Florida Power & Light's
Project Management Internal Controls
FOR
Nuclear Plant Uprate and Construction Projects

By Authority of
The State of Florida
Public Service Commission
Division of Regulatory Compliance
Bureau of Performance Analysis
Review of
Florida Power & Light’s
Project Management Internal Controls for
Nuclear Plant Upgrade and Construction Projects

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By Authority of
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Public Service Commission
Division of Regulatory Compliance
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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 Florida Power & Light Company (FPL) to execute the upgrades of St. Lucie Units 1 & 2, Turkey Point Units 3 & 4, and the construction of Turkey Point Units 6 & 7.

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 FPL’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 St. Lucie and the Turkey Point sites, and interviews with key project personnel. Staff also reviewed testimony, discovery and other filings in Docket Nos. 080009-EI, 070602-EI, and 070650-EI.

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

- Company policies and procedures
- Organizational charts
- Requests for proposals
- Contractor bids and proposals
- FPL’s bid evaluation analyses
- Project scope analysis studies by FPL 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 FPL’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 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.

1.4.1 St. Lucie and Turkey Point Uprate Project Observations

Audit staff made the following observations for the key areas of activity it examined for the St. Lucie 1 & 2 and Turkey Point 3 & 4 uprates. 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 FPL scope evaluation process appropriately provided technical and managerial evaluation of the risks, costs, benefits, and overall feasibility of the St. Lucie and Turkey Point uprate projects.

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

- FPL’s approach to planning the uprate projects to date has been appropriate. Developing phase two and phase three project schedules will be critical to project planning.

- FPL has to date taken reasonable steps to identify, evaluate, and mitigate project risks. Successful project completion will require continued vigilance in risk management and re-assessment of project viability at key decision points.

Project Management and Organization

- Oversight of the uprate project by FPL’s EPU Project Management organization will be an essential element to project success. Though still being staffed, the 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 the adequacy of these controls at this time.

Contractor Selection and Contractor Management

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

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

- FPL has made efforts to ensure effective contractor performance by means of contract provisions and structure. This approach appears to appropriately seek control of contract costs through the use of contracts structured to encourage contractor performance.

Auditing and Quality Assurance

- FPL’s internal audit effort for the uprates is in the early stages, but the structure and plans for the audit function appear adequate. As the project progresses, frequent internal audits and quality assurance audits will be necessary to ensure successful completion of the uprates.
1.4.2 Turkey Point Units 6 & 7 Construction Project Observations

Audit staff made the following observations for the key areas of activity it examined for the Turkey Point 6 & 7 construction 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**

- FPL’s site selection process appears to have been reasonable and in keeping with good business practices.

- FPL’s plant design selection process was reasonable and effective in positioning the company to meet the anticipated need for capacity in 2018.

- FPL’s development of the option to consider separate contracts for project construction and for engineering and procurement may reduce total construction costs. FPL should continue to evaluate the impact of the timing of contractor selection on the overall project schedule.

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

- FPL has taken a reasonable approach to developing project schedules at this early stage.

- FPL has to date taken reasonable steps to identify, evaluate, and mitigate project risks associated with successful completion of the Turkey Point Units 6 & 7 project. Successful project completion will require continued vigilance in risk management and re-assessment of project viability at key decision points.

**Project Management and Organization**

- Effective oversight by the Turkey Point 6 & 7 Project Management organization will be an essential element to success. Though still being staffed, the organization appears to be appropriately structured and managed.

- Reporting tools for the new organization are still being completed, but thus far appear to provide adequate project oversight.
Cost and Schedule Monitoring Controls

- Cost and schedule monitoring controls specific to Turkey Point Units 6 & 7 are still in the process of development. Limited results are available for assessing the adequacy of these controls at this time.

Contractor Selection and Contractor Management

- FPL appears to have followed its contractor selection procedures. Given the unique challenges and circumstances of the nuclear industry, FPL’s use of sole source selections for the new Turkey Point Units 6 & 7 project to date is in keeping with reasonable business practices.

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

- FPL has made efforts to ensure effective contractor performance by means of contract provisions and structure. This approach appears to appropriately seek control of contract costs through the use of contracts structured to encourage contractor performance.

Auditing and Quality Assurance

- FPL’s audit effort for Turkey Point Units 6 & 7 is in the very early stages, but the structure and plans for the audit function appear adequate. As the project progresses, more frequent internal audits and quality assurance audits will be necessary to ensure successful completion of Turkey Point Units 6 & 7.
2.0 St. Lucie and Turkey Point Uprate Projects

2.1 Project Planning

How did FPL identify the scope of work for the uprate projects?

In the second quarter of 2007, FPL began internal feasibility studies to determine the potential for a nuclear power uprate of St. Lucie Units 1 & 2 and Turkey Point Units 3 & 4. The studies examined the capability of the existing systems, the feasibility of the extended power uprate, economic break points, possible plant modifications needed, and estimated costs for completing the four unit uprate. Based on the results of these initial studies, a list of detailed modifications was developed for the plant’s steam system, balance of plant, and turbine generator components.

FPL evaluated both the design and operating conditions of plant components to determine whether these components could be used under the uprated operating environment. Several components were identified as requiring repairs or modifications. Other “high risk” contingency modifications were also identified for further consideration and detailed study before making a final decision on those components. The FPL internal studies included estimates of uprate project base costs with contingency and escalation factors.

In September 2007, Shaw Stone & Webster (SS&W) was engaged by FPL to perform an independent “expert” review of the proposed Turkey Point and St. Lucie EPU. The scope of the review included an assessment of FPL’s internal EPU Feasibility Study estimates for appropriate methodology, completeness of detail, definition of assumptions and clarifications, and the determination of risks. The primary goal of the review was to independently evaluate FPL project planning and estimating status, determine the progress of the overall effort, identify any fatal flaws regarding scoping requirements or estimating methodology, and make any critical recommendations for consideration in the business case planned to be presented to FPL executive management. The review was completed by the SS&W team in two and a half days. The team conducted key interviews with project Managers and Directors, and reviewed the project work books containing detailed and preliminary information defining the project scope.

The SS&W review team noted that in their view the project plans and estimates were more thoroughly developed than a rough order of magnitude status, and it approached the detail of a conceptual stage of readiness package. The SS&W study results indicated that the overall scope of the projects had been well researched and benchmarked against the available industry experience, incorporated within the base estimates. The SS&W team also provided several key issues for management focus and application of risk mitigation strategies in the areas of:

- Safety
- Regulatory and environmental
- Staffing
- Scope control
- Scheduling
- Estimating
As part of its initial considerations for the uprate projects, FPL evaluated long lead-time equipment, materials, commodities, labor, operational licensing amendments, environmental impacts of the uprates, and the possible need for additional transmission facilities. FPL completed an initial feasibility study to determine the potential costs for completing necessary transmission grid studies related to the completion of the St. Lucie and Turkey Point uprates. Estimates of the costs of these studies were included into FPL’s cost estimate, but the studies are not all yet completed. According to FPL, the transmission grid studies are a complex series of analyses expected to be completed in 2009. These studies will determine the impact on the switchyard connected grid and will define the modifications necessary to accommodate the increased power capacity resulting from the uprate.

Additionally, FPL performed several iterations of a Nuclear Uprate Economic Analysis to consider differing fuel and emissions scenarios and their impacts on uprate costs. From these inputs, the company reached its initial estimates of costs and completion timeframe for completing the St. Lucie and Turkey Point uprates.

The FPL scope evaluation process appropriately provided technical and managerial evaluation of the risks, costs, benefits, and overall feasibility of the St. Lucie and Turkey Point uprate projects.

What regulatory approvals are required for completion of the uprate projects?

The Nuclear Regulatory Commission (NRC) regulates the maximum power level and other technical specifications under which nuclear power plants operate. The licensee can only change these documents after the NRC approves a License Amendment Request (LAR). FPL states that separate LARs will be issued for St. Lucie Units 1 & 2, due to the differences in nuclear fuel for the two units. Since Turkey Point Units 3 & 4 use the same fuel type and configuration the two units will be covered under a single LAR.

FPL states that the NRC approval process is the critical path item for the uprates, and that FPL licensing preparation alone, is approximately 18 months. The NRC acceptability reviews are expected to take approximately two months for each application. However, FPL states that, due to the magnitude of the uprates, the NRC review will take an additional 12 months before the final approval of the License Amendment Request is received. Included in that review period are responses to requests for additional information and an independent assessment by the Advisory Committee on Reactor Safeguards. FPL estimates that the License Amendment Requests for St. Lucie Units 1 & 2 and Turkey Point Units 3 & 4 will be submitted to the NRC in September 2009.

At the state level, Section 403.519, Florida Statutes, requires FPL to petition the Florida Public Service Commission and show the need to modify generation facilities to increase
capacity. FPL filed its petition with the Florida Public Service Commission on September 17, 2007, and received approval of the uprate request on January 7, 2008.\footnote{Order No. PSC-08-0021-FOF-EI.}

Florida Department of Environmental Protection approval of a Site Certification Application is required for plant uprates of 75 MW or more. As directed by Sections 403.501-401.518 of the Florida Statutes, the Department coordinates with other state and local agencies to assess public health and environmental aspects of the planned uprates.

Ultimately, site 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. FPL submitted its site certification application for St. Lucie Units 1 & 2 in December 2007, with approval expected by the end of 2008. The site certification application for Turkey Point Units 3 & 4 was submitted in January 2008, with expected approval by February 2009.

FPL has considered the required permit, certification, and licensing amendments to assure county, state and federal regulatory approvals are received and the uprates are completed on schedule. FPL has also considered that the uncertainty of timely regulatory approvals could delay the uprate projects completion.

**FPL 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 FPL developed a project plan to meet the desired project completion date?**

FPL has scheduled the St. Lucie and Turkey Point uprates to be completed during scheduled fuel outages in 2011 and 2012. The uprate schedule for each of the four units is the following:

- St. Lucie Unit 1 - Fall of 2011
- Turkey Point Unit 3 and St. Lucie Unit 2 - Spring of 2012
- Turkey Point Unit 4 - Fall of 2012

Uprate project scheduling is being completed through the use of Primavera scheduling software. The Controls Group, within the EPU Project Management organization, tracks the automated project schedule daily and updates the schedule weekly. Primavera allows FPL EPU Project Management and Plant Site Management to daily monitor and report the schedule status. Weekly project schedule updates include necessary adjustments to critical path activities and are reflected in executive management reports and update meetings.
Long-lead equipment purchases for the uprates have been reserved, and critical dates are entered into the uprate schedule. By entering into negotiations with long-lead vendors at an early point in the project, FPL secured a place in the suppliers’ queues for delivery of turbine-generator equipment and services. FPL believes this early project activity secured advantageous turbine-generator pricing and a manufacturing slot that will support uprate project completion timeframes. Remaining long-lead equipment specifications are being completed for procurement based on the timing of their use in the project.

The Integrated Supply Chain (ISC) organization also works with EPU Project Management, nuclear engineering, and other subject matter experts to ensure procurement contracts are completed, and equipment is ordered in time to meet the project work schedule. FPL’s schedule identifies the procurement, receipt, and installation timing for each major piece of equipment in the project schedule. The schedule tracks each component through its receipt and installation on site.

FPL states that its final engineering modifications are expected to be on-site at the plants approximately 18 months prior to the beginning of 2011 uprate work, and equipment is expected to be on-site three months prior to the planned outage. The completion of these critical engineering modifications are also entered into the project schedule and tracked through their completion.

Although FPL’s project budget and schedule are in their early stages, FPL expects to have a completed first level project budget and schedule by the third quarter of 2008. According to FPL, subsequent iterations of the schedule will include additional detail of work to be completed and will add to the number of activities tracked in the automated project schedule.

**FPL’s approach to planning the uprate projects to date has been appropriate. Developing phase two and phase three project schedules will be critical to project planning.**

**Was FPL’s risk evaluation for the uprate projects reasonable?**

The FPL risk assessment process is vital to identifying and controlling potential risks associated with the Turkey Point Units 3 & 4 and St. Lucie Units 1 & 2 uprates. Unidentified risks may seriously delay the project schedule or considerably increase project completion costs. FPL risk assessment is performed from the initial project evaluation through the project implementation.

FPL’s Risk Committee assists senior management in considering risk mitigation and financial decisions. This committee represents members from all aspects of the company’s nuclear and generation operations. The Risk committee reviews and evaluates initial cost projections and any significant variances from the schedule and cost projections. This committee provides a forum of senior managers to critically assess and discuss the risks faced by the uprate projects from different departmental perspectives. The Risk Committee ensures that project risks and mitigants are identified, ownership is assigned, and actions are taken to manage or eliminate the assigned risk.
FPL has considered many different key potential risks to the uprate projects, including:

- Uprate management experience
- Lessons learned from previous industry uprates
- Experienced uprate vendors
- Regulatory permitting and licensing delays
- Global resource constraints

FPL believes that its corporate experience in uprate activity will benefit it in managing and controlling the risks associated with the St. Lucie and Turkey Point uprates. FPL states that, in 2006, FPL Energy completed successful uprates of its Seabrook and Duane Arnold plants. FPL has hired former FPL Energy employees to assist with managing the St. Lucie and Turkey Point uprates. FPL notes these key managers completed the Seabrook uprate on time and within budget.

FPL uprate management has developed risk mitigation strategies to reduce the possibility of different potential project conditions that could become problematic to the uprates. Based on its experience with other system uprates, FPL uprate management has reviewed “lessons learned” from other uprates completed in the United States nuclear industry to help mitigate risks associated with the complexity of the St. Lucie and Turkey Point uprate projects.

The company believes it has reduced its risk of contractor non-performance by contracting with experienced uprate contractors. For instance, FPL contracted with Shaw Stone & Webster as the engineering consultant to prepare the License Amendment Requests, balance of plant engineering evaluations, balance of plant licensing report, develop major equipment specifications, and prepare conceptual designs for plant modifications for the Turkey Point and St. Lucie uprates. FPL management states that SS&W is the most experienced uprate engineering firm in the US nuclear industry. FPL says that SS&W has completed power uprates for 46 operating nuclear units, including the Combustion Engineering Pressurized Water Reactor design in use at St. Lucie 1 & 2. SS&W was also contracted to do work at the Seabrook uprate project where they were part of the successful uprate contractors group.

FPL must continue to ensure compliance with FDEP rules and requirements during and after the uprate. At both the St. Lucie and Turkey Point plants, FPL has conducted a cooling water analysis of the power uprates’ impacts on cooling systems and cooling discharge canals. Study results indicate the impacts of the increased heat exchange can be mitigated sufficiently to meet FDEP requirements at both plant uprate locations. FPL has completed scoping and feasibility studies to reduce the risks associated with regulatory permitting and licensing delays.

FPL recognizes that the increased volume of NRC licensing requests, both for uprates and new nuclear units being constructed, poses a risk of regulatory delays. FPL management observes that NRC resource constraints could slow approval of applications. FPL has included the risk of potential licensing delay in its schedule preparation and plans to monitor the approval process closely.
Similar schedule risks are posed by possible global resource constraints within the nuclear industry. Early in 2007, FPL prioritized equipment with long-lead manufacturing timeframes, and paid for manufacturing slots to assure key equipment is manufactured and delivered in time to meet the uprate schedule. FPL deals with Westinghouse on a daily basis for its existing nuclear plants, as well as on key projects such as the uprates. FPL management is satisfied that the selected vendors will have the capability to satisfy both current commitments and those required by the FPL uprates.

FPL’s uprate Project Management organization uses the EPU Project Risk Management report to monitor project risks. This report is presented to executive management in weekly and monthly meetings for information and discussion. The EPU Project Risk Management report identifies potential project risks by, plant site, unit, priority (high, medium or low), probability (percent range), impact, economic cost, and risk owner. Additional information regarding the risk event includes: the root cause, the process or controls in place, mitigation actions, status, risk mitigation manager, expected completion date for actions, and mitigation costs. As risk items are mitigated they are closed, but remain on the report. FPL uses this report to identify risks, assign authority for mitigation actions, and track risks associated with the uprate project.

FPL has to date taken reasonable steps to identify, evaluate, and mitigate project risks. Successful project completion will require continued vigilance in risk management and reassessment of project viability at key decision points.

2.2 Project Management and Organization

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

FPL has established a separate Uprise Organization within the Nuclear Division responsible for monitoring and managing uprate scheduling and costs. As shown in Exhibit 1, the nuclear uprate Project Management organization is headed by the Vice President Technical Services, who reports to the Chief Nuclear Officer. The Chief Nuclear Officer (CNO) reports to FPL’s President.

The EPU Project Director and EPU Engineering Director share oversight responsibility for the St. Lucie and Turkey Point uprate projects. Both EPU Directors report directly to the VP Nuclear Power Uprise, and inform him daily on the uprate project status. The EPU Project Director is responsible for the overall implementation of the project, including implementation of all modifications, and managing the project schedule and budget. The EPU Project Director is also responsible for developing the processes and administrative controls necessary to complete the uprate projects. The Engineering Director directs all engineering, including system modifications essential to completing the uprates. The EPU Engineering Director is also responsible for all licensing and design activities related to the uprates.

Separate St. Lucie and Turkey Point EPU Project Managers direct uprate work at each plant site and report to the EPU Project Director. Similarly, separate St. Lucie and Turkey Point
EPU Project Engineers report engineering project status to the EPU Engineering Director. The EPU Project Managers each have on-site Uprate Team staff to assist in project management and engineering design activities necessary to support the uprate project at the plant.

**FPL NUCLEAR UPRATE ORGANIZATION**

- **SYSTEM & COMPONENT EVALUATIONS**
- **MODIFICATIONS**
- **DOCUMENTATION UPDATES**
- **IMPLEMENTATION SUPPORT**
- **TESTING**

**EXHIBIT 1**

Source: DR-5.8, DR-1.4a
Each on-site Uprate Team coordinates site activities with vendors to ensure the contracted work activities are completed on schedule and on budget. The teams will oversee contractor work activities and help resolve roadblocks that arise at the plant site during the uprates. On-site engineering design activities are related to specific system modifications and replacements performed at the plant during the uprate. If scope changes and design modifications require additional engineering, the on-site engineers identify corrections and make recommendations to the EPU Project Managers. Project delays or increases in costs are reported by the EPU Project Managers to the EPU Project Director and EPU Engineering Director, for review and reporting to executive management. The uprate organization currently numbers about 72 FPL employees and contract staff.

Other organizations also provide support activities to the on site Uprate Team as needed. For instance, the Integrated Supply Chain supports on site efforts through necessary procurement of components and services required for the uprate projects.

Oversight of the uprate project by FPL’s EPU Project Management organization will be an essential element to project 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?

EPU project oversight and accountability is the primary responsibility of the EPU Project Management organization. Oversight activities include the following:

- Informing senior and executive management of project status
- Procuring and delivering components and services to successfully implement the uprates
- Coordinating contractor activities within the plants
- Monitoring and updating the project schedule overseeing project budgets
- Identifying project risks and mitigation strategies
- Resolving challenges to timely and cost-effective completion of the project

These tasks are completed through the coordinated efforts of the EPU Project Management team, interdepartmental support, intercompany cooperation, and company oversight and steering committees.
Other major accountability and oversight activities include:

- Project reports and updates from Project Management
- Project reports to senior management
- Decision making reviews concluded by internal committees
- Project strategies for problem resolution
- Technical risks and issues

The EPU Project Management Directors report to the VP Nuclear Power Uprate, and provide: frequent updates on project milestones, budget summaries, material spending, vendor strategy, engineering strategy and evaluation, company and contractor staffing levels, weekly activity status by unit, weekly planned activities, scheduling of key events, monthly cash flow analysis, cost performance updates, contract log and cost analysis data, and risk management.

These informational reports are used by the VP Nuclear Power Uprate to manage the project on an ongoing basis and to inform executive management, steering committees, and senior management of the uprate project status. Project Management reports ensure that management at all levels are kept informed and have adequate information to make informed management decisions regarding the uprate project.

Several internal boards and committees provide input and expertise from different perspectives for decision-making and management of the project. FPL's Executive Steering Committee is responsible for approving large capital projects such as the uprate project. This committee consists of senior management officers including the Chief Operations Officer, Chief Financial Officer, Chief Nuclear Officer, Nuclear Chief Operations Officer and the Presidents of FPL and FPL Energy. This committee may also call upon the Risk Committee, as needed, to provide independent oversight and input regarding specific aspects of the project.

At a technical executive management level, FPL’s Extended Power Uprate (EPU) Project Steering Committee manages the interface between organizations involved in the uprate. The EPU Project Steering Committee allows executive management to meet with FPL project management and contractors in a single meeting to discuss challenges to the project. It is chaired by the VP Nuclear Power Uprate, with the Nuclear Chief Operations Officer as the Vice Chairman. Other members of the Committee include the Vice President—Integrated Supply Chain, Nuclear Division Regional Operational Vice Presidents, Westinghouse Electric Company, Siemens, Shaw Stone and Webster, and other major vendors as needed.

This committee approves the final set of uprate plant parameters and thermal performance data for the uprates. It reviews project schedules, budgets, key assumptions, and significant deviations. The Committee reviews project risks for each site, reviews major milestones and modifications to the uprate projects, and provides an avenue for team members to identify challenges and issues where senior management assistance is needed. The EPU Project Steering Committee meets periodically, but generally every six weeks.

The FPL uprate organizational structure also includes the Nuclear Division Technical Challenge Board, which provides an independent technical oversight. The Board ensures proper
processes are followed, critical issues and major risks are reviewed by senior level management, and that industry experience is considered in the design and modification process. The Board is made up of senior members of the Nuclear Division providing expertise in plant safety and operations, engineering, licensing, and equipment modification.

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 FPL developed an adequate control system for monitoring project schedules and costs?**

A key component of the Project Director’s organization is the Project Controls Group. This group monitors both the project schedule and budget. The Project Controls Manager records schedule changes, project delays, project costs, and provides informational support to project management and contract administration. Project Management staff receives weekly updates of the project’s schedule and costs from the Project Controls Group, and it informs executive management of the project status through weekly update meetings.

The FPL uprate budget is preliminary and considered to be a Level I budget. FPL states that the Level I budget is expected to be complete by the third quarter 2008. The Level I budget is based on FPL’s initial project views, and it provides the basis for more refined versions of the expected costs as the project continues. Upon completing the Level I budget, FPL will begin further definition of all items within the budget and begin developing more granular line item estimates for a new Level II budget in 2009.

The Uprate Cost Engineer monitors and reports project costs associated with the uprate projects. The Cost Engineer receives contractor invoices and forwards them to the technical representative for the specific area to ensure the scope of work has been completed, and the deliverables have been accepted. The Cost Engineer checks the PASSPORT system to verify that adequate funding is available to make payment of the invoice. On fixed-price contracts, the Cost Engineer matches up the invoice amount and the deliverable work received from the subject matter expert. The completed package is then passed to the appropriate level for approval and payment.

Primavera software allows the Project Controls Group to make changes to the schedule and scope of project work as it is approved by management, and serves as a control for monitoring project scheduling updates. Approximately 25,000-35,000 project task items will ultimately be included in the uprate project schedule, which must be monitored daily and updated for weekly management review and consideration. Primavera also allows the Project Controls Group to develop additional reports specific to the requests of executive management. The flexibility of the scheduling system allows FPL management to examine the project status at any time and request specialized reports upon request.
Revisions for value-added scope changes are updated with the scope change information, and they are sent to the appropriate level for signature. Each line entry on the purchase order separates the change for the appropriate unit, thus specifying the change and approved dollar amount for the particular unit. Time and material contracts are verified by the Cost Engineer through time reporting and material requisition systems against contractor time reports and charges on the invoice. Once verified the invoice package is forwarded for appropriate executive approval and payment.

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.

2.4 Contractor Selection and Management

Has FPL’s selection of the current set of contractors and vendors been reasonable?

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. Industry mergers, partnerships, and corporate consolidations also present challenges that will require vigilance by FPL management to ensure the company receives fair pricing.

FPL’s current vendors and contractors for the uprate projects 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.

FPL’s Integrated Supply Chain organization maintains established vendor lists to use for competitive bidding situations. FPL’s Nuclear Policy 1100, states that competitive bidding is FPL’s standard approach for the procurement of materials and services with an estimated total value greater than $25,000. FPL nuclear procedures also state that bids should be requested from as many bidders as considered reasonable and practicable, but not more than ten. The procedure further states that in all bid situations, bids should be solicited from at least three bidders.

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2 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 Jan 25, 2007 <http://www.spiegel.de/international/0,1518,druck-462199,00.html>, “EU Fines Siemens, AREVA, Alstom for Price Fixing,” The Economic Times Jan 25 2007 <http://economictimes.indiatimes.com/articleshow/msid-1438615,prtpage-1.cms>.

3 FPL Procedure NP-1100, section 1.2

4 Ibid., sections 2.1 and 3.5
However, FPL’s nuclear policy does not exclude the approved use of sole source, single source, and Original Equipment Manufacturer providers in certain situations. Sole or single source procurements should be used on a limited exception basis, only when they can be justified. FPL procedures state that if FPL Integrated Supply Chain is unable to identify more than one bidder, or the bid process only results in one bidder, it is not considered single or sole source, and the requirements for documenting sole or single source justification are not required.

FPL nuclear policies note that in cases where a nuclear department believes valid business reasons support making a sole or single source purchase, a sole or single source justification will be provided by the requestor, and it will be incorporated within the purchase requisition. The justification may also be by separate memo and be included in the purchase file.

Original Equipment Manufacturer procurements for materials and equipment where no other provider exists need not be reported as sole source. Nuclear policies specify that when Original Equipment Manufacturer equipment is specified, it must be documented in the purchase requisition or the purchase order file by the Purchasing/Contracts agent. Original Equipment Manufacturer documentation may also be made by separate memo, included within the purchase file.

FPL has included four uprate contracts in excess of one million dollars in its current nuclear cost recovery filings. As shown in Exhibit 2, the largest contracted dollar amount is with Westinghouse Electric Company, for engineering support of the nuclear fuel parameters, fuel burn uprates, primary system pressure and temperature operating parameters. The second largest contract is with Shaw Stone & Webster, for engineering support associated with steam and feed water systems and the turbine generator electrical capacity. FPL has two contracts with Siemens Corporation. One contract reserves manufacturing forging slots for the St. Lucie Units 1 and 2 Low Pressure Turbine rotors, and the other contract is for the Turkey Point Unit 3 Generator rotor.

Westinghouse was selected for a sole source fixed-price contract to provide the initial Nuclear Steam Supply System critical path activities in support of the EPU, to evaluate and analyze performance of design basis accident analysis, and to design upgrades for the Nuclear Steam Supply System components and fuel design for the uprates at both units. FPL notes that as the original manufacturer, and owner of the units’ design and detailed safety analysis, Westinghouse is the only choice for this work on Turkey Point Units 3 & 4 and St. Lucie 2. AREVA owns the Babcock & Wilcox safety analysis for St. Lucie Unit 1 and was selected as the sole source supplier for fuel related engineering, licensing, design, and analyses for that unit.

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5 Ibid., section 1.2
6 Ibid., section 2.1
7 Ibid, section 2.2
8 Ibid, section 2.3
## St. Lucie and Turkey Point Uprate Project Contracts Greater Than $1 Million 2007-2008

<table>
<thead>
<tr>
<th>Contractor</th>
<th>Work</th>
<th>Date Executed</th>
<th>Sole/Single/Bid</th>
<th>Type Payment</th>
<th>Estimate of Amount to be Expended in Current Year</th>
<th>Estimate of Final Contract Amount</th>
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</thead>
<tbody>
<tr>
<td>Westinghouse Electric Company</td>
<td>NSSS Engineering Support for all four units</td>
<td>8/1/07</td>
<td>Sole Source</td>
<td>Fixed Price</td>
<td>$1,100,000</td>
<td>$5,600,000</td>
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<tr>
<td>Shaw Stone &amp; Webster</td>
<td>BOP Engineering Support for all four units</td>
<td>10/2/07</td>
<td>Sole Source</td>
<td>Time and materials</td>
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<td>$3,291,200</td>
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<tr>
<td>Siemens</td>
<td>SL 1&amp;2 Low Pressure Turbine Rotor Forging Reservation</td>
<td>11/15/07</td>
<td>Sole Source</td>
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<td>Siemens</td>
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<td>1/30/08</td>
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<td></td>
<td><strong>$7,728,591</strong></td>
<td><strong>$13,666,200</strong></td>
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</table>

**EXHIBIT 2**  

*Source: Schedule AE-8*

Shaw Stone & Webster is another single source supplier, selected to complete the initial Balance of Plant scoping support for the EPU of St. Lucie and Turkey Point units, Balance of Plant engineering report, and licensing report for St. Lucie and Turkey Point uprates. An additional EPU Phase 2 Scoping Study was added to the initial contract to develop information on scope modifications and costs to achieve target EPU power levels for Turkey Point and St. Lucie uprates. FPL states that SS&W has participated in between 40 and 50 uprates of the approximately 100 completed in the U.S. nuclear industry. SS&W was also the low bidder on the previous Turkey Point uprate, and was the low bidder at Seabrook’s uprate. Therefore, FPL has confidence that SS&W can perform well in its project roles and FPL reduces project risks by using a proven performer in uprates.

In the Fall of 2007, FPL met separately with suppliers of turbine-generators who had responded to its Request For Proposals. Five qualified vendors made presentations to FPL and offered to meet the uprate projects’ turbine-generator needs. Presentations from prospective vendors were reviewed by appropriate Integrated Supply Chain and Nuclear Management personnel. In some instances, vendors’ proposals would have required FPL to modify additional portions of its systems to make the uprate components compatible with FPL’s existing plant. According to FPL, these additional modifications would cause significant additional costs.

Through its evaluation of the presentations, FPL identified only one prospective vendor that could provide the turbine generator equipment and experience it requested to meet the uprate schedule. Based on the review of prospective vendor presentations by Toshiba, Mitsubishi and
Alstom, FPL management selected Siemens as the turbine-generator vendor for the uprates. FPL has since provided a binder payment to secure a long-lead manufacturing slot with Siemens, and was negotiating a final contract as of May 2008.

Siemens was the sole-source vendor for the initial engineering study of the turbine generator replacement evaluation, development of preliminary heat balances, and analysis of the turbine generator components and upgrades for the St. Lucie and Turkey Point units. Siemens received two lump sum contracts reserving the manufacturing slots for one generator rotor forging for the Turkey Point Unit 3 main generator rotor and for four low pressure rotors for the St. Lucie uprate. FPL states that Siemens was not truly a sole sourced vendor because it was selected as turbine generator supplier after FPL reviewed other potential Request For Proposals.

**FPL appears to have followed its contractor selection procedures. Given the unique challenges and circumstances of the nuclear industry, FPL's use of sole source selections for the 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 uprate project?**

FPL procedures provide for basic contractor oversight by the EPU Site Project Manager, the site Technical Representative, and Contract Coordinators who administer site services. These functions coordinate contractor reviews of performance while contractors are on the site working. Upon completion of the authorized work, the Site Technical Representative verifies the contractor has met all obligations and determines whether any outstanding contract deliverable issues exist. Technical Representatives also determines whether billed work was completed and what level of approval is needed for payment.

The EPU Site Project Manager will provide oversight of the contractor progress and project work performance while the contractor is on site. If schedule delays are anticipated due to contractor challenges, the EPU Site Project Manager attempts to resolve the contractor challenge on site. If necessary, the Site Project Manager will bring in the EPU Project Director to help resolve issues and involve executive management.

In addition to providing assistance with developing and administering contracts, FPL's Nuclear Sourcing and Integrated Supply Chain completes weekly updates to the Project Contract Log and reports updated contract status to FPL executives and Project Management. Nuclear Sourcing also completes annual vendor scorecards for a selected group of FPL's largest vendors. These scorecards provide an overall rating for system-wide vendor performance for the year across all areas of FPL operations. Performance is indicated using a color rating system of: green for good performance, yellow for questionable performance, and red for poor performance. The process is intended for FPL to identify vendor performance strengths and weaknesses and to use in discussions with vendor management when improvement is needed.
EPU Project Management indicated to audit staff that it would take aggressive steps to mitigate similar performance issues. Siemens is one of the few suppliers capable of providing the turbine equipment and services needed, and the only one evaluated by FPL that was able to meet the outage schedule for the uprate projects. FPL EPU Project Management also noted that this knowledge is helpful to management as they negotiate vendor contracts to include protection provisions. FPL noted that the need for close supervision of vendor performance, and early detection of schedule and cost related issues is understood by the EPU Project Management team.

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

Has FPL implemented appropriate protections from contractor cost overruns or poor performance on the uprate projects?

To protect itself from substandard and contractor work, FPL maintains a qualified vendor list and evaluates contractor work after major projects. Documentation of contractor performance allows FPL to identify poor performance trends with contractors and provides a tool to use in correcting contractor performance or denying the contractor future work. The Quality Assurance function also reviews contractor performance for safety-related contracts, while the contractor is on site as discussed further in Section 2.5.

In addition to the contractor management and evaluation process previously discussed, FPL has structured its contracts and purchase orders to identify specific scope, deliverables, completion dates, terms of payment, operational terms and conditions, reports from the contractor, and work quality specifications. Standard contract terms include suspension/termination for cause or suspension/termination for convenience address the conditions under which a contractor’s services may be suspended or terminated. Limit of Liability clauses specify the liability of the company and the contractor under specific conditions and situations. Contract clauses addressing changes to scope of work and schedule changes state the conditions under which changes to work scope will be accomplished. These and other FPL contract provisions help protect the company against contractor overruns and ensure that contractors perform work on time as specified.
In some cases, FPL contracts include performance incentives for completing quality work ahead of schedule or penalties for late work. FPL contracts generally include specified provisions for liquidated damages to provide protection against contractors causing damage to company property or facilities, and for non-performance impacting company generation capabilities.

The EPU Site Project Manager will coordinate all contractor work completed on the project and reports potential project work stoppage or delays upward to the EPU Project Directors. If project scheduling or budgeting are seriously jeopardized by contractor non-performance, the EPU Project Directors may remove non-performing contractors and secure other contractors to perform the scope of work. Based on the scope of work and seriousness of contractor non-performance, FPL senior management may be involved to work with senior management of the contractor’s company, as well.

To help protect against major cost overruns, FPL has structured its major uprate project contracts to include fixed price and lump sum contracts where possible. These contracts specify a fixed price for completing a specific scope of work, thus assuring that the cost for that scope of work is known. The contractor is paid a fixed sum for completing the work and is locked into that price.

In other cases, FPL has used target price contracts as a basis for controlling costs. The target price is given as a contract amount for completing a scope of work that is known, but it may be expanded by the company. The contracted work will be completed for a target price, but it may be negotiated further, due to work scope change, additional scope, or modifications to the work scope. The contract price is agreed to be the target for the specified scope to limit the cost of that specific work. FPL also uses time and materials contracts when the requesting business unit recommends its use and when the firmness of scope is less certain.

Examples of FPL’s uprate contracts greater than $1 million include, a fixed-priced contract with Westinghouse, two fixed-price contracts with Siemens Corporation, and a time and materials contract with Shaw Stone & Webster. Each of these contracts perform different scopes of work, therefore, different types of contracts are used by FPL to control costs.

**FPL has made efforts to ensure effective contractor performance by means of contract provisions and structure. This approach appears to appropriately seek control of contract costs through the use of contracts structured to encourage contractor performance.**
2.5 Auditing and Quality Assurance

Does FPL have appropriate auditing and quality assurance functions in place for the uprates?

FPL’s Internal Audit Group completes scheduled and management requested audits of all company operations. The Annual Audit Plan is based on operational and financial risks associated with the annual corporate business plan. Internal Audit discusses the potential list of annual audits, rated as low, medium, and high risk, and discusses those with the Vice President of each Business Unit.

To date, FPL has completed one internal audit of the St. Lucie and Turkey Point uprates. In July 2008, FPL Internal Audit completed an audit of expenses for St. Lucie and Turkey Point uprates, to ensure costs associated with the uprate were correctly charged to each project. The audit scope also included an examination of support documentation for expenditures, and whether unauthorized regular maintenance costs were charged to the uprate. The audit examined project charges made during May 2007 through March 2008.

During this review, audit staff reviewed purchasing audits related to nuclear operations during the period 2005 through 2007, to determine the number and areas of purchasing audits conducted. During the three-year period, eight nuclear purchasing audits were completed. Of the eight audits performed, the level of findings were not significant, and FPL management appears to have responded adequately to the audit findings issued by implementing all audit recommendations.

In addition to FPL’s internal auditing effort, FPL’s Quality Assurance (QA) function performs safety-related vendor audits and QA contractor performance evaluation reports. FPL procedures require that once the contractor is on site, the QA Manager should review the contractor’s QA program procedures and personnel qualifications. The QA Manager is to review contractor on-site procedures for compliance with FPL’s QA Program commitments and special certifications for compliance with FPL committed codes. The QA Manager also coordinates the resolution of any contractor conflicts with the Quality Program. FPL’s QA organization is responsible for performing audits or surveillances on safety-related and quality-related services, where they are performed under the contractor’s QA Program.

QA Managers have independent on-site oversight of each plant and target key areas of risk for surveillance efforts. The QA Supervisor is embedded within the on-site organization, and is involved in on-site and off-site meetings to remain aware of key risks and issues impacting the project schedule, cost, and quality. QA Supervisors conduct periodic assessments of contractor work being performed and report results to site management and QA management for information and corrective actions. The QA Supervisor completes both planned and management requested audits of risk areas identified with the uprate project.

9 FPL Quality Instruction No. QI 7-PTN-5.
The QA Manager at each site for the uprate project is to complete a daily quality summary, and meets daily with management to address operational concerns with the project. Currently the QA Manager is completing an Oversight Plan for the uprates. This Plan will document specific risk areas to be audited at the St. Lucie and Turkey Point uprates. The Quality Manager is identifying key risks at each plant, and is expected to complete the Oversight Plan during the summer of 2008. FPL EPU Project Management notes that the EPU project is in its early stages, and has not used the quality documents at this time in the project.

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.

**FPL’s internal audit effort for the uprates is in the early stages, but the structure and plans for the audit function appear adequate.** As the project progresses, frequent internal audits and quality assurance audits will be necessary to ensure successful completion of the uprates.
3.0 Turkey Point Units 6 & 7 New Construction Projects

3.1 Project Planning

Was the company site selection process for Turkey Point Units 6 & 7 reasonable?

According to FPL, during the summer of 2006, a core project team was formed and FPL initiated several key investigations to consider project activities for the proposed addition of two new nuclear generation units. These investigations included, site analysis, project organization, transmission integration, project scheduling and budget development.

In the third quarter of 2006, FPL contracted with Enercon Services, Inc. to conduct a site selection analysis and to prepare an alternate site analysis for a nuclear power project in the state of Florida. The project, known by FPL as Project Bluegrass, considered all existing FPL generation sites, and 15 additional sites, as potential locations for two potential new nuclear generation units. By the end of 2006, the study was completed. According to FPL, the Site Analysis Study combined with site specific investigations, led to the selection of the existing Turkey Point site as the best location for the two new nuclear units.

Some of the major considerations for the proposed site location were:

- Site proximity to high load demand
- Proximity to land and water delivery
- Adequate land for future expansion of the two new units
- Strong base foundation to support plant and other facilities
- Proximity to other company generation units allowing for shared infrastructure

FPL studied its system load characteristics and concluded that the system would benefit if the new units were close to the high load demand center of Miami/Dade, Broward, and Palm Beach counties. These Southeast Florida counties are heavily populated, and they represent a large portion of FPL’s increasing electrical load demand. The close proximity of Turkey Point to these high load populations places the new generation source close to the markets having the heaviest requirements.

FPL considered the new units’ proximity to available transportation routes to support large equipment delivery and the increased work force required for constructing the units. Sufficient company-owned land for the two new units exists at the Turkey Point site. FPL noted that the same advantages that had led it to select the Turkey Point site for its earlier fossil and nuclear units met the current needs for expansion. FPL’s study concluded that the Turkey Point site provides advantages for deliveries of plant equipment via land and water, since the current plant site is located close to U.S. Highway 1 by land and to Biscayne Bay by water.

FPL management notes that the current Turkey Point site was initially planned to support six nuclear units, when the property was purchased years ago. FPL believes that multiple
generation units within the same site may allow sharing of some plant infrastructure costs. FPL has considered the potential effects of the two new nuclear units on existing Units 3 & 4, and has determined that if an accident occurs at one unit it will likely be contained without impacting the other units at the site. Regarding site selections involving multiple units, the NRC requires the utility to determine whether the reactors are independent so that an accident in one reactor would not cause an accident in another, and to show that simultaneous operation of multiple reactors will not put public safety at risk.\textsuperscript{10} FPL notes that the NRC approved reactor design is such that it will contain an event within the containment facility and not impact other units on the site. The NRC includes this consideration in its certification of reactor technology. Therefore, NRC approved reactors have already been certified to meet these requirements. FPL also states that the requirement is satisfied within the Combined Operating License Application (COLA) submittal to the NRC.

The Turkey Point site is located on a deep base of limestone that is likely to provide a strong foundation for the reactor containment building, turbine generator facilities, feed water heaters, cooling systems, and other supporting plant facilities. Approximately 4,000 employees and contractors will be on-site for plant construction at its high point. FPL believes the additional property at the site will allow the company to create additional parking areas to accommodate workers, or allow the company to create staging areas to bring workers back and forth to the plant each day.

Additional site logistics and needs, such as fill dirt and cooling water, are being studied by FPL. The new Turkey Point site will have to be raised approximately 20 feet to bring the new units to the same grade as the existing units, and will provide the foundation for the new reactor containment buildings and plant support facilities. To accomplish this task, millions of tons of phosphate rock fill will be brought to the site. FPL is examining the use of on-site fill capabilities to help supplement the fill being brought in by off site sources. The company is also pursuing the use of reclaimed water from Dade County, and other practical sources, to help meet the requirement of millions of gallons of water used daily by the new plants. FPL knows that it must also consider the infrastructure and roads needed to support the construction of the new units at Turkey Point. As each new challenge arises, FPL includes them into the project schedule to assure the site is prepared and ready for construction, once licensing approval has been received.

FPL’s site selection process appears to have been reasonable and in keeping with good business practices.

Was the process for plant design selection of the new Turkey Point Units 6 & 7 reasonable?

FPL began its process of identifying the project technology by completing a technical analysis of nuclear reactor designs available in the industry. FPL originally studied five primary

\textsuperscript{10} Title 10, Code of Federal Regulations 100.11
reactor technology options. FPL management said that, in addition to technological considerations, FPL’s analysis included the following three key selection criteria:

- The capital cost of total construction
- The vendor’s ability to manage cost and schedule risk throughout the project
- The execution capabilities of the Vendor/Engineer/Constructor that would construct and commission the project

Reviewing the benefits of each technology and the associated vendors, FPL narrowed the best-suited nuclear technology choices to two: the General Electric ESBWR and Westinghouse AP1000. FPL’s analysis ultimately identified the Westinghouse AP1000 as the most practical and cost effective selection for FPL.

FPL chose the Westinghouse AP1000 technology as its preferred reactor technology design because it has received certification by the NRC, employs a proven pressurized water reactor technology, and includes an advanced passive design safety system. The General Electric ESBWR is under consideration for design certification by the NRC, but as of June 2008, this designation had not yet been granted.

To verify the reasonableness of its approach to the technology decision, FPL engaged MPR Associates, Incorporated to check its technology selection logic. After reviewing FPL’s process to arrive at a technology selection, MPR concluded that FPL assessments and considerations were appropriate and support their decisions to date.

**FPL’s plant design selection process was reasonable and effective in positioning the company to meet the anticipated need for capacity in 2018.**

**Is FPL’s approach to negotiating an engineering, procurement and construction contract for the new Turkey Point Units 6 & 7 reasonable?**

Based on current information, FPL believes it is likely to be about the fifth U.S. utility to begin construction of a Westinghouse AP1000 reactor design. FPL believes the company will benefit from the early wave of AP1000 construction projects. Company management views this position as advantageous, since first-of-a-kind production can involve considerably more risks. These factors may allow the company time to negotiate cost savings in its engineering procurement and construction contract for Turkey Point Units 6 & 7.

FPL is currently negotiating with the team of Westinghouse and Shaw Stone & Webster (SS&W) to develop an engineering and procurement contract for the project. In the meantime, FPL management has chosen to delay its decision on a construction contractor while evaluating its options. FPL does not believe this will result in delays for the overall project schedule, and may still opt to use the combined Westinghouse/SS&W team for engineering, procurement and construction.
The company states that it has historically used this approach to vendor contracting, and notes that it is a conservative means to stimulate competition for project services. Some utilities may be seeking the full range of engineering, procurement, and construction services, through an Engineer Procure and Construct contract. However, FPL notes that viable alternatives exist to selecting SS&W to construct the units. Exploring these alternatives may allow FPL to obtain construction services at a lower cost by motivating SS&W to reduce its price. FPL also points out that it is not irreversibly tied to the AP1000 technology selection at this early date.

FPL has secured a manufacturing slot during 2008. FPL is considering a request to the NRC for a Limited Work Authorization that would allow it to perform limited construction on the Turkey Point site for Units 6 & 7. Major safety-related Unit 6 & 7 construction is not expected to begin until mid 2012 or 2013.

FPL’s development of the option to consider separate contracts for project construction and for engineering and procurement may reduce total construction costs. FPL should continue to evaluate the impact of the timing of contractor selection on the overall project schedule.

What regulatory approvals are required for completion of the project?

The most important federal approval for FPL’s new Turkey Point Units 6 & 7 comes from the NRC. A Combined Operating License Application (COLA) approval provides NRC authorization for both the construction and conditional operation of a nuclear power facility. The COLA is the long-lead regulatory item in the completion of Turkey Point Units 6 & 7.

On November 16, 2007, FPL awarded Bechtel Power Corporation a contract to complete the COLA for Turkey Point Units 6 & 7. FPL estimates two years for the NRC review, including an additional year of public meetings and review, for a lead time of between 36 and 42 months for the COLA approval. FPL notes that it has a tight COLA completion schedule, but is working toward completion of the application by March 2009. FPL indicates that there may be fiscal year 2009 budget constraints at the NRC, which could delay COLA applications submitted after October 31, 2008. FPL says that COLA applications are taken in the order of submittal to the NRC, and are docketed after that date. FPL believes application submittals after October 1, 2008 may be slowed for NRC review. FPL is estimating a 42-48 month approval window, if there are potential delays in the start of the review.

FPL and other NuStart member companies have sponsored the development of the Tennessee Valley Authority’s Bellefonte COLA as a reference to streamline the NRC approval process for other member companies. NuStart is a consortium of nuclear power companies that have joined together to sponsor a reference COLA for the Westinghouse AP1000. The reference COLA will reduce processing time for subsequent AP1000 applications. The NRC will approve all generic AP1000 COLA chapters once, and then will separately approve the customized chapters for each proposed unit.
On a state level, FPL is developing input for state licensing and permitting requirements for the Florida Department of Environmental Protection (FDEP). State environmental permitting takes approximately 15 months, and is ultimately approved by the Power Plant Siting Board, including the Governor and Cabinet, or in a non-contested case, by the Secretary of the Department of Environmental Protection on behalf of the Board.

The company must ensure continued compliance with that department's regulatory requirements under the addition of increased power levels and operations at the Turkey Point site. In addition to the COLA submittal, FPL has contracted with Bechtel Power Corporation to complete a cooling water study to identify and evaluate alternative circulating water systems for the two new units to be constructed at the Turkey Point site. FPL's cooling towers will be designed to reduce the discharge temperature range to permitted levels, additional permit information and communication with the FDEP regarding the environmental impact and tower placement will be necessary.

Another state regulatory requirement is the submittal of a Petition of Need to the Florida Public Service Commission. Before proceeding with the construction of any new generation facilities in Florida, Section 403.519(4), Florida Statutes, requires the Certificate of Need to be approved. After consideration of FPL's petition for need determination, for the addition of Turkey Point Nuclear Units 6 & 7, in Docket No. 070650-EI, the Florida Public Service Commission gave its approval.

Among the issues reviewed in the FPSC Need Determination Hearing was FPL's advanced forging reservation payment to Westinghouse. The Commission was in agreement with FPL and OPC that all specific contractual terms, including price, portability, and other compensating aspects of such payments would be the subject of the prudence review in future Nuclear Cost Recovery Clause proceedings.

**FPL 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 FPL developed a project plan to meet the desired project completion date?**

As the project matures, FPL will transition through different steps of development of its schedule and budget. Ultimately, the project schedule and budget will transition from a Level I preliminary stage to a more detailed and refined Level II budget, and then to a final Level III schedule and budget. Currently FPL is working toward completing a Level I budget and has begun working on the COLA application. As additional engineering studies and detailed feasibility scoping reviews are conducted, the schedule will advance to a Level II and a Level III schedule. FPL states that a Level III schedule and budget will require the monitoring of between 25,000 and 35,000 project activities.
The schedule and costs for Turkey Point Units 6 & 7 are monitored and tracked by the Project Controls Group, and are reported weekly and monthly to executive management. While no construction has been completed at this time, FPL continues to assess and re-assess the scheduling of activities supporting the successful implementation of Turkey Point Units 6 & 7. Scheduling for project activities is completed through the use of Primavera scheduling software. Primavera allows FPL Project Management and Plant Management to daily monitor and report the schedule status. It also allows Project Management to adjust the schedule as needed.

In the early stages of the Turkey Point Units 6 & 7 project, FPL is primarily involved in preliminary site work, including gathering geological and meteorological data for licensing submittals. Major studies and preliminary work currently underway include the following:

- Securing the AP1000 manufacturing slot
- Development of plant operator training curriculum
- Completion of the cooling water use study
- Completion of Transmission studies

FPL has recently secured a manufacturer’s slot for the AP1000. During the remainder of 2008, FPL expects to complete additional work and negotiations on the project construction contract and to develop site prep work scope for the 2011 site activity. As mentioned earlier, safety-related construction is not expected to begin until 2013, after the COLA and site preparation work phases are completed.

In the interim, FPL states that it must plan for plant operator training. The AP1000 Owners Group (APOG) will likely coordinate the training for the new plants. The first steps are the development of training curriculum and the “training of the trainers.” Once the curriculum has been developed, it will take approximately three and a half years to train the new operators for Turkey Point Units 6 & 7.

FPL has completed transmission studies and assessments for both the uprate and the new Turkey Point Units 6 & 7. Route studies are under way for the transmission lines to serve the new Turkey Point units. The technical studies of system lines, the sizing of lines, transformers needed, and connection of the plant generator(s) to the transmission system have been performed. These studies are further assessed for overall constructability, reliability, maintainability, and potential risk of off-site power loss to the generating unit(s). Based on when the project is needed, the scoping, scheduling, engineering, and construction resources to complete the project are determined.

FPL states that for Turkey Point Units 6 & 7, two of three transmission studies have been completed. The transmission studies are being conducted to assess the detailed requirements of taking transmission from the plant to different substation locations. According to FPL, the studies of different alternatives for the new Turkey Point Units 6 & 7 should be completed by the end of 2008. The results of the 2008 facilities route studies will go into the FDEP site certification submittal in 2009. FPL states that the project budget and schedule will be revised as the transmission route costs and construction schedule for the approved route become clearly defined.
FPL is currently studying the technical and economic considerations of water use for cooling the new units. FPL is reviewing the possible use of treated wastewater for a portion of its system cooling needs. The company is negotiating with Dade County to use treated wastewater as a source of cooling water for the new units. FPL is also considering the need to modify infrastructure to and from the Turkey Point Units 6 & 7 plants, including the widening of roads and bridges. During the construction phase of the project, FPL will need expanded parking and transportation facilities to accommodate the large influx of workers on site. The company has scheduled studies of the possible alternatives for modifying infrastructure and providing additional site access for construction workers for the construction phase ahead.

**FPL has taken a reasonable approach to developing project schedules at this early stage.**

**Was FPL’s risk evaluation for the Turkey Point Units 6 & 7 project reasonable?**

Since the development of the initial *Project Plan for New Nuclear Power Generation*, completed in September 2006, FPL has been assessing the risks associated with the Turkey Point Units 6 & 7 project. According to FPL, the scope of the project plan was limited to the development, submittal, and support of the NRC review of the COLA. The company noted that the scope of the project included site selection, technology selection, and the evaluation of associated project risks. These risks included water source, potential litigation, accuracy of cost projections, supply chain constraints, and technical due diligence. FPL’s Project Management procedures require such a project risk assessment to be included when the project is sent to executive management for approval.\(^{11}\)

FPL evaluated the risks associated with each site location in its site selection study, and chose the existing Turkey Point site as the best solution for locating the two new nuclear units. FPL considered and evaluated the risks associated with over 15 greenfield locations, in addition to its existing power generation sites, to identify Turkey Point as the optimum location for the new units.

To address the risk of potential regulatory approval delays, FPL has structured the Project Development organization described in Section 3.2 below. Project Development focuses on project management, state regulatory, and non-NRC licenses and approvals.

FPL also identified the potential risks of not providing for additional generation power, fuel diversity, and meeting its required regulatory reserve margin of 20% for system reliability. FPL’s load forecast considered the risks associated with not moving forward with new generation capacity at this time. The company also evaluated the associated risks and costs of using fuels other than nuclear power, and determined other alternatives as being less cost effective to both its customers and the company.

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\(^{11}\) FPL. Nuclear Division, Nuclear Administrative Procedure 401, page 15 of 59.
FPL has evaluated and considered the risks associated with the selection of its reactor technology for the two new units, and has had that decision evaluated by an independent nuclear industry consultant to assess the decision’s reasonableness.

FPL has also considered the risk of selecting an engineering, procurement, and construction contractor. Due to its position within the nationwide queue of new unit construction, the company has elected to move carefully in selecting a contractor that may be stretched thin by the challenge of simultaneously building several units. This approach may allow FPL to assess the status of other plant construction underway before making this important decision.

The company has followed a step-by-step approach to evaluating the impacts of increased costs, schedule delays, and resource limitations on the project success. FPL has also adopted the concept of using an “off ramp” from the project, as a means of analyzing whether the project should continue. In the event severe project delays or severely increased costs no longer support the project cost effectiveness, FPL is prepared to delay the project or take an off ramp to stop the project.

As described in earlier sections of this report, additional project risks and alternatives will continue to be assessed by FPL, through detailed scoping and feasibility studies. Each phase of the project will require FPL to evaluate risks associated with new challenges and alternatives. In addition, FPL’s Risk Committee and senior management level committees review the status of the project as needed, and provide project oversight.

FPL cannot eliminate the risks inherent in completing a project such as Turkey Point Units 6 & 7, but it can manage and mitigate them. In addition to FPL feasibility studies, vendor scoping studies, and consultant studies, FPL has established daily, weekly, and monthly reports to management for monitoring the progress of the project. These ongoing reports include monthly at-a-glance project risk assessments and project status updates. The combination of these and other controls discussed in this report indicate that a satisfactory and reasonable level of project risk assessment and evaluation is completed by FPL.

**FPL has to date taken reasonable steps to identify, evaluate, and mitigate project risks associated with successful completion of the Turkey Point Units 6 & 7 project. Successful project completion will require 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 Turkey Point Units 6 & 7 project?

FPL has established a separate project organization for the oversight and management of Turkey Point Units 6 & 7. As shown in Exhibit 3, the organization consists of two key groups, Project Development and New Nuclear Projects. Project Development is headed by the Senior Director Project Development, and it has the overall responsibility for the management and organization of the project. It is focused on overall project management, state regulatory processes, environmental services, transmission planning, and non-NRC licenses and approvals.

The Vice President of New Nuclear Projects, within the Construction and Corporate Services organization, leads the portion of the new organization responsible for managing the COLA, project engineering, procurement, site preparation, and construction activities.

Both the Project Development and New Nuclear Projects organizations share the same Project Controls Group, Legal and Supply Chain support. The Project Controls Group tracks the schedule and budget status for the new nuclear units, completes regular updates and status reports on the projects, and provides financial data associated with the project budget. The legal support organization assists in the areas of cost recovery, land use, and NRC licensing. The Supply Chain organization provides support for contract development and negotiations, RFP bid processing, procurement, contract administration and contractor evaluation. The new Turkey Point Units 6 & 7 project organization consists largely of FPL employees that have previous experience in power plant projects and ongoing plant operational experience.

The company states that it leverages its many years of successful power project development and construction, and approaches the Turkey Point Units 6 & 7 project with an understanding of the power plant Project Management process that has been tested in other large construction projects. FPL is still currently staffing the new project organization and building the project schedule and budget for the project.

Effective oversight by the Turkey Point 6 & 7 Project Management organization will be an essential element to success. Though still being staffed, the Project Management organization appears to be appropriately structured and managed.
Are appropriate oversight and accountability controls over project management in place?

The new organization structure for Turkey Point Units 6 & 7 uses a matrix approach to managing the project. Oversight and accountability of Project Management is shared with the Senior Director Project Development, the VP New Nuclear Projects and the Senior VP Construction, having direct reporting responsibility for the Project Controls Group. Support functions serve both the VP New Nuclear Projects and the Senior Director Project Development. Oversight of the VP New Nuclear Projects and the Senior Director Project Development is provided by the VP Construction and the VP Development, who in turn report to the Chief Operations Officer and the President.

FPL states that it uses a series of weekly, monthly, quarterly, and as-scheduled meetings to assess project status, to evaluate key risk areas, and to examine where the schedule and budget are, at that point in the project. The Corporate Risk Committee provides comprehensive reviews of major projects and discusses potential risks, on an as-scheduled basis. The Corporate Variance Report is used to monthly assess the project budget and variances. The Operating Committee, comprised of FPL senior management, provides oversight and direction for major
company projects and initiatives on an as scheduled basis. FPL’s Board of Directors reviews and approves major strategies, financial objectives, and plans of the Company as-scheduled, and from time to time is updated on the new project.

Other meetings that FPL states provide oversight and accountability for the project include the following:

- Monthly Coordination Meetings between the New Nuclear and Project Development groups used to discuss and coordinate activities for the organization
- The Bechtel Monthly COLA Project Review Meeting gives FPL managers a review of where the vendor is in completing the COLA licensing effort
- Monthly Senior Management Vetting Sessions held with senior management meeting to vet and discuss current project status, key activities, and project issues
- The Due Diligence Report is a quarterly report summarizing project status and potential challenges.
- Weekly Development Meetings to provide the status of project activities and highlight project issues
- Monthly Project Review Meetings to provide a comprehensive project report covering status, budget, costs, performance, permitting, safety and potential risk

The Project Controls Group will continue to assist both sides of the organization with Project Management information and provide executive level reports for updated project status and cost updates. Additionally, executive and senior management oversight through the meetings and committees listed above will provide adequate oversight and accountability reviews for the new Turkey Point Units 6 & 7 project.

Reporting tools for the new organization are still being completed, but thus far appear to provide adequate project oversight.

3.3 Cost and Schedule Monitoring Controls

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

As already discussed, the Project Controls Group monitors the project schedule and budget. The Project Controls Group is led by the Manager Construction/Business Services, responsible for reporting the monthly project financials to Turkey Point Units 6 & 7 project management and FPL executive management. The monthly financial view is reviewed in Monthly Project Meetings, including executive management. The Manager Construction and Business Services also provides monthly views of the approved budget versus actual costs, a
cash flow forecast to actual view, and answers specific management requests for financial reporting data.

The Project Controls Manager supports the organization by reporting the weekly and monthly project schedule status. A monthly at-a-glance view of the project is provided to executive management to keep them aware of the project progress and performance measurements. The at-a-glance report summarizes key project events, provides a summary status and indicates potential risks associated with the project.

The Project Controls Group conducts monthly meetings to review contractor performance and adherence to the schedule. Weekly contractor update calls are also conducted on Mondays to determine whether there are any contractor problematic areas to complete for the week. Critical path events and scope changes affecting the schedule are also monitored by the Project Controls Group. The Risk Tracker program provides updates of project primary risks to identify possible mitigates and assure unauthorized cost overruns do not occur.

The Project Controls Group tracks all scope changes on a trend ledger which indicates the number of changes and dollars for scope changes for each vendor. For instance, the COLA vendor issued scope changes due to the wet site conditions at Turkey Point Units 6 & 7, which slowed the core boring work for the COLA. While this had short term impacts to the schedule, the scope changes did not impact the long term completion schedule. This information is provided to executive management in update meetings to keep them informed. The Project Controls Group also monitors vendor contracts and amendments against vendor performance and vendor invoicing to assure vendors are paid only for work completed satisfactorily.

Cost and schedule monitoring controls specific to Turkey Point Units 6 & 7 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 FPL’s selection of the current set of contractors and vendors been reasonable?

FPL Integrated Supply Chain maintains established vendor lists to use for competitive bidding situations. FPL nuclear procedures require departments and project teams desiring to issue a Request for Proposal to go through the Integrated Supply Chain organization. Procurement policies and procedures require that all sole source and single source contracts be supported by written justifications.
**Turkey Point Units 6 & 7 Project**  
**Contracts Greater Than $1 Million 2007-2008**

<table>
<thead>
<tr>
<th>Contractor</th>
<th>Work</th>
<th>Date Executed</th>
<th>Sole/Single/Single Bid</th>
<th>Type Payment</th>
<th>Estimate of Amount to be Expended in Current Year</th>
<th>Estimate of Final Contract Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comensura</td>
<td>Corporate supplier of contract personnel</td>
<td>12/21/06</td>
<td>Single Source</td>
<td>Firm Fixed Percentage</td>
<td>$1,611,731</td>
<td>$2,541,093</td>
</tr>
<tr>
<td>Bechtel Power Corporation</td>
<td>Development of Combined License Application</td>
<td>11/16/07</td>
<td>Competitive</td>
<td>Time and Materials/Target price with incentive</td>
<td>$26,064,451</td>
<td>$27,736,274</td>
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<tr>
<td>NuStart Energy Development, LLC</td>
<td>Preparation of Reference Combined License Applications Westinghouse and GE Designs</td>
<td>4/18/04</td>
<td>Membership Agreement</td>
<td>N/A</td>
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<td>$3,000,000</td>
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<tr>
<td><strong>Total</strong></td>
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<td></td>
<td></td>
<td><strong>$28,676,182</strong></td>
<td><strong>$33,277,367</strong></td>
</tr>
</tbody>
</table>

**EXHIBIT 4**  
*Source: Schedule AE-8*

FPL has selected three contractors for Turkey Point Units 6 & 7 with contracts greater than $1 million. As shown in **Exhibit 4**, Comensura (now known as Guidant) provides contract personnel services under an existing master contract. FPL’s justification for using Comensura was that the company has operated and managed the Managed Service Provider program for FPL Human Resources, and it has performed well.

The Bechtel Power Corporation contract for preparing FPL’s COLA was a competitive bid award. FPL received two bids for this contract.

The contract with NuStart Energy Development LLC is a membership agreement in an industry organization. As noted, through cooperative efforts potential AP1000 owners are attempting to reduce costs through standardization of COLA submittal, training, and other activities.

FPL has not yet submitted a contract for the engineering, procurement, and construction of Turkey Point Units 6 & 7. FPL is negotiating a contract with Westinghouse–Shaw Stone & Webster for the engineering and procurement portions of the project. As discussed previously, FPL is considering using another contractor to build the new units.
FPL appears to have followed its contractor selection procedures. Given the unique challenges and circumstances of the nuclear industry, FPL's use of sole source selections for the new Turkey Point Units 6 & 7 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 Turkey Point Units 6 & 7 project?

The Integrated Supply Chain maintains vendor performance statistics for selected major vendors, and manages non-safety-related contracts. For long-term vendors, contractor reviews are conducted quarterly or semi-annually. If FPL experiences a problem with a non-safety-related vendor, Integrated Supply Chain works with the Risk Department to remedy the situation.

Safety-related contractors are evaluated through Quality Assurance (QA) audits. These audits examine whether the vendors QA program for on site operations is compliant with the NRC QA requirements and FPL's own QA requirements. If the contractor QA program is not in compliance, it must be revised accordingly before beginning any work on site.

The assigned Integrated Supply Chain Contract Manager is responsible for evaluating the overall vendor work performance of each major contractor while on site. The Technical Representative assigned to each contractor is responsible for assessing the contractors performance and reporting any problems arising with the vendor while on site. Additionally, the Project Controls Group conducts monthly meetings to review contractors' performance and adherence to the schedule. Weekly contractor update calls are conducted on Mondays with contractors to determine whether there are any anticipated contractor problem areas. Critical path events and scope changes affecting the schedule are also monitored and reported through the Project Controls Group. FPL has previously established procedures for monitoring and evaluating contractor performance on the plant site. However, as the Turkey Point Units 6 & 7 project continues to progress, and more contractors begin work, the contractor management and evaluation controls should be reviewed and audited to evaluate their effectiveness.

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

Has FPL implemented appropriate protections from contractor cost overruns or poor performance on the Turkey Point Units 6 & 7 project?

In addition to the contractor management and evaluation process previously discussed, FPL has structured its contracts and purchase orders to identify specific scope, deliverables, completion dates, terms of payment, operational terms and conditions, reports from the contractor, and work quality specifications. Standard contract terms include suspension/termination for cause or suspension/termination for convenience address the conditions under which a contractor's services may be suspended or terminated. Limit of
Liability clauses specify the obligations of the company and the contractor under specific conditions and situations. Contract clauses addressing changes to scope of work and schedule changes state the conditions under which changes to work scope will be accomplished. These and other FPL contract provisions help ensure contractors perform work on time as specified.

FPL has also attempted to ensure contractor management through the use of fixed-price and target price contracts where possible. FPL uses fixed price contracts where a well-defined scope of work can be specified, with specific deliverables. Target price contracts are used to limit the price for work with variable scopes, scope modifications, or additional scope work may be assigned. FPL uses time and materials contracts when the timeframe and scope of work is less certain.

FPL’s Bechtel contract for Phase I of the COLA development uses a target price approach. The compensation section of the Contract for Development of the Combined Operating License Application, provides a target price for Phase I with performance incentives, and an at risk value of based on contractor performance in the areas of cost, schedule, quality, and safety. Based on the level of performance in each area, the contractor either receives an incentive for achieving performance or pays FPL a portion of the at risk dollars for not reaching performance milestones. Any change in scope requiring a change order that impacts the target price, the parties will determine an adjustment to the incentive and at risk value.

Since the types of services and volume of work provided under the Comensura contract are variable, this contract is structured on a time and materials basis. Separate purchase orders control the amount and types of work requested by FPL.

FPL procurement procedures state that, in the event contract scope changes occur, the contract or associated purchase order must be reflective of the scope changes. FPL also monitors contractor scope change trends to manage contractors excessively requesting modifications of scope for possible company action. These requirements add further management review points to assess whether the contractor is performing to contract specifications.

FPL has established Nuclear Engineering and Construction procedures to guide personnel in monitoring and evaluating contractors’ performance. As explained previously, FPL contractor management is completed at both the site and staff level. FPL states these controls will be reviewed periodically, when necessary to reflect changing control needs and conditions of the project.

**FPL has made efforts to ensure effective contractor performance by means of contract provisions and structure. This approach appears to appropriately seek control of contract costs through the use of contracts structured to encourage contractor performance.**
3.5 Auditing and Quality Assurance

Does FPL have appropriate auditing and quality assurance functions in place for the Turkey Point Units 6 & 7 project?

The first internal audit of the Turkey Point Units 6 & 7 project was scheduled to begin in June 2008. The audit was planned to focus on expenditures to date for the new units, and is expected to be complete by September 2008.

In addition to the FPL Internal Audit financial and operational audits, Quality Assurance (QA) completes Vendor Audits and Contractor Performance Evaluation Reports for safety-related contractors. Quality Instruction No. QI 7-PTN-5 states that once the contractor is on site, the QA Manager should review the contractors QA program procedures and personnel qualifications. FPL has a separate QA Manager responsible for Turkey Point Units 6 & 7 to identify and conduct QA audits.

FPL Quality Instructions note that the QA Manager should review contractor on site procedures for compliance with FPL’s QA Program commitments, and any special certifications required for contractor compliance with FPL committed codes. Quality Instructions state that, the QA Manager coordinates the resolution of any contractor conflicts with the Quality Program. The QA organization also performs audits or surveillances on safety-related and quality-related services where they are performed under the contractor’s QA Program.

The QA Manager for the new Turkey Point units will complete a daily quality summary, and meet with management to address operational concerns with the project. The Quality Manager is responsible for identifying key risks at each plant and for completing on-site evaluations of contractors’ QA programs.

FPL’s QA organization also participates in Nuclear Procurement Issues Committee (NUPIC) sponsored supplier audits. NUPIC is a nuclear industry organization that conducts audits with member companies to evaluate suppliers furnishing safety related products and services to the industry. Many of the same vendors that FPL uses in both the uprates project and the new Turkey Point Units 6 & 7 have been the subject of a NUPIC audit in the last three years.

In future years, audit staff expects to see increasingly frequent FPL 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.

The audit effort for Turkey Point Units 6 & 7 is in the very early stages, but the structure and plans for the audit function appear adequate. As the project progresses, more frequent internal audits and quality assurance audits will be necessary to ensure successful completion of Turkey Point Units 6 & 7.