of the structure of the Performance Evaluation section and other internal assessment functions. This restructuring will be delineated in an Internal Governance procedure that is currently under development.

An internal quality assurance auditing role is also performed by the CR3 Nuclear Assessment Section. This group performs contractor and internal PEF reviews of Crystal River Unit 3 operations, including some related to the uprate project. During 2009, the Performance Evaluation section will conduct its biennial review of the CR3 Nuclear Assessment Section.

In future years, audit staff expects to see increasingly frequent audit activity. Quality assurance audits and internal audits should provide adequate depth and breadth of coverage to support the company's cost recovery filings by documenting adequacy of internal controls, adherence to procedures, and reasonableness of project management efforts.

PEF's audit and quality assurance capabilities are appropriate. At this early stage, audit coverage appears adequate. These controls have already proven their value in encouraging adherence to procedures. As the project progresses, more frequent internal audits and quality assurance audits will be necessary for the success of the Crystal River 3 uprate project.



3.0 Levy Units 1 and 2 Construction Project

3.1 Project Planning

Were the site selection and land purchases for the Levy units reasonable?

PEF performed an extensive search for potential sites for its planned nuclear units. The company employed the *EPRI Siting Guide*, a site selection process developed by the Electric Power Research Institute for use by electric utilities in siting plants.

The process followed by PEF ranked potential sites in three major categories and sub-categories:

- ◆ Technical Evaluation
 - ▶ engineering costs
 - ▶ socioeconomics
 - ▶ environmental concerns

- ◆ Strategic Considerations
 - ▶ system reliability
 - ▶ site permitting
 - ▶ weather vulnerability
 - ▶ advantages of existing plant site
 - ▶ local government support
 - ▶ additional cost considerations
 - ▶ site expandability

- ◆ Transmission Factors
 - ▶ cost
 - ▶ connection issues

More than 20 potential sites were studied by PEF, and these evaluation criteria narrowed these to five candidate sites located in Putnam, Highlands, Dixie, and Levy counties, plus the existing Crystal River site. These were all examined through a quantitative scoring process. Of these, the Crystal River site and the Levy site emerged as the highest scored options.

The Crystal River and Levy sites were evaluated highest on the technical evaluation category due in large part to having more solid limestone located closer to the surface, and due to water source considerations. The other three sites would have relied upon river water which could have created environmental concerns and competition with other users. The Levy site had an elevation advantage of an additional 35 feet above sea level, reducing vulnerability to hurricane storm surges.

The strategic considerations evaluation resulted in an advantage for the Levy site over the Crystal River site since Levy would have lower vulnerability to a major generation loss from a single event in a geographical area.

PEF's results indicate Levy was predicted to have slightly higher transmission upgrade costs than Crystal River. Projected transmission costs for the Dixie county site were slightly higher than the Levy county site.

In total, the Levy site received the highest ranking, with Crystal River second and Dixie county third. The Highlands and Putnam sites were considerably less viable.

The site itself is largely comprised of two parcels, each named for the previous owner(s). In November 2006, PEF signed a purchase agreement for the 3,105 acre Rayonier property. In October 2007, PEF contracted to also purchase the bordering 2,159 acre Lybass property. The latter parcel provides access to the Cross-Florida Barge Canal for cooling water intake. It also provides transmission exits from the plant site.

To prevent potential sellers from attempting to leverage higher sales prices, PEF engaged a realtor to represent the company in these purchases. The realtor did not disclose that PEF was the potential buyer, but approached each owner to inquire about price and availability.

Initially, asking prices were high. A reduced price on the Rayonier property was agreed to, and the company considered using only the Rayonier property for the plant. [REDACTED]

The size of the combined property exceeds the actual core plant site. Project management indicates that this provides the required buffers and also space for future expansion. The site could accommodate either more nuclear units or other generation technologies. At least one owner would not divide the property to purchase fewer acres. In making its decisions to purchase, PEF reasoned that the increasing scarcity and prices of suitable plant sites also warranted the purchase of the parcels.

Transmission corridors were planned with several options being considered until plant site selection was finalized. In 2007 a contract was awarded to Golder Associates to identify and evaluate transmission corridors needed and to assist with development of initial land cost estimates. The report was issued in 2008, and it recommended transmission corridor locations that are still under consideration by PEF.

Examination of environmental impacts and coordination with local government and public interest citizen groups proceeded, and the selected routes and corridors were announced in conjunction with the company's FPSC Need Determination filing. The company plans to begin transmission land and rights-of-way acquisition once the route selection study is complete.

PEF project management indicated that the proximity of the Levy and Crystal River sites was not a serious concern. Though just eight miles apart, the distance between Crystal River Unit 3 and Levy Unit 1 would be greater than that separating all the twin-unit nuclear plants in operation around the country. Based upon audit staff's understanding of the NRC's site selection constraints, this analysis of the risk of two additional nuclear units on the Levy site appears reasonable. Regarding site selection involving multiple units, the NRC requires the utility to determine whether the reactors are independent to the extent that an accident in one reactor would not cause an accident in another, and to show that simultaneous operation of multiple reactors will not result in total radioactive releases beyond allowable limits.⁷

PEF's site selection and acquisition efforts appear to have been appropriate and in keeping with good business practices.

Was the process for selection of the Levy units' design reasonable?

The Levy project dates back at least to 2004 when PEF joined the NuStart consortium. As the name implies, NuStart was formed to pursue a "new start" for the United States nuclear industry. NuStart's members are utilities exploring possible nuclear unit construction. The consortium has worked with the NRC and U.S. Department of Energy to gain approval for two demonstration project sites under the previously untested NRC combined operating license application process (COLA). For these initial demonstration projects, NuStart submitted applications for two advanced nuclear plant designs: the Westinghouse AP1000 and the GE Economic Simplified Boiling Water Reactor (ESBWR). The development of the AP1000 COLA by NuStart allows all member companies to use the portions of the COLA that are generic to these plants in their own applications. This reduces the COLA workload and expense for companies selecting the AP1000 design.

During 2005, Progress Energy issued a Request for Proposal (RFP) to GE, Westinghouse, and AREVA to obtain plant design proposals. In 2007, Progress Energy joined the AP1000 Operators Group (APOG), a consortium of utilities considering construction of an AP1000 plant. This group sought to reap benefits from combined research efforts, standardization, and resource sharing.

The evaluation of RFP responses and other research culminated in PEF's selection of the AP1000 design in early 2006. Monitoring of other design options continued, and PEF assessed GE's Advanced Boiling Water Reactor (ABWR). But the Westinghouse AP1000 remained PEF's preferred technology. The company believes the fact that the AP1000 has attained Design Certification from the NRC provided a major advantage over other options not yet granted this status. The analysis of the plant design options focused the following key criteria:

- meeting PEF's targeted commercial operation date
- minimizing capital expenditure and busbar costs

⁷ Title 10 Code of Federal Regulations 100.11.

- ◆ avoiding design options rejected by all other U.S. utilities
- ◆ minimizing financial risk, schedule risk, and expected licensing path duration
- ◆ maintaining compatibility with PEF's system operation and transmission capabilities.

The technology selection was made by the Baseload Steering Committee, comprised of key senior managers, and was approved by company and corporate executive management. The Progress Energy Board of Directors concurred with the selection approved by company and corporate executive management.

The company's early involvement in studying technology options placed PEF in a favorable position among the 21 planned new U.S. nuclear units. Should congestion in processing applications at NRC materialize, the benefits of PEF's position in queue may become more apparent and more valuable.

PEF's plant design selection process was reasonable and effective in positioning the company to meet the anticipated need for capacity in 2016.

Is PEF's approach to negotiating an engineering, procurement, and construction contract for the Levy units reasonable?

To support its AP1000 unit design, Westinghouse has teamed with Shaw Stone & Webster to form a consortium that offers full Engineering, Procurement and Construction (EPC) services. This is intended to provide more coordinated and efficient engineering and construction services within a unified contracting team.

Currently, the Westinghouse team is constructing the first AP1000 units in China. This provides a potential benefit in several ways for PEF and other AP1000 owners, as Westinghouse and Shaw Stone & Webster develop a cooperative interaction in completing one plant before repeating the process in the United States. This also allows the U.S. plants to benefit from lessons learned on the China plant.

However, the "package deal" of Westinghouse – Shaw Stone & Webster, and the popularity of the AP1000 could result in these suppliers being able to command a higher price for their unique combined offer. Therefore, PEF management sought to carefully consider its selection of an EPC contractor, keeping its options open to contract separately for engineering and procurement services from Westinghouse, and construction services from a provider other than Shaw Stone & Webster.

In March 2008, PEF entered into a Letter of Intent with Westinghouse – Shaw Stone & Webster to obtain key elements of the EPC services package for the Levy units. This agreement involved four key elements:

[REDACTED]

[REDACTED]

Audit staff notes that the industry-wide desire to keep sensitive negotiations confidential (including price specifics) makes it difficult to develop a frame of reference for evaluating the PEF Letter of Intent. Still, PEF management believes it has negotiated the most favorable terms possible given current market conditions, and points out that [REDACTED]

Among factors to be considered by PEF are the advantages of opting for the Westinghouse – Shaw Stone & Webster package contract. These include streamlining the selection of another construction contractor and the resulting coordination between that contractor and Westinghouse.

PEF's efforts to secure an engineering, procurement, and construction contract appear to have been effective and reasonable. The basic structure of the Letter of Intent regarding engineering, procurement, and construction services appears reasonable.

What regulatory approvals are required for completion of the project?

Florida Public Service Commission approval for the Levy Units is being addressed as required by Sections 403.507(4) and 403.519(3), Florida Statutes. The Commission's decision on the Determination of Need proceeding, Docket No. 080148-EI was pending at the time of this report.

Florida Department of Environmental Protection (DEP) approval for the Levy Units must be obtained via the Site Certification Application process. As with the CR3 uprate approval, DEP will coordinate with other state and local agencies to assess public health and environmental aspects of the planned Levy units. These activities include coordinating with the state's Water Management Districts in reviewing the Environmental Resource Permit application, and reviewing wetlands mitigation plans.

The company submitted its Site Certification application in early June 2008. Certification will be decided by the Siting Board (Governor and Cabinet), or in a non-contested case by the Secretary of the Department of Environmental Protection on behalf of the Board. The approval process is estimated by the company to require 15 or more months, and it will run concurrently with the much longer NRC combined operating license approval process.

PEF is required to submit license applications for NRC approval both for new unit construction and operation. The company has elected to use the Combined Operating License process option offered by the NRC. This process combines the applications for both the construction license and the operating license, with the intent of reaching an earlier completion date than the available two step process.

In 2006, the company engaged a Joint Venture Team of three contractors (Sargent & Lundy, Worley-Parsons, and CH2M Hill) to prepare its Combined Operating License Application (COLA) and DEP Site Certification Application. The team's COLA and Site Certification Application work is being completed. PEF states that the DEP Site Certification Application was submitted on June 2, 2008, and that the COLA will be submitted on July 30, 2008. Appropriately, PEF has maintained quality assurance and audit oversight of the Joint Venture Team's work. Additionally, the company has developed extensive written procedures to govern its review of the COLA.

PEF plans to apply to the NRC for a Limited Work Authorization at the same time the COLA is submitted. This will allow for limited site preparation activities in advance of issuance of a combined license. PEF project management believes this site preparation work could begin in 2010, and it should be completed in time to support commencement of construction in early 2012.

Once approval is granted for the COLA, the NRC maintains oversight of the construction and operation of the unit facility throughout its lifetime to assure compliance with the Commission's regulations. After issuing the combined license, the NRC will authorize operation of the facility upon verifying that the licensee completed required inspections, tests, analyses and that acceptance criteria were met.

PEF has appropriately proceeded with the required regulatory approvals, scheduling, and preparation of applications in a manner that will accommodate the planned project completion dates.

Has PEF developed a project plan to meet the desired project completion dates?

Based upon the anticipated regulatory approval schedule, the ongoing engineering and procurement efforts, PEF developed the current schedule leading to anticipated Levy Unit 1 commercial operation in 2016. In 2006, the company approved a project plan for the Levy project COLA phase, including a Work Breakdown Structure. The COLA phase includes the

selection of the reactor technology design, site selection, and preparation and post-submittal support of the license application itself.

COLA completion and submittal is planned for late July 2008. As of mid-June the COLA work was reported to be about 90 percent complete. PEF believes NRC approval of the Levy COLA could be completed in early 2012, triggering the start of safety-related construction. Four years of construction and pre-operational testing are planned to be completed by the end of 2016.

Levy Unit 2 construction is planned to lag Unit 1 by about 12 to 18 months, allowing contractors and workers to transition from one unit to the other. This approach reduces efforts related to setup time, contractor workforce qualification and recruitment, and maximizes the use of cranes and other leased equipment. Development of a detailed project plan and Work Breakdown Structure for the construction phases of the Levy project is in progress.

Project management has stressed the value of work on both units employing modular construction techniques. PEF notes modular construction has been successfully employed in recent years in overseas nuclear unit construction. Compared to the nuclear unit construction techniques of the 1970s and 1980s, this method compresses construction time, simplifies material handling and purchasing, and allows progress in different project areas to proceed on parallel tracks.

As with the CR3 uprate project, one key element in scheduling the Levy units is the handling of long lead items. As noted, PEF's plant design technology selection had to begin early in order to provide a favorable position "in queue" versus other planned units nationwide. The signing of the March 2008 Letter of Intent with Westinghouse – Shaw Stone & Webster allowed the procurement of key long lead items to begin, further securing PEF's "place in line" and increasing its chances of meeting the targeted Levy completion date. Westinghouse has developed and delivered a preliminary integrated project schedule for the Levy project. This schedule is under review by PEF management and will be integrated into a formal Integrated Master Plan.

PEF appears to have taken a reasonable approach to developing project plans at this early stage.

Was PEF's risk evaluation for the Levy project reasonable?

As noted, at the time PEF began to pursue the Levy plant option, its procedures regarding major capital projects (those in excess of \$5 million) required the new plant to be proposed via a Business Analysis Package (BAP). This document laid out the basic schedule, cost estimates, risk analyses, economic analyses, and scenario analyses for the COLA process only.

Risks assessed for the COLA phase included the following:

- ◆ Construction cost escalation
- ◆ Fuel cost escalation

- ◆ Contractor non-performance
- ◆ Carbon tax legislation

The initial BAP, presented in March 2006, presented the option of pursuing COLAs for both the Levy project and separate units to serve Progress Energy-Carolina. This analysis noted several future decision points for re-evaluation of whether a new nuclear plant was the best base load generation option. These re-evaluations were recommended to be performed at the points of ordering long lead equipment, COLA submittal, and start of on-site construction.

A revised BAP in August 2007 reflected slightly later planned dates for COLA submission and approval by the NRC. It also reflected an increased project cost estimate due to higher land purchase costs. The revisions also reflected revised capacity need dates for the Carolina and Florida units. The Florida timeframe moved from 2015-2016 to 2016-2018.

Specific risks analyzed included variation in the construction costs, fuel costs, and environmental costs. The only activity risk was the chance of non-performance by the COLA consultants, which was covered by contract provisions. An economic analysis compared costs of alternative generation options modeled under various scenarios. A best case scenario examined included the impact of carbon taxes that would favor the nuclear option. A worst case scenario assessed the impact of reduced natural gas prices and a 20 percent increase in capital costs.

The conclusion was that nuclear was competitive with other options, and to protect that option, PEF should start the nuclear licensing process to allow future reconsideration of the Levy plant option. It reiterated the re-evaluation decision points specified above.

During 2008, PEF began to migrate major projects towards its new Integrated Project Plan (IPP) for approval and control. The IPP process still includes the identification and assessment of key risks and risk management approaches, but provides senior management with more frequent and continuing opportunities to endorse or redirect the project. Like the BAP, the IPP documents assumptions, constraints and decisions to be made, defines approval requirements for funding, and it provides a baseline for the progress measurement and project control.

Risks addressed in the 2008 revised BAP included the following:

- ◆ Interest rate escalation
- Component cost escalation
- Construction cost escalation
- Contractor non-performance
- ◆ Labor shortages

The second revision of the Levy Business Analysis Package was presented in April 2008. This revision addresses the decision to move forward with the project beyond the COLA phase. It added information regarding the provisions of the Letter of Intent, and assigned primary responsibility for the project to the Nuclear Projects and Construction Department, as well as support roles to various PEF and Progress Energy departments. The analysis included results using the Strategist[®] modeling tool. Model runs examined sensitivities to various fuel price

projections and assumptions regarding potential CO₂ legislation. Also examined were lifetime costs of Levy and other generation options.

Key risks addressed include price risks including increased interest rates and increased component fabrication and construction costs. The plan stated that mitigation of interest rate risk could be provided by PEF Treasury Department, and also through seeking annual AFUDC recovery by the Commission. Component and construction costs were anticipated to stabilize design finalization is completed in 2009. These risks had already been mitigated by locked-in pricing and the reserved position in queue provided by the Letter of Intent. An additional strategy identified was the use of hedging for key commodities. Fuel cost risks and construction costs could be offset by hedging uranium or other commodities.

The analysis noted that risks related to non-performance by the EPC contractors were addressed in contract terms and conditions, and they could be mitigated by evaluating use of a replacement firm. Another risk was a potential shortage of labor and craftsmen. The company plans to address this through outreach programs to technical schools, community colleges and the University of Florida to support the preparation of capable technicians and engineers.

The 2008 BAP reaffirmed the need for PEF to continue to reassess the viability of the project. The report stated, "As the nuclear generation project continues forward, PEF will continue to monitor and will be obligated to demonstrate the prudence of pursuing nuclear generation as opposed to other viable options to meet the reliability needs of the Company's customers."⁸ Beyond the risk analyses completed to date, audit staff believes PEF will need to act upon the recommendations of the three Levy Business Analysis Packages to re-examine the project at key dates such as the time of COLA submittal and the start of construction.

Concerns regarding the availability of manufacturers and contractors prompted the company to maintain an accelerated contract award process. Though a final EPC contract has yet to be signed this effort took a large step towards that milestone with the Letter of Intent with Westinghouse - Shaw Stone & Webster. PEF projects that an EPC contract will be signed in mid-2008.

The resurgence of the U.S. nuclear industry has already impacted the NRC as it processes the numerous license applications that will be involved. Presently, PEF anticipates an approval period of 42 to 48 months after submission of its Levy uprate application in mid-2008. PEF management has viewed submitting an early application as being essential to reducing schedule risk, and it has acted to carry out this priority. Staff believes that backlog issues at the NRC are beyond the company's control, and early application with a well-prepared COLA is the only viable countermeasure. Also, the company must provide timely responses to any Requests for Additional Information generated by the NRC. At present, PEF project management believes the company's NRC application efforts and schedule should produce approvals without delays to project completion.

PEF has conducted a reasonable identification and assessment of potential risks to successful completion of the Levy project. Project cost and schedule success will require

⁸ *Business Analysis Package - Revision 2*, April 4, 2008, p 35.

continued vigilance in risk management and re-assessment of project viability at key decision points.

3.2 Project Management and Organization

Is an appropriate project management organization in place for the Levy project?

As with the CR3 update, the recently-created Nuclear Projects and Construction Department will provide a dedicated staff to oversee the Levy project. Headed by its Vice-President, who serves as the Levy project sponsor, this department will have primary responsibility for development of the Levy site and the construction of the units. To date, most of the activities surrounding the COLA preparation and site selection have been managed by the Nuclear Plant Development section, which is depicted in Exhibit 3.

PEF Nuclear Plant Development and License Renewal

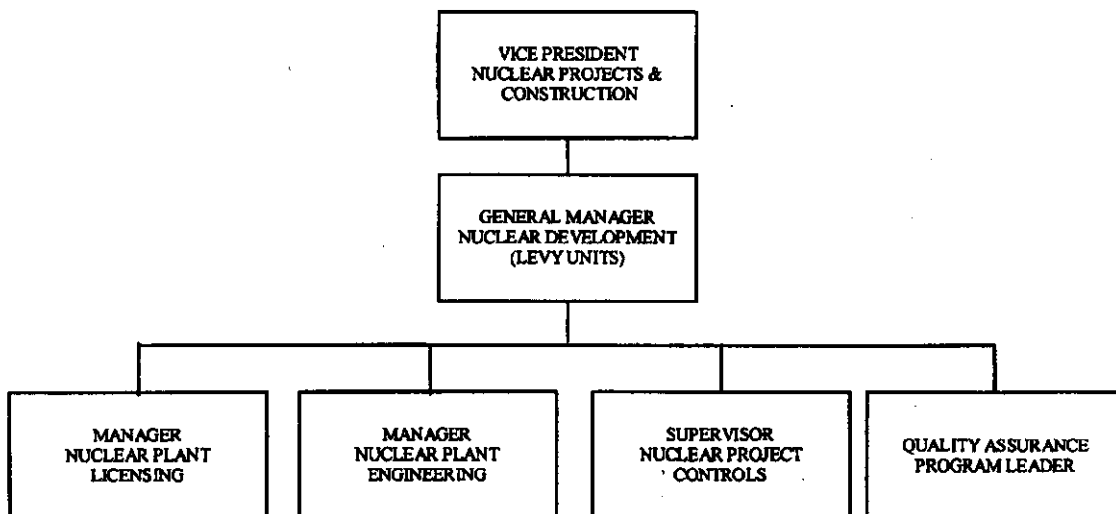


EXHIBIT 3

Source: PEF Response to Document Request 3-4

The Nuclear Project and Construction Department and the Nuclear Plant Development section have both developed written procedures to guide its work in the Levy project. Due to the ongoing nature of the project, portions of these procedures are still in the process of development, particularly those pertinent to activity scheduled for future years. Where applicable, general PEF procedures still govern. Staff has obtained and reviewed a sample of these procedures for appropriateness and completeness.

Effective oversight of the Levy project by PEF's Nuclear Projects and Construction organization will be an essential element to the project's success. Though still being staffed, the organization appears to be appropriately structured and managed at this time.

Are appropriate oversight and accountability controls over project management in place?

As noted, the reporting structure within the Nuclear Projects and Construction Department provides checks and balances to maintain oversight of work and independent assessment of work quality. This is accomplished through a variety of regular and ad-hoc meetings and reports. Properly structured and used, these reporting tools prevent actual or emerging problems from worsening due to lack of detection or intentional cover-up.

The regularly scheduled meetings involve varying segments of Levy project management. The Vice-President – Nuclear Projects and Construction convenes daily, weekly and monthly meetings with project managers of varying levels. As needed, meetings for time-sensitive issues are conducted as needed. Management receives schedule and cost reports on a regular basis to evaluate specifics of progress in either area. According to project management, meetings with PEF senior have been held monthly regarding the negotiation of the overall engineering, procurement, and construction contract.

Each quarter the Vice-President – Nuclear Projects and Construction participates in a meeting chaired by the PEF Chief Executive Officer. This meeting provides an opportunity to inform the CEO on project status and to answer his questions or concerns. Additional updates and presentations are provided to the CEO on request.

Levy project management provides a quarterly briefing and presentation to the Chief Nuclear Officer. A detailed presentation on the status of work is made by project management, highlighting changes to plans, current challenges, proposed resolutions and decisions needed.

Quarterly updates on the project are held with senior management. Future review of the project will be conducted under the Integrated Project Plan process (IPP) which was adopted in 2008. Project progress is tracked against the Integrated Project Plan and budget performance is examined. These IPP meetings in effect provide senior management with opportunities to authorize continued work, or if warranted, to suspend the project. In the event that severe problems emerged, this mechanism could provide PEF an "off-ramp" from the project.

Project management also meets quarterly with the PEF Finance Committee. These meetings examine the budget status and assess cash flows and the need for additional capital.

A framework for adequate oversight of project management by senior management exists. Plans for communications within the project management organization appear to be appropriate at this time.

3.3 Cost and Schedule Monitoring Controls

Has PEF developed an adequate control system for monitoring project schedules and costs?

As noted, the Project Controls group within the Nuclear Plant Development section is dedicated to the cost and schedule tracking of the Levy project. The Project Controls group can be viewed as the first line of defense for detecting emerging problems with costs and schedules. Once detected, any concerns can be further evaluated by Project Controls and/or brought to the attention for analysis by the on-site managers involved.

PEF's primary scheduling and schedule tracking tool is Artemis/ProjectView, a widely used project tracking and scheduling system. Through Artemis/ProjectView, actual versus projected schedule variances can be identified, analyzed, and recovery plans developed. Regular periodic reports can be provided to management, and customized reports can be developed as requested.

The company is currently reviewing a preliminary integrated project schedule prepared by Westinghouse. This schedule is under review by PEF, and it will be integrated into a formal Integrated Master Plan.

The Work Breakdown Structure is another key component of the project plan for the construction phase of the Levy project. It is the detailed plan by which each work activity for the project is identified, assigned and sequenced. Each of the hundreds of specific tasks is assigned to a functional area manager and also to a specific task manager. The functional area manager is responsible for development of the task instructions and procedures for its completion, and the task manager is responsible for actual task completion.

Cost and schedule tracking to date have focused on the COLA work. As of June 2008 the COLA is 90 percent complete, and PEF management states it plans for submittal to the NRC in late July 2008 can be accomplished. Costs for the COLA work have increased due to approved scope additions since 2006.

Monthly reports from contractors and PEF project staff also provide detailed information indicating work progress, schedule status, expenditure summaries and other information indicative of performance. Since 2006, the Joint Venture Team has provided monthly Levy plant COLA status reports and periodic Site Certification Application status reports. These contain work status information, which indicates the percentage of work complete.

PEF and Progress Energy also provide periodic internal reports on the Levy project. Progress' Nuclear Plant Development section provides a monthly Performance Report. The reports discuss cost and schedule status, budget variance, key issues and decisions, upcoming events, and self-evaluation results. Periodic briefing reports are also prepared for the Progress Energy Chief Nuclear Officer. They present updates on project status, highlight emerging challenges and problems, and discuss budget considerations.

Monthly cost reports and financial summaries are provided to PEF business unit managers and executives. Similarly, project cost reports detailing the transactions charged to the project are provided to project managers. PEF indicates that similar monthly information is provided to the Chief Operating Officer and other senior management committee members.

As the project progresses into pre-construction and eventually construction phases, cost tracking will become an increasingly important activity. Cost status is also provided in the purchase order and invoicing process, where the Project Controls group examines each against the total contract and remaining authorized funds.

Cost and schedule monitoring controls are still in the process of development. Limited results are available for assessing the adequacy of these controls at this time.

3.4 Contractor Selection and Management

Has PEF's selection of the current set of Levy project contractors and vendors been reasonable?

As with the CR3 project, all vendors for the Levy Units are assessed for inclusion on PEF's Approved Supplier List. In the case of some contractors, long standing relationships have established a track record with PEF while first-time evaluations may be required for others. Depending upon the contract, this evaluation effort may include a review of the vendor's facilities, products, and quality assurance program.

Vendors and contractors for the Levy project were selected by a mix of competitive bidding and sole source contracts. PEF's procedures define sole sourcing as the selection of one single contractor, not on the basis that it is the only one qualified, but that it is the only one acceptable or available. Further, the procedures require sole source activity to be justified by the contract originator and approved at the appropriate management level for the dollar amount of expenditure involved.⁹ Audit staff notes that in a sole source situation, a detailed proposal is still examined and revised to provide the services or products according to PEF's needs and constraints.

For the Levy project, PEF has entered into ten contracts of one million dollars or greater that are reflected in its cost recovery filings. Of these, two resulted from competitive bidding and eight were sole source awards. These contracts are summarized in **Exhibit 4** below.

The two contracts that were selected via bids were both awarded to the Joint Venture Team comprised of the firms of Sargent & Lundy, Worley-Parsons, and CH2M Hill. One contract was for the preparation of Levy's NRC COLA, and the other was for the preparation of the DEP Site Certification Application. The joint venture team was selected after evaluation of proposals from six bidders.

⁹ Progress Energy Procedures MCP-NGGC-0001, pp. 8 and 20.

Of the sole source Levy project contracts, six were awarded to either Westinghouse or Shaw Stone & Webster. PEF notes that the selection of the AP1000 technology drove the selection of Westinghouse (the owner of the AP1000 design) and Shaw Stone & Webster (its partner for construction of AP1000 units). PEF could have elected to use a different construction contractor, but the potential advantages (discussed on section 3.1) appear to have been weighted heavily by the company in its decision process.

Levy Units 1 & 2 Project Contracts Greater Than \$1 Million			
Westinghouse	Letter of Intent - AP1000 Reactor design and components	Sole Source - based on reactor technology selected	[REDACTED]
Westinghouse	Levy price finalization support	Sole Source - based on reactor technology selected	[REDACTED]
Stone & Webster	Levy price finalization support	Sole Source - based on reactor technology selected	[REDACTED]
Stone & Webster	Letter of Intent - AP1000 reactor construction	Sole Source - based on reactor technology selected	[REDACTED]
Stone & Webster	Conceptual design and site characterization	Sole Source - based on reactor technology selected	[REDACTED]
Stone & Webster	Support of SCA and LWA submittals	Sole Source - based on reactor technology selected	[REDACTED]
Jt. Venture Team	COLA preparation	RFP	[REDACTED]
Jt. Venture Team	Site Certification Application preparation	RFP	[REDACTED]
Golder Associates	Transmission corridor studies	Sole Source	[REDACTED]
Power Engineers Inc.	Transmission line and substation conceptual design	Sole Source	[REDACTED]

EXHIBIT 4

Source: PEF Schedule AE-8

The selection of the reactor design is arguably the most significant one to be made in nuclear plant construction. Its ramifications will continue for decades of plant operations. Due to the complete uniqueness of each design, and each vendor's ownership of that design, any technology selection necessarily will lead to a sole source award to that particular vendor. Audit staff believes this is a qualitative decision that does not lend itself to a low-bid selection process.

Though reactor designs vary, they can be separated into two basic types: pressurized water reactors (PWR) and boiling water reactors (BWR). The Westinghouse AP 1000, is a PWR, as is PEF's Crystal River Unit 3. Though the AP1000 is an advanced passive design and therefore significantly different from CR3, it is still similar to the basic technology type familiar to PEF and consistent with decades of operating experience at CR3. Other leading advanced designs being considered today are two separate General Electric BWR designs (ABWR and ESBWR.)

Another consideration weighed by PEF is the fact that unlike the GE ESBWR, the Westinghouse AP1000 and GE ABWR have attained design certification by the NRC. This is a designation granted by the NRC after a detailed engineering review. Though the GE ESBWR may attain the NRC certification, some delay would be required in PEF's timetable for COLA submittal in late July 2008 and commercial operation of Levy Unit 1 in 2016. The ABWR design was specifically studied and determined by PEF to be a less desirable option.

The design technology selection, however does not necessarily leave the utility without options for the construction contractor. For utilities selecting the AP1000, the consortium of Westinghouse – Shaw Stone & Webster strongly influences these companies to opt for the combined engineering, procurement and construction contract team. Concrete benefits for this option do exist. However, each utility's timing and planning assumptions differ and this certainly impacted PEF's decision-making.

PEF's goal to make a mid-2008 COLA submittal, both to avoid potential NRC and industry bottlenecks and to provide capacity by 2016, in part led it to strongly consider the Westinghouse and Shaw Stone & Webster team. Taking into consideration PEF management's efforts to obtain favorable pricing features in its March 2008 Letter of Intent, audit staff believes the Westinghouse and Shaw Stone & Webster sole source awards were reasonable decisions.

The sole source contract awarded to Golder Associates was for work supporting transmission expansion resulting from the Levy project. Key tasks include preparation of a corridor routing study and preparation of sections of the COLA and Site Certification applications. According to PEF management, the contract was sole sourced because Golder had already completed preliminary assessments for the Levy project in a prior contract. PEF reports that these preliminary assessments had been used as part of the decision to proceed with the project, but by the time the additional need for services existed, it was too late to issue an RFP for the other work. PEF believed issuing an RFP and analysis of proposals would have prevented the company from maintaining scheduled project milestones. PEF reasoned that if another contractor were selected, that contractor would have had to repeat the preliminary assessments work. The company also points out that it has a master contract with Golder that is exercised from time to time.

Similarly, the sole source contract awarded to Power Engineers Incorporated was for continued transmission line and substation conceptual design work as a follow-up to earlier work. The contract was awarded through a work authorization on a master contract with PEF. As with the Golder contract, PEF states that time constraints prevented the issuance of an RFP and that work already completed by Power Engineers would have to have been repeated if another vendor were to have been chosen.

Audit staff determined that the original preliminary assessments work contract with Golder was also sole sourced. Therefore, the justification for the second sole source contract depends largely upon the sole source justification of the first contract.

The compensation rates for both the Golder and Power Engineering contracts were based upon the existing master contracts in effect at the time. These rates were previously negotiated in an unhurried timeframe, and therefore the possibility of PEF having paid excessive work rates is diminished. Although it would have been preferable for the original work to have been competitively bid, the company's concern over schedule constraints appears reasonable to audit staff as sole source justification for both the Golder and Power Engineering contracts. In the future, audit staff urges the company to issue RFPs for project contracts where possible, and to plan to allow time for the selection process.

PEF appears to have followed its contractor selection procedures. Given the unique challenges and circumstances of the nuclear industry, PEF's use of sole source selections for the Levy project to date is in keeping with reasonable business practices.

Is an appropriate set of internal controls for contractor management and evaluation in place for the Levy project?

The contractor management and contractor evaluation functions are the responsibility of the Nuclear Projects and Construction Department. Within the department's Nuclear Plant Development section, the Quality Assurance Program Leader oversees assessments of both vendor and PEF quality assurance programs. To date, he has interacted with the Joint Venture Team of COLA consultants, evaluating their efforts. As the project moves forward, he will develop the Levy QA program, writing the program procedures and staffing this group for an expanding workload.

Similar to the CR3 project, a separate Project Controls group within the Nuclear Plant Development section will oversee schedule monitoring and reporting, financial reporting and cost tracking, and work management. The aim of the Project Controls group is to detect and report emerging problems with costs and schedules. This reporting is essential to allow management to take timely action to prevent or control problems. The Project Controls Supervisor reports to the General Manager of Nuclear Plant development, who reports to the Vice-President - Nuclear Project and Construction.

At the corporate level, Progress Energy's Audit Services Department and Performance Evaluation Section both have roles in contractor evaluation. The full responsibilities of these organizations are discussed in more detail in section 3.5 below.

PEF's approach to contractor oversight and evaluation appears to be appropriate to date. Proactive project management by PEF should require frequent communication and updates, demand contractor accountability, and challenge information provided by contractors.

Has PEF implemented appropriate protections from contractor cost overruns or poor performance on the Levy project?

PEF project management has stressed that effective supervision and management of contractors must be maintained to avoid schedule delays or cost overruns. The company notes that contracts have been negotiated to support this effort.

Where the nature of the work being performed does not lend itself to a fixed price contract, time and materials contracts can be structured to include a target price and penalty provision. [REDACTED]

[REDACTED] This risk-sharing approach prevents contractors from benefitting from their own failures, and it provides an incentive for early or timely completion of work. Of the current ten Levy contracts exceeding one million dollars, four are time and materials contracts and six are fixed-price.

As noted, required periodic status reports from contractors also are used as a tool for obtaining status information and accountability. This supports full disclosure and early detection of problems or negative trends. Contractors that are experiencing problems can provide remediation plans and commit to improved performance. Internal PEF and Progress Energy status reports previously described can also serve similar purposes of monitoring contractors' performance and effectiveness.

[REDACTED]

Standard contract provisions, cover contingencies such as damages, breach, work stoppages, cancellation for cause or without cause by PEF, and dispute resolution to ensure quality work and contract adherence. Each contract affords audit and work inspection rights to PEF.

PEF has made efforts to ensure effective contractor performance by means of protective contract provisions and contract structure. This approach appears to have appropriately sought risk-sharing through incentives and penalties.

3.5 Auditing and Quality Assurance

Does PEF have appropriate auditing and quality assurance functions in place for the Levy project?

As a major investment facing various risks, the Levy project will continue to be the subject of the Progress Energy Corporation's Audit Services Department as it develops the annual audit plan. As noted, the Audit Services Department is headed by a Vice-President who is accountable to the Progress Board of Directors' Audit Committee. The reporting structure is in

keeping with Institute of Internal Auditors standards,¹⁰ and it aids the organization in providing independent assessments of company operations such as the development of the Levy project.

Audit Services has planned several audits related to the Levy project for 2008. One will review compliance within PEF to the nuclear cost recovery rule including the accuracy and adequacy of filings. Another will assess the performance of the Levy Nuclear Financial and Regulatory Project Team, and a third will assess the adequacy of the Levy County Data Repository.

Most importantly, PEF's planned 2008 *Audit of Levy County Project Management* will address cost management, project management and adherence to authorization procedures. The audit will focus on governance and controls for overall project management, prudence, regulatory filings and reporting, status reporting, and change management. Audit staff believes the results of this audit will provide valuable input for assessing PEF's 2009 nuclear cost recovery filing.

Progress Energy's newly-formed Project Assurance Group was created to provide an internal review of project decision-making processes by ensuring that proper procedural adherence and documentation are maintained. In carrying out this function, the group's efforts are intended to support PEF's nuclear cost recovery filings. This group ultimately reports to the Progress Energy Vice-President of Audit Services, and though it does not perform audit function, it will provide monthly feedback to both project management and corporate management. According to PEF, the staffing of this function is still in progress, and basic policies and procedures are in place.

Within Progress Energy's Nuclear Generation Group, the Performance Evaluation Section also performs audits that examine PEF's nuclear operations, including the Levy Project. In 2008, PES is scheduled to perform an evaluation of the Nuclear Plant Development section, which includes the Levy project quality assurance and project controls functions. PES also performs cross-functional reviews of Progress Energy nuclear plant operations and management-directed reviews. During 2008, Progress Energy began reorganization of the structure of the Performance Evaluation section and other internal assessment functions. This change, and the benefits of the restructuring, will be delineated in an Internal Governance procedure that is currently under development.

During 2007, Nuclear Plant Development section's Quality Assurance group performed an audit of CH2M Hill, one of the Joint Venture Team contractors preparing the COLAs for both the PEF's Levy plant and the new Progress Energy-Carolina Harris units. [REDACTED]

[REDACTED] As a result, NPD required CH2M Hill to prepare a recovery plan to remedy these shortcomings. [REDACTED]

[REDACTED] The adverse audit findings triggered a review of CH2M Hill's geotechnical investigation activities at the Levy site by CR3's Nuclear Assessment staff. This review did not result in new findings, and no work stoppage was required at Levy. A re-audit of

¹⁰ The Institute of Internal Auditors, *Standards for the Professional Practice of Internal Auditing*, 1995, Standard 110.01.1.

CH2M Hill was conducted March 31-April 4, 2008. The reaudit resulted in satisfactory findings, and [REDACTED]

In 2007, a similar audit of Joint Venture Team member Sargent & Lundy's quality program was conducted. This audit identified six nonconformances, none found to have an adverse impact on the product provided to Progress Energy.

The Quality Assurance group plans several internal Levy project reviews for 2008. Four reviews will separately address COLA Preparation and Review, Contract Management, Self Evaluation and Document Management. All are scheduled for completion during the second or third quarters of 2008.

In future years, audit staff expects to see increasingly frequent audit activity. Quality assurance audits and internal audits should provide adequate depth and breadth of coverage to support the company's cost recovery filings by documenting adequacy of internal controls, adherence to procedures, and reasonableness of project management efforts.

PEF's audit and quality assurance capabilities are appropriate. At this early stage, audit coverage appears adequate. These controls have already proven their value in managing contractor effectiveness. As the project progresses, more frequent internal audits and quality assurance audits will be necessary for the successful completion of Levy Units 1 & 2.

DOCKET NO. 080009-EI: Nuclear cost recovery clause for Progress Energy Florida, Inc.

WITNESS: Direct Testimony Of Jeffery A. Small, Appearing On Behalf Of the Staff of the Florida Public Service Commission

EXHIBIT JAS-2: Audit Report to address the pre-construction costs as of December 31, 2007 for Levy County Units 1 & 2 (Redacted)



FLORIDA PUBLIC SERVICE COMMISSION
DIVISION OF REGULATORY COMPLIANCE & CONSUMER ASSISTANCE
BUREAU OF AUDITING

Tampa District Office

PROGRESS ENERGY FLORIDA, INC.
NUCLEAR COST RECOVERY CLAUSE

LEVY COUNTY UNITS 1 & 2
PRE-CONSTRUCTION COST

AS OF DECEMBER 31, 2007

DOCKET NO. 080009-EI
AUDIT CONTROL NO. 08-087-2-1

A handwritten signature in black ink, appearing to read "Jeffery A. Small".

Jeffery A. Small, Audit Manager

A handwritten signature in black ink, appearing to read "Joseph W. Rohrbacher".

**Joseph W. Rohrbacher, District
Supervisor**

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¹ Schedules included in the company's filing that did not contain information reviewed by the audit staff is not incorporated in this report.

**DIVISION OF REGULATORY COMPLIANCE & CONSUMER ASSISTANCE
AUDITOR'S REPORT**

JULY 17, 2008

TO: FLORIDA PUBLIC SERVICE COMMISSION AND OTHER INTERESTED PARTIES

We have performed the procedures described later in this report to meet the agreed upon objectives set forth by the Division of Economic Regulation in its audit service request dated March 27, 2008. We have applied these procedures to the attached schedules prepared by Progress Energy Florida, Inc. in support of its 2007 filings for Nuclear Cost Recovery Clause relief in Docket No. 080009-EI.

This audit was performed following general standards and field work standards found in the AICPA Statements on Standards for Attestation Engagements. This report is based on agreed upon procedures which are only for internal Commission use.

OBJECTIVES AND PROCEDURES

GENERAL

To verify that the company's 2007 Nuclear Cost Recovery Clause (NCRC) filings in Docket No. 080009-EI are consistent and in compliance with Section 366.93, F.S. and Chapter 25-6.0423, F.A.C.

SPECIFIC

- Objective:** Verify that the company's filing is properly recorded on its books and records according to the Code of Federal Regulations (CFR) Uniform System of Accounts. (USoA)
Procedures: We reconciled the company's filing to the general ledger and verified that the costs incurred were posted to the proper USoA account.
- Objective:** Verify that Schedule T-1 is accurately calculated and that it includes the correct balances from the supporting schedules of the company's 2007 NCRC filing.
Procedures: We reconciled and recalculated a sample of the monthly revenue requirement accruals displayed on Schedule T-1 to the supporting schedules in the company's 2007 NCRC filing.
- Objective:** Verify that the carrying cost amounts displayed on Schedule T-3, which rolls forward to Schedule T-1, are accurately calculated and that they include the correct balances from the supporting schedules of the company's 2007 NCRC filing.
Procedures: We reconciled and recalculated a sample of the carrying cost accruals displayed on Schedule T-3 to the supporting schedules in the company's 2007 NCRC filing. We recalculated a sample of the Allowance for Funds Used During Construction (AFUDC) balances displayed as Other Adjustments in the filing and reconciled the rates applied by the company to its approved AFUDC rates in Order No. PSC-05-0945-FOF-EI, issued September 28, 2005.
- Objective:** Verify that the Deferred Tax Return Requirement amount displayed on Schedule T-3A, which rolls forward to Schedule T-1, is accurately calculated and that it includes the correct balances from the supporting schedules of the company's 2007 NCRC filing.
Procedures: We reconciled and recalculated a sample of the monthly deferred tax carrying cost accruals displayed on Schedule T-3A to the supporting schedules in the company's 2007 NCRC filing. We recalculated a sample of the monthly carrying cost balances for deferred tax assets based on the equity and debt components established in Order No. PSC-05-0945-FOF-EI.
- Objective:** Verify that the Construction Period Interest (CPI) amount displayed on Schedule T-3B, which rolls forward to Schedule T-3A, is accurately calculated and that it includes the correct balances from the supporting schedules of the company's 2007 NCRC filing.

Procedures: We reconciled and recalculated a sample of the monthly CPI accruals displayed on Schedule T-3B to the supporting schedules in the company's 2007 NCRC filing. We recalculated the company's CPI rate and reconciled the component balances to the company's general ledger.

6. *Objective:* Verify that the jurisdictional nuclear construction amounts, displayed on Schedule T-6 of the company's 2007 filing, which rolls forward to Schedule T-3, are accurately calculated and are supported by original source documentation.

Procedures: We recalculated a sample of monthly jurisdictional nuclear construction expenditures displayed on Schedule T-6 of the company's 2007 NCRC filing. We sampled and verified the construction and transmission cost expenditures and traced the invoiced amounts to supporting documentation. We reconciled the jurisdictional factors applied by the company to the eligible carrying cost to the factors approved in Order No. PSC-06-0972-FOF-EI, issued November 22, 2006, in Docket No. 060007-EI. Audit Finding No. 1 discusses our analysis and discloses additional information concerning the company's balances for generation, transmission and future use land.

AUDIT FINDING NO. 1

SUBJECT: LAND AND LAND RIGHTS

AUDIT ANALYSIS: The company's filing and general ledger include the following balances for land and land rights for the Levy Units 1 and 2 nuclear plant projects.

<u>Acct No.</u>	<u>Project No.</u>	<u>Description</u>	<u>Land Cost</u>	<u>Other Cost</u>	<u>Total Land</u>
1071000	20059051	Land - Generation	\$52,008,983	\$521,276	\$52,530,259
1071000	20064886	Land - Transmission	8,930,645	10,780	8,941,425
1071000	20065752	Land - Held for Future Use	<u>27,667,950</u>	0	<u>27,667,950</u>
Total Land			\$88,607,578	\$532,056	\$89,139,634

The "Other Cost" balances above include company cost outside of the closing process related to the land purchased.

The company's calculations of the above future use and transmission use land balances are displayed below.

<u>Land Purchases</u>	<u>Amount</u>	<u>Acres</u>	<u>Price/Acre</u>
Rayonier land price	\$46,579,500	3,105.00	\$15,000
Closing cost	<u>1,617,172</u>		
Totals	\$48,196,672		
Lybass land price	\$39,084,959	2,159.00	\$18,103
Closing cost	<u>1,325,947</u>		
Totals	\$40,410,906		

<u>Lybass purchase</u>	<u>Land Use</u>	<u>Total Percent</u>	<u>Used/Useful Percent</u>
Generation	94.08	4.36%	29.92%
Transmission	220.39	10.21%	<u>70.08%</u>
Future Use	<u>1,844.53</u>	<u>85.43%</u>	
Totals	2,159.00	100.00%	100.00%

<u>Future Use</u>	<u>Amount</u>
Fair market value	\$15,000
Future use acreage	<u>1,844.53</u>
Total Future Use Value	\$27,667,950

<u>Transmission Use</u>	<u>Amount</u>
Total Lybass Cost	\$40,410,906
Future Use Value	<u>27,667,950</u>
Remaining Value	\$12,742,956
Transmission Percent	<u>70.08%</u>
Total Transmission Value	\$8,930,645

(Small differences are attributed to rounding errors)

The company cited 18 CFR 101, Electric Plant Instruction 7G as justification and support for its valuation and allocation methodology.

When the purchase of land for electric operations requires the purchase of more land than needed for such purposes, the charge to the specific land account shall be based

upon the cost of the land purchased, less the fair market value of that portion of the land which is not to be used in electric operations.

The company asserts that the purchase price it paid for the Lybass property was above its fair market value (FMV) because the sale was influenced by the previous purchase of the Rayonier property. The company therefore used the \$15,000 per acre price of the Rayonier purchase as the FMV multiplier to determine the land held for future use balance of \$27,667,950. The remaining Lybass purchase price of \$12,742,956 was allocated between the generation and transmission land accounts based on percentage of estimated use. The remaining purchase price includes 100 percent of the closing cost.

Other applicable CFR citations include 18 CFR 101, Definitions 9 and 23.

Cost means the amount of money actually paid for property or services.

Original cost, as applied to electric plant, means the cost of such property to the person first devoting it to public service.

A first alternative valuation method would use \$18,103, the actual FMV per acre purchase price of the Lybass property, to determine the future use land balance. The Lybass property contains the entire land area that is designated by the company for future use and the valuation method is supported by all three of the CFR citations referenced above. The following reflects our calculated generation, transmission and future use land balances.

<u>Description</u>	<u>Land Cost</u>	<u>Other Cost</u>	<u>Total Land</u>
Land - Generation	\$50,296,511	\$521,276	\$50,817,787
Land - Transmission	4,919,043	10,780	4,929,823
Land - Held for Future Use	<u>33,392,024</u>	<u>0</u>	<u>33,392,024</u>
Total Land	\$88,607,578	\$532,056	\$89,139,634

<u>Future Use</u>	<u>Amount</u>
Fair market value	\$18,103
Future use acreage	<u>1,844.53</u>
Total Future Use Value	\$33,392,024

<u>Transmission Use</u>	<u>Amount</u>
Total Lybass Cost.	\$40,410,906
Future Use Value	<u>33,392,024</u>
Remaining Value	\$7,018,882
Transmission Percent	<u>70.08%</u>
Total Transmission Value	\$4,919,043

(Small differences are attributed to rounding errors)

A second alternative valuation method would use \$16,274, the average FMV per acre purchase price of both the Rayonier and Lybass properties, to determine the future use land balance. This method would treat the entire land purchase as one transaction, which is the ultimate use for the two parcels of land purchased. The following reflects

our calculated generation, transmission and future use land balances.

<u>Description</u>	<u>Land Cost</u>	<u>Other Cost</u>	<u>Total Land</u>
Land - Generation	\$51,306,150	\$521,276	\$51,827,426
Land - Transmission	7,284,204	10,780	7,294,984
Land - Held for Future Use	<u>30,017,224</u>	<u>0</u>	<u>30,017,224</u>
Total Land	\$88,607,578	\$532,056	\$89,139,634

<u>Land Purchases</u>	<u>Amount</u>	<u>Acres</u>	<u>Price/Acre</u>
Rayonier land cost	\$46,579,500	3,105.00	\$15,000
Closing cost	<u>1,617,172</u>		
Totals	\$48,196,672		
Lybass land cost	\$39,084,959	2,159.00	\$18,103
Closing cost	<u>1,325,947</u>		
Totals	\$40,410,906		
Combined land cost	\$85,664,459	5,264.00	\$16,274
Closing cost	<u>2,943,119</u>		
Totals	\$88,607,578		

<u>Lybass Site</u>	<u>Land Use</u>	<u>Total Percent</u>	<u>Used/Useful Percent</u>
Generation	94.08	4.36%	29.92%
Transmission	220.39	10.21%	<u>70.08%</u>
Future Use	<u>1,844.53</u>	<u>85.43%</u>	
Totals	2,159.00	100.00%	100.00%

<u>Future Use</u>	<u>Amount</u>
Fair market value	\$16,274
Future use acreage	<u>1,844.53</u>
Total Future Use Value	\$30,017,224

<u>Transmission Use</u>	<u>Amount</u>
Total Lybass Cost	\$40,410,906
Future Use Value	<u>30,017,224</u>
Remaining Value	\$10,393,682
Transmission Percent	<u>70.08%</u>
Total Transmission Value	\$7,284,204

(Small differences are attributed to rounding errors)

Additional information

During our review of supporting documentation for the land purchases it was discovered that the land balances reflected in the filing are overstated by \$127,073 as described below.

1. The company, in response to Document Request No. LV-12-07-PC, identified an invoice totaling \$20,612 for a survey of the Lybass property that was paid twice. The company stated that it would correct the duplicate billing when it receives reimbursement from the vendor.

2. The company, in response to Document Request No. LV-11-07-PC, identified the "Other Cost" balance of \$10,780 included in the schedules above as a PEF Administrative Overhead allocation that should not have been charged to the land projects. The company provided evidence that it removed and reclassified the amount in June 2008.
3. The company, in response to Document Request No. LV-12-07-PC, identified a \$95,681 accrual that is included in the land balance that should have been reversed in 2007. The company provided evidence that it removed the accrual in June 2008.

None of the three land valuation methods and resulting balances described earlier in this finding includes the additional information discussed above.

The sales contract to purchase the Rayonier property¹ and the direct testimony of Daniel Roderick² indicate that the contract terms of the Rayonier property sale included a deferred purchase price of [REDACTED]. The contingent liability becomes due when PEF has received the Combined Construction and Operation License issued by the U.S. Nuclear Regulatory Commission. The company has not included any accounting entries in the current filing or its general ledger that records the deferred purchase contingent liability.

EFFECT ON THE FILING:

Action	Effect	Amount
Accept company land valuation	None	\$0
Accept first alternative valuation	Reduce generation land balance	(\$1,712,472)
	Reduce transmission land balance	(\$4,011,602)
	Increase future use land balance	<u>\$5,724,074</u>
	Net	\$0
Accept second alternative valuation	Increase generation land balance	(\$702,833)
	Reduce transmission land balance	(\$1,646,441)
	Increase future use land balance	<u>\$2,349,274</u>
	Net	\$0
Accept additional information finding	Reduce generation land balance	(\$20,612)
	Reduce generation land balance	(\$95,681)
	Reduce transmission land balance	<u>(\$10,780)</u>
		(\$127,073)

EFFECT ON THE GENERAL LEDGER: An alternative valuation adjustment would only apply to the balances of the individual projects within Acct. No. 1071000 with a net effect of \$0 on the account. The additional information adjustments have already been made or will be made by the company in 2008.

We defer the appropriate treatment of the deferred purchase contingent liability to the analyst in this proceeding.

¹ Purchase and Sale Agreement, executed November 16, 2006, Page 21, Paragraph 44.

² Confidential Testimony of Daniel L. Roderick on Behalf of Progress Energy Florida, filed March 11, 2008, Docket No. 080148-EI, Page 11, Lines 21-22.

EXHIBIT 1

Levy County Nuclear Filing
Pre-Construction Costs and Carrying Costs on Construction Cost Balance
True-up Filing: Retail Revenue Requirements Summary

(Section (5)(c)1.a.)

Schedule T-1

FLORIDA PUBLIC SERVICE COMMISSION

EXPLANATION: Provide the calculation of the actual true-up of total retail revenue requirements based on actual expenditures for the current year and the previously filed expenditures for such current year.

For the Year Ended 12/31/2007

COMPANY:
Progress Energy - FL
DOCKET NO.:
080148-EI

Witness:

Line No.	(H)	(I)	(J)	(K)	(L)	(M)	(N)
	Actual July	Actual August	Actual September	Actual October	Actual November	Actual December	12 Month Total
Jurisdictional Dollars							
1.							
2.			224,668	460,558	463,321	544,738	1,713,284
3.							
4.			(70)	(265)	(561)	(304)	(1,841)
5.							
6.			224,596	460,273	462,739	543,835	1,711,443
7.							
8.			224,596	460,273	462,739	543,835	1,711,443

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EXHIBIT 2

Livy County Nuclear Filing
Pre-Construction Costs and Carrying Costs on Construction Cost Balance
True-up Filing: Construction

Schedule T-3 [Section (5)(c)1 a.]

FLORIDA PUBLIC SERVICE COMMISSION
 COMPANY: Progress Energy - FL
 DOCKET NO.: 000148-EI

EXPLANATION: Provide the calculation of the final true-up of carrying costs on construction expenditures, based on actual carrying costs on construction expenditures for the prior year and previously filed carrying costs on construction expenditures for such prior year.

For the Year Ended 12/31/2007
 Witness:

Line No.	(I) Beginning of Period	(J) Actual July	(K) Actual August	(L) Actual September	(M) Actual October	(N) Actual November	(O) Actual December	(P) 12 Month Total
Jurisdictional Dollars								
1. Nuclear CWIP Additions (Schedule T-6, line 48)		\$ -	\$ -	\$ 42,708,624	\$ 1,831,101	\$ 1,875,880	\$ 8,148,388	\$ 55,861,072
2. Transfers to Plant in Service		-	-	-	-	-	-	-
3. Other Adjustments (d)		-	-	-	161,396	310,384	325,880	787,441
4. CWIP Base Eligible for Return (PM CWIP Bal. + Line 1 - 2 + 3)		-	-	42,708,624	44,889,020	48,274,434	56,248,513	50,346,513
5. Average Net CWIP Additions		-	-	21,363,262	43,773,468	45,938,904	51,774,220	na
6. Return on Average Net CWIP Additions (c)		-	-	-	-	-	-	-
a. Equity Component (a)		-	-	118,874	239,178	250,999	282,895	689,747
b. Equity Comp. grossed up for taxes (b)		-	-	198,946	388,383	408,827	460,553	1,448,509
c. Debt Component		-	-	34,720	71,176	74,883	84,186	264,775
7. Total Return Requirements (Line 6a + 6b + 6c)		-	-	224,966	460,658	485,321	544,738	1,713,284
8. Total Return Requirements from most recent Projections		-	-	-	-	-	-	-
9. Difference (Line 7 - Line 8)		\$ -	\$ -	\$ 224,966	\$ 460,658	\$ 485,321	\$ 544,738	\$ 1,713,284

Notes:

- (a) The monthly Equity Component of 8.85% reflects an 11.75% return on equity.
- (b) Requirement for the payment of income taxes is calculated using a Federal Income Tax rate of 38.575%.
- (c) APJDC actual monthly rate is calculated using the formula $M = [(1 + A/100)^{1/12} - 1] \times 100$; resulting in a monthly accrual rate of 0.005404 (Equity) and 0.001620 (Debt), which results in the annual rate of 6.618%.
- (d) Return on average net Construction Work in Progress (CWIP) additions that is being included in the Levy costs until such time as these costs are recovered under the Capacity Cost Recovery (CCR) rate.

EXHIBIT 3

Schedule T-3A **Levy County Nuclear Filing**
Pre-Construction Costs and Carrying Costs on Construction Cost Balance (Section 5)(c)1.a.)
True-up Filing: Deferred Tax Carrying Costs

FLORIDA PUBLIC SERVICE COMMISSION
 COMPANY: Progress Energy - FL
 DOCKET NO.: CB0149-E1

EXPLANATION: Provide the calculation of the Actual deferred tax Carrying Costs for the current year.

For the Year Ended 12/31/2007

Witness:

Line No.	(F) Beginning of Period	(G) Actual July	(H) Actual August	(I) Actual September	(M) Actual October	(N) Actual November	(O) Actual December	(P) 12 Month Total
Jurisdictional Dollars								
1. Construction Period Interest (Schedule T-3B, Line 7)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2. Recovered Costs Excluding AFUDC (Schedule T-2, Line 1+ Line 3)	-	-	-	-	-	-	-	-
3. Other Adjustments (d)	-	-	-	(34,720)	(71,178)	(74,860)	(84,188)	(264,778)
4. Tax Basis Less Book Basis (Prior Mo Balance + Line 1 + 2 + 3)	-	-	-	(34,720)	(108,888)	(169,640)	(264,778)	n/a
5. Deferred Tax Liability (DTL) on Tax Basis in Excess of Book (Line 4 * Tax Rate)	-	-	-	(13,303)	(42,847)	(65,862)	(103,121)	n/a
6. Average Accumulated DTA	-	-	-	(6,887)	(7,121)	(5,298)	(8,907)	-
7. Carrying Costs on DTA (c)	-	-	-	-	-	-	-	-
a. Equity Component (a)	-	-	-	(37)	(148)	(262)	(480)	(996)
b. Equity Comp. grossed up for taxes (b)	-	-	-	(80)	(241)	(482)	(764)	(1,576)
c. Debt Component	-	-	-	(13)	(14)	(19)	(14)	(70)
8. Total Return Requirements (Line 7d + 7c)	-	-	-	(70)	(285)	(581)	(904)	(1,841)
9. Total Return Requirements from most recent Projections	-	-	-	-	-	-	-	-
10. Difference (Line 8 - Line 9)	\$ -	\$ -	\$ -	(70)	(285)	(581)	(904)	(1,841)

Notes:
 (a) The monthly Equity Component of 0.68% reflects an 11.75% return on equity.
 (b) Requirement for the payment of income taxes is calculated using a Federal Income Tax rate of 38.575%.
 (c) AFUDC actual monthly rate is calculated using the formula $1 + (1 + AFUDC)^{12} - 1$ x 100, resulting in a monthly accrual rate of 0.00464 (Equity) and 0.001626 (Debt) which results in the annual rate of 5.948%.
 (d) Return on average net Construction Work in Progress (CWWIP) additions that is being included in the Levy costs until such time as these costs are recovered under the Capacity Cost Recovery (CCR) rate.

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EXHIBIT 4

Schedule T-3B **Livy County Nuclear Filing**
Pre-Construction Costs and Carrying Costs on Construction Cost Balance (Section 5)(c)1.a.)
True-up Filing: Construction Period Interest

FLORIDA PUBLIC SERVICE COMMISSION

EXPLANATION: Provide the calculation of the Actual Construction Period Interest for the current year.

For the Year Ended 12/31/2007

COMPANY:
 Progress Energy - FL
 DOCKET NO.:
 080149-EI

Witness.

Line No.	(I) Beginning of Period	(J) Actual July	(K) Actual August	(L) Actual September	(M) Actual October	(N) Actual November	(O) Actual December	(P) 12 Month Total
Jurisdictional Dollars								
1.	Beginning Balance	\$ -	\$ -	\$ 42,493,547	\$ 42,708,524	\$ 44,537,825	\$ 46,412,865	
2.	Additions Site Selection & Preconstruction (Schedule T-2, line 1)	-	-	-	-	-	-	
3.	Additions Construction (Schedule T-3, line 1)	-	-	42,493,647	212,977	1,831,101	1,875,000	55,561,072
4.	Other Adjustments	-	-	-	-	-	-	
5.	Average Balance Eligible for CPI			21,246,774	42,600,836	43,822,875	45,475,155	50,886,876
6.	Monthly CPI Rate (a)							
7.	Construction Period Interest for Tax (CPI)							
8.	Ending Balance Excluding CPI	\$ -	\$ -	\$ 42,493,547	\$ 42,708,524	\$ 44,537,825	\$ 46,412,865	\$ 55,561,072

(a) CPI is not calculated until construction starts for tax purposes.

EXHIBIT 5

Schedule 7-d		Levy County Number 11111 Pre-Construction Costs and Carrying Costs on Construction Cost Balance (Showing Filings Monthly Expenditures)												[Section 218(1)(a)] [Section 218(4)]			
FLORIDA PUBLIC SERVICE COMMISSION		EXPLANATION:												Witness			
COMPANY: Progress Energy - FL		Shows the actual monthly expenditures by major items performed within the Schedule and Construction accounts for the prior year.												For the Year Ended 12/31/2007			
ROCKET NO.	002148-01																
DESCRIPTION		(04) Actual January	(05) Actual February	(06) Actual March	(07) Actual April	(08) Actual May	(09) Actual June	(10) Actual July	(11) Actual August	(12) Actual September	(13) Actual October	(14) Actual November	(15) Actual December	(16) Actual 12 Month Total	(17) Total		
Construction																	
Generating																	
1	License Application																
2	Engineering & Design																
3	Permitting																
4	Clearing, Grading and Excavation																
5	On-Site Construction Facilities																
6	Total Construction Costs																
7	Less Allowances																
8	Non-Cash Accruals																
9	Other																
10	Net Generation Costs																
11	Amortized Factor																
		\$ 82758	\$ 82753	\$ 82753	\$ 82753	\$ 82753	\$ 82753	\$ 82753	\$ 82753	\$ 82753	\$ 82753	\$ 82753	\$ 82753	\$ 82753	\$ 82753	\$ 82753	
12	Total Amortized Generation Costs																
Transmission																	
13	Line Engineering																
14	Substation Engineering																
15	Clearing																
16	Other																
17	Total Transmission Costs																
18	Less Allowances																
19	Non-Cash Accruals																
20	Other																
21	Net Transmission Costs																
22	Amortized Factor																
		\$ 70507	\$ 70507	\$ 70507	\$ 70507	\$ 70507	\$ 70507	\$ 70507	\$ 70507	\$ 70507	\$ 70507	\$ 70507	\$ 70507	\$ 70507	\$ 70507	\$ 70507	
23	Total Amortized Transmission Costs																
24	Total Amortized Preconstruction Costs																
Construction																	
Generating																	
25	Real Estate Acquisitions																
26	Project Management																
27	Professional Services/Trade																
28	Site Preparation																
29	On-Site Construction Facilities																
30	Power Plant Engineering, Procurement, etc.																
31	Site Power Plant Engineering, Procurement, etc.																
32	Total Construction Costs																
33	Less Allowances																
34	Non-Cash Accruals																
35	Other																
36	Net Generation Costs																
37	Amortized Factor																
		\$ 82753	\$ 82753	\$ 82753	\$ 82753	\$ 82753	\$ 82753	\$ 82753	\$ 82753	\$ 82753	\$ 82753	\$ 82753	\$ 82753	\$ 82753	\$ 82753	\$ 82753	
38	Total Amortized Generation Costs																
Transmission																	
39	Line Engineering																
40	Substation Engineering																
41	Real Estate Acquisitions																
42	Site Preparation																
43	Substation Construction																
44	Other																
45	Total Transmission Costs																
46	Less Allowances																
47	Non-Cash Accruals																
48	Other																
49	Net Transmission Costs																
50	Amortized Factor																
		\$ 70507	\$ 70507	\$ 70507	\$ 70507	\$ 70507	\$ 70507	\$ 70507	\$ 70507	\$ 70507	\$ 70507	\$ 70507	\$ 70507	\$ 70507	\$ 70507	\$ 70507	
51	Total Amortized Transmission Costs																
52	Total Amortized Construction Costs																

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