

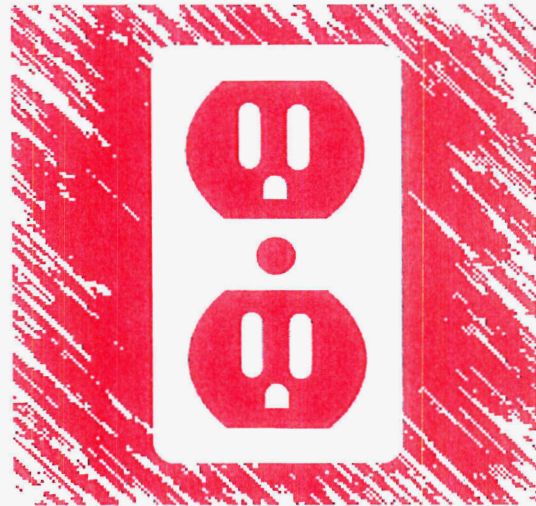
REDACTED

EXHIBIT B

DOCUMENT NUMBER-DATE

04399 JUN 24 =

FPSC-COMMISSION CLERK



Review of
**Florida Power & Light Company's
Project Management Internal
Controls
For
Nuclear Plant Uprate and
Construction Projects**

July 2011

BY AUTHORITY OF
The Florida Public Service Commission
Office of Auditing and Performance Analysis

DOCUMENT NUMBER-DATE

04399 JUN 24 =

FPSC-COMMISSION CLERK

CONFIDENTIAL DRAFT

**Review of
Florida Power & Light Company's
Project Management
Internal Controls
for
Nuclear Plant Upstate and
Construction Projects**

David F. Rich
Operations Review Specialist
Project Manager

R. Lynn Fisher
Government Analyst II

July 2011

**By Authority of
The State of Florida
Public Service Commission
Office of Auditing and Performance Analysis**

PA-11-01-001

TABLE OF CONTENTS

CHAPTER	Page
1.0 EXECUTIVE SUMMARY	
1.1 Purpose and Objectives.....	1
1.2 Scope	2
1.3 Methodology	3
1.4 Conclusions	3
2.0 NEW CONSTRUCTION, TURKEY POINT 6&7	
2.1 Key Project Developments.....	9
2.2 Project Controls and Oversight	14
2.3 Contract Oversight and Management	18
3.0 EXTENDED POWER UPRATE PROJECT	
3.1 Follow-up of 2009 Deferred Issues	21
3.2 Key Project Developments.....	22
3.3 Project Controls and Oversight	28
3.4 Contract Oversight and Management	30
4.0 CONCLUSIONS	
4.1 New construction, Turkey Point 6&7	35
4.2 Extended Power Uprate Project	35

TABLE OF EXHIBITS

EXHIBIT	Page
1. Turkey Point 6&7 Project Schedule	4
2. Turkey Point 6&7 Estimated Cost, 2007-2011	4
3. Turkey Point 6&7 Issues	6
4. EPU Project Schedule	7
5. EPU Estimated Cost, 2007-2011	7
6. EPU Project Issues	8
7. Turkey Point 6&7 Project Milestone Schedule	10
8. Turkey Point 6&7 2007 Determination of Need Cost Estimate	13
9. Turkey Point 6&7 Current Total In-Service Cost Estimate	13
10. Turkey Point 6&7 Contracts Greater than \$250,000	18
11. Turkey Point 6&7 Change Orders Greater than \$100,000	19
12. St. Lucie EPU Invoices, Apr-Oct 2009	21
13. Turkey Point EPU Invoices, Apr-Oct 2009	22
14. EPU Outage Changes	26
15. EPU Cost Estimate and Percent Change, 2007-2011	27
16. EPU Current Contracts Greater than \$1 Million	31

1.0 Executive Summary

At a Glance

New Nuclear Project (NNP)

- ☐ Cost estimate has increased slightly, now in a range from \$12.85 billion to \$18.75 billion.
- ☐ Schedule is unchanged; in-service dates remain 2022 and 2023.
- ☐ Major construction contract not signed; window of opportunity approaching.
- ☐ Long lead forging agreement extended to July 2011; parties working to further extend it.

Extended Power Uprate Project (EPU)

- ☐ Project cost estimate has increased, now in a range from \$2.32 billion to \$2.48 billion.
- ☐ To date, five License Amendment Requests (LAR) accepted for review by the NRC.
- ☐ Some remaining outage dates have shifted; project end date of January 2013 is unchanged.
- ☐ Work stoppages have occurred, one costing approximately [REDACTED]

1.1 Purpose and Objectives

At the request of the Florida Public Service Commission's (Commission or FPSC) Division of Economic Regulation, the Office of Auditing and Performance Analysis performed the fourth annual review of the internal controls and management oversight of the nuclear projects underway at Florida Power & Light (FPL or the company). This review examines the adequacy of project management and internal controls employed in FPL's New Nuclear Project (NNP) to build Turkey Point Units 6&7 and the Extended Power Uprate (EPU) of St. Lucie Units 1&2 and Turkey Point 3&4.

The primary objective is to provide an independent account of the project activities and to evaluate the internal controls used on these projects. The information in this report may be used by Division of Economic Regulation staff to assist in an assessment of the reasonableness of FPL project cost-recovery requests.

FPSC audit staff published previous reports in 2008, 2009, and 2010, each entitled *Review of Florida Power & Light's Project Management Internal Controls for Nuclear Plant Uprate and Construction Projects*. These reports are available electronically, at:

- ☐ <http://www.floridapsc.com/publications/pdf/electricgas/FPLNuclear2008.pdf>
- ☐ <http://www.floridapsc.com/publications/pdf/electricgas/FPLNuclear2009.pdf>
- ☐ <http://www.floridapsc.com/publications/pdf/electricgas/FPLNuclear2010.pdf>

1.2 Scope

The time frame covered by the annual review is January 2010 to May 2011. In addition to examining the adequacy of project management and internal controls for FPL's uprate and new nuclear construction projects, this annual review also addressed issues deferred from the 2010 Nuclear Cost Recovery Clause (NCRC) proceedings.¹ These issues revolved around whether EPU schedule delays, increased costs, task rework, or unnecessary expenditures occurred during the 2009 project management changeover. Also at issue was whether FPL provided full and accurate information to the Commission regarding EPU cost estimates.

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

- ☐ Planning
- ☐ Management and organization
- ☐ Cost and schedule controls
- ☐ Contractor selection and management
- ☐ Auditing and quality assurance

Internal controls are the vital mechanisms used by the company 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 an organization to:

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

Well-conceived, comprehensive internal controls cannot exist in a vacuum. Ineffective unless emphasized and embraced throughout an organization, internal controls assist with the challenges of risk management and decision making. Risks must be identified and appropriate protections established to prevent, mitigate, or eliminate them, and prudent decision making results from well-defined processes that address risks, needs, and capabilities. Adherence to written procedures, effective communication, vigilant internal and contractor oversight combined with ongoing auditing and quality assurance efforts are essential to ensure that project costs are prudently incurred.

Specifically, according to the Internal Control Integrated Framework designed by the Committee of Sponsoring Organizations of the Treadway Commission, an internal control should consist of five interrelated components. The components are:

- ☐ Control environment
- ☐ Risk assessment
- ☐ Control activities
- ☐ Information and communication
- ☐ Monitoring

¹ Attachment A, FPSC Order No. PSC-11-0095-FOF-EI, issued February 2, 2011.

When looking at the effectiveness and efficiency of operations, the reliability of financial reporting, and compliance with applicable laws and regulations, all five components must be present and function effectively to conclude that internal controls are effective. This report will document the existence of each of these five components for FPL project management.

1.3 Methodology

Planning, research, and data collection for the EPU follow-up review were performed in November and December 2010. Interviews were conducted in December 2010.

The planning, research, and initial data collection for the internal controls review took place in January through March 2011. Additional data collection, site visits, interviews, analysis, and report writing were conducted between March and May 2011. The information compiled in this report was gathered via company responses to audit staff document requests, visits to FPL offices in Juno Beach, and interviews with key project personnel. Audit staff also reviewed testimony, discovery, and other filings in Docket Nos. 100009-EI and 110009-EI.

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

- ☐ Policies and procedures
- ☐ Organizational charts
- ☒ Project timelines
- ☐ Vendor and contract updates
- ☒ Vendor invoices
- ☒ Scope analysis studies by FPL and consultants
- ☒ Internal and external audit reports
- ☒ Quality control reviews

1.4 Conclusions

1.4.1 New Nuclear Project

Audit staff believes that FPL is committed to pursuing the option to build two new AP1000 nuclear reactors, Turkey Point Units 6&7, employing a deliberate, incremental management approach to the project. The NRC licensing process defines the project critical path and will remain FPL's primary focus through late 2013. The current project timeline targets completion of Unit 6 construction in 2021 and Unit 7 in 2022, with start-up following a year later for each unit. **EXHIBIT 1** shows the current project timeline.

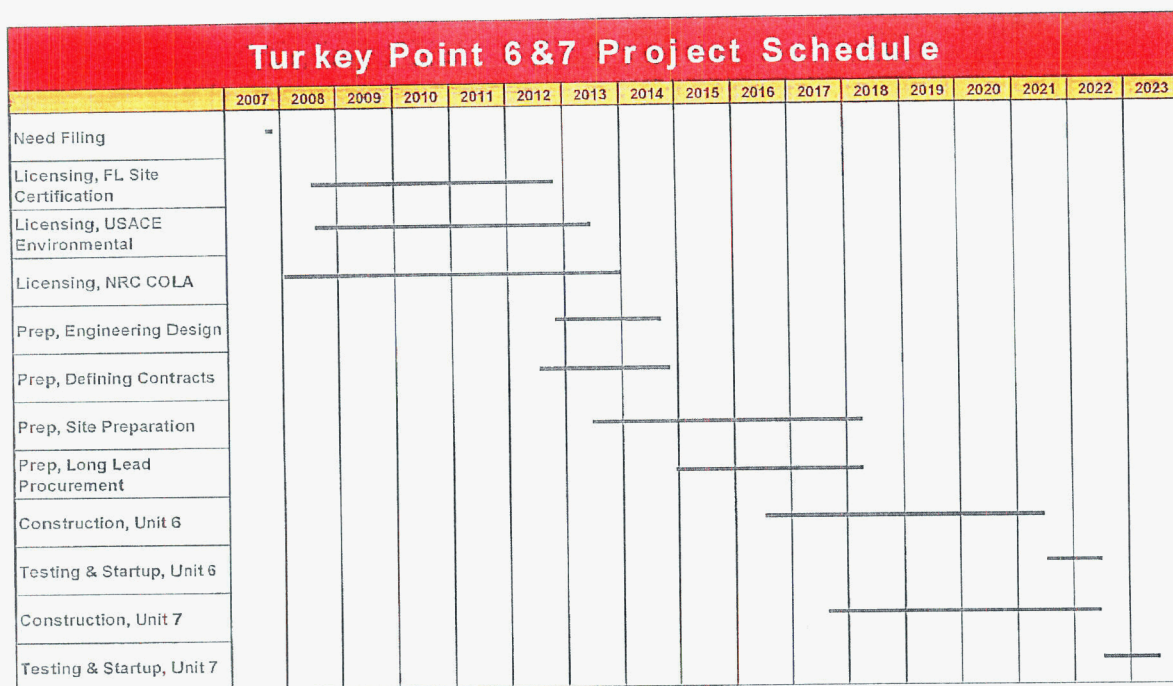


EXHIBIT 1

Source: Document Request Response, PTN 6&7 DR-1

Cost estimates for the project lie in a range from \$12.85 billion to \$18.75 billion. This range is slightly wider than a year ago, the lower end lower by \$1.77 million (0.014 percent), and the higher end increased by \$3.84 million (0.020 percent).² Expenditures for calendar year 2010 totaled \$25.6 million, which was \$17.0 million below estimates. The variance stems from lower than anticipated costs and shifting some tasks to later project phases.³ EXHIBIT 2 shows historic and estimated costs for the project, from 2007-2011.

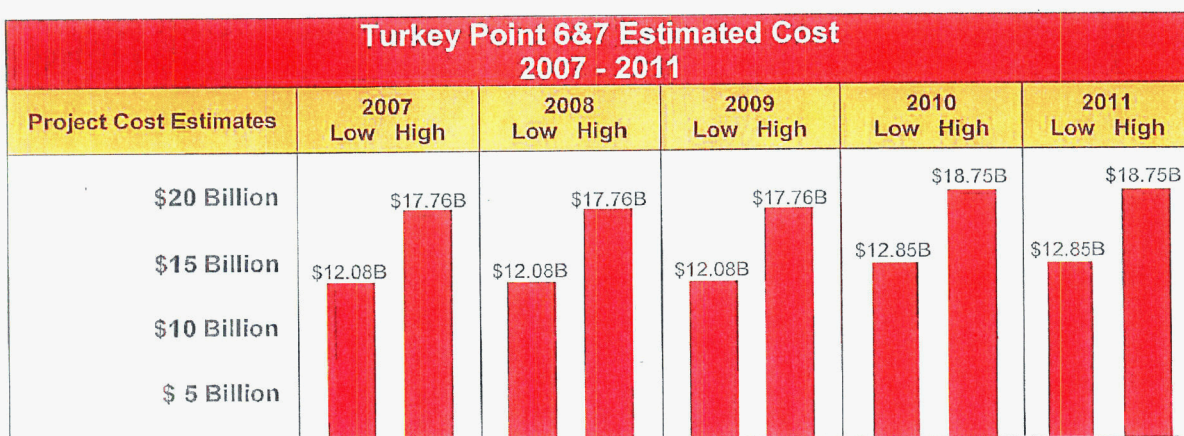


EXHIBIT 2

Source: Witness Scroggs, TOR-2, May, 2010 Testimony

² Docket No. 110009-EI, Schedule TOR-2 (True-Up to Original), SDS-18, filed May 2, 2011.

³ Docket No. 110009-EI, Schedule T-6B (True-up), SDS-3, filed March 1, 2011.

CONFIDENTIAL DRAFT

The Combined Operating License Application (COLA) for Turkey Point 6&7 was submitted to the Nuclear Regulatory Commission (NRC) in June 2009 and continues to move through the review and approval process. Staff believes that, barring regulatory delays or schedule delays resulting from NRC responses to the nuclear event in Fukushima, FPL should receive COLA approval by the end of 2013.

FPL has yet to sign a comprehensive construction contract. Staff believes that the window of opportunity for negotiating and signing a construction contract is still relatively distant but must be executed by 2013-2014 to avoid impacting the current project schedule. Whether the contract will be an Engineering, Procurement, and Construction contract with a single vendor, or the Engineering and Procurement with one vendor and the Construction portion of the contract with a separate vendor is undecided.

The company has again extended its long lead forging reservation agreement until July 2011, with the intention of negotiating a further extension. Eventual cancellation could cause FPL to loss up to \$10.8 million in reservation fees. Staff believes that FPL must negotiate a binding agreement by 2015 to lock in a manufacturing start date that avoids schedule slippage of in-service target dates.

Staff believes that Turkey Point 6&7 project controls and oversight remain adequate. The company states that organizational structures associated with controls and oversight are fully functioning, staffed with subject matter experts focused on moving forward.

FPL is focused primarily on licensing at all levels and responding to regulatory requests for additional information. At the federal level, the COLA is submitted and NRC approval review is underway. State Site Certification Application (SCA) and local permitting are taking longer than expected. The transmission portion of the SCA was determined complete in December 2010. Uncertainty exists for the overall licensing schedule and intermediate milestone target dates. Staff believes some additional schedule shift may occur, but the timing or extent cannot be foreseen because the majority of project execution, construction, and expenditures lie beyond 2014. The overall project schedule remains unchanged, with Turkey Point 6&7 in-service dates still targeted for 2022 and 2023, respectively.

Regulatory responses to the Fukushima accident may affect NRC schedules, permit timeliness, access to capital, hearing dates, and public opinion about new nuclear construction. FPL New Nuclear project managers universally expressed the opinion that regulatory changes will occur. The nature of change and the impacts on project cost and schedule cannot be predicted.

Staff believes FPL has a system of internal controls, risk evaluation, management oversight, and regular periodic reports that address the Turkey Point 6&7 project schedule, budget, costs, vendor performance, and risks. FPL controls are responsive to new and continuing project requirements and capable of evolutionary change. **EXHIBIT 3** is a depiction of the history of relevant key issues.

Turkey Point 6&7 Issues					
Key Events	Project Cost Estimate	COLA Schedule	EPC or EP&C Contract	Long Lead Forging Agreement	Fukushima
Pre-2010	2007 to 2009, a range of \$12.08B to \$17.76B	COLA submitted 6/09 NRC docket in 11/09	No decision on EPC or EP&C; opting to wait	Signed 2008, expires 12/09. \$10.8M fee; Extension to 6/10	Occurred in 2011
2010	Range revised in 2010; \$12.854B to \$18.746B	NRC issues COLA review schedule 5/10	No decision on EPC or EP&C; opting to wait	Extension to 3/11	Occurred in 2011
2011	Slight revision; \$12.852B to \$18.750B	Responding to RAls	No decision on EPC or EP&C; opting to wait	Extend to 6/11, then 7/11; negotiating extension	Impact(s) unknown; possible NRC regulatory changes
Future Plans	Use project controls and oversight to control costs	Anticipates EIS in 10/12; completion of COLA review by end-2013	Initiate in the 2013 – 2014 timeframe	Must begin forgings NLT 2015 to meet in-service schedule	Adapt to regulatory and/or safety changes

EXHIBIT 3

Source: Staff Analysis

1.4.2 Extended Power Uprate Project

In early 2010, FPL shifted the expected completion date for the Extended Power Uprates from December 2012 to late January 2013. The current timeline for the EPU project is provided in EXHIBIT 4.

EPU Project Schedule							
Current Timeline	2007	2008	2009	2010	2011	2012	2013
Need Determination	◆						
LAR Analysis							
LAR RAIs and NRC Reviews							
Long Lead Material							
Engineering Design							
Outage & Start-Up							

EXHIBIT 4

Source: Document Request Response, EPU DR 2.8

FPL has also identified a new non-binding cost estimate range for the uprates. With the longer and more complicated outages planned for 2011 and 2012, audit staff believes additional design modification work and cost increases may be ahead. EXHIBIT 5 shows estimated costs for 2007-2011.

EPU Estimated Cost 2007 - 2011							
Cost Estimates	2007	2008	2009	2010		2011	
				Low	High	Low	High
\$3.0 Billion							
\$2.5 Billion							
\$2.0 Billion	\$1.798	\$1.798	\$1.798	\$2.054	\$2.299	\$2.324	\$2.479
\$1.5 Billion							
\$1.0 Billion							
\$0.5 Billion							

EXHIBIT 5

Source: Witness Jones, TOR-2, May 2011 Testimony

In 2010, FPL made progress on the EPU License Amendment Requests (LAR). The company is responding to NRC Requests for Additional Information (RAI). LAR engineering and scope changes made during 2010 have resulted in increased costs.

During 2010, FPL had difficulties in keeping Bechtel on schedule for completing Turkey Point outage design packages. Design engineering was behind schedule. Lack of quality and timeliness contributed to a decision to defer certain packages and work to later outages. In early 2011, Bechtel made changes in its project management team to better support engineering design packages.

In 2010 and early 2011, FPL experienced several work stoppages. FPL claims that the costs of these events are charged back to the responsible contractor, but costs not covered by contractor liability or other insurance may currently be submitted through the NCRC recovery

CONFIDENTIAL DRAFT

process. Staff believes that costs not recaptured by contractual remedies, if submitted for recovery, including the [REDACTED] in the current FPL request, should be closely examined for suitability under the clause.

Based on deferred issues from the 2010 NCRC hearings, staff conducted a follow-up review in late 2010, investigating events of the 2009 EPU management changeover. Staff found no indication of unnecessary EPU work or rework, overpayments to vendors, or overcharging by vendors due to project mismanagement.

NRC response to Fukushima may impact the timeliness of the LAR approval process and public opinion about continued nuclear operations. FPL EPU project managers expressed the opinion that regulatory changes will occur. The potential for impact to project cost and schedule is unknown.

Staff is concerned that additional delays during the longer and more complex outages remaining in 2011 and 2012, or increased scope from LAR licensing, may extend project completion further, into late 2013 or beyond. The schedule could also be extended if the NRC fails to approve any of the LARs within the timeframes currently anticipated.

Staff believes that the EPU management and internal controls are responsive to current project requirements and capable of change to meet future project issues. **EXHIBIT 6** is a description of the history of relevant key EPU issues.

EPU Project Issues					
Key Events	Project Cost Estimate	LAR Schedule	Outages	Work Stoppages	Fukushima
Pre-2010	2007 to 2009 \$1.798B	PTN AST LAR accepted by NRC for review	Eight outages; target is to finish all by 2012	No work stoppages	Occurred in 2011
2010	Range revised to \$2.054B to \$2.299B	LARs for PSL 1 and PTN 3&4 submitted	Two outages complete; revised schedule to finish in 2013	10/10 – PTN 3 Siemens 11/10 – PTN 3 Bechtel	Occurred in 2011
2011	Range revised to \$2.324B to \$2.479B	LAR for PSL 2 submitted; PSL 1 & PTN 3&4 accepted for review	Two more complete; start revised for three of remaining four	2/11 – PSL 2 Siemens; rotor stator damage; 2011 NCRC item	Impact(s) unknown; possible NRC regulatory changes
Future Plans	Potential for cost increases	Obtain NRC approvals	Complete all outages by 1/13	Identify recoverable costs; submit to NCRC process	Adapt to regulatory and/or safety changes

2.0 NEW CONSTRUCTION, TURKEY POINT 6&7

2.1 KEY PROJECT DEVELOPMENTS

2.1.1 SIGNIFICANT EVENTS OVERVIEW

FPL states that during the past year its Turkey Point 6&7 project efforts remained focused on facilitating reviews of federal and state license and certification applications. Below is a list of accomplishments during 2010 for the Turkey Point 6&7 project. Several additional events are also discussed in more detail later in the report.

- ◆ Completed project schedule and cost estimate reviews
- ◆ Confirmed a new project cost estimate range
- ◆ Received its COLA review schedule from the NRC
- ◆ Received Miami-Dade County approval of a Comprehensive Development Master Plan for temporary construction of roads to support the project; permitting authority is required
- ◆ Secured a Joint Participation Agreement with Miami-Dade County with roles and responsibilities for providing reclaimed water to the project for cooling
- ◆ Received a Prevention of Significant Deterioration permit from FDEP
- ◆ Received a construction permit for an exploratory Underground Injection Control Well
- ◆ Received a construction permit for a Dual Zone Monitoring Well system
- ◆ Transmission portion of the Site Certification Application is complete

NRC MEETINGS HELD

In July 2010, the NRC held a public meeting to obtain input on the scope of the Environmental Impact Statement (EIS). In November, an NRC Atomic Safety and Licensing Board held a pre-hearing conference to address contentions proposed by three parties seeking leave to intervene to challenge portions of the Combined License Application.

STATE SITE CERTIFICATION APPLICATION PROCESS CONTINUES

The non-transmission portion of the SCA review produced additional agency questions and requirements for completeness, extending the schedule for FPL to address the issues. FPL states it narrowed the number of items to be addressed for the plant and non-transmission portions.

The SCA process is proceeding along two parallel tracks in 2011, transmission and plant. In the plant track, FPL provided its fourth completeness response in late February. In transmission, two important milestones occurred in the first half of the year. Interested parties proposed alternate corridors in early May. Agency reports on the FPL preferred corridor were filed in June, with several interested municipalities involved.

LICENSING AND CONSTRUCTION PHASES SEPARATION

The original project plan divided the Turkey Point 6&7 project into four phases – exploratory, licensing, preparation, and construction, with some early site preparation activities overlapping with licensing. FPL shifted preparation tasks into the construction phase during 2010. The company is now focused solely on licensing, expecting to begin site preparation activities in mid-2013.

CONFIDENTIAL DRAFT

IN-SERVICE DATES UNCHANGED

Prior to last year's NCRC hearings, FPL revised the in-service target dates for Turkey Point 6&7, shifting them to 2022 and 2023 respectively. Those in-service and intermediate project milestone dates remain unchanged this year. EXHIBIT 7 shows changes to the schedule over time.

TURKEY POINT 6&7 PROJECT MILESTONE SCHEDULE				
Phase		Original	1 Year Ago	Current
Licensing	Start	2007	2007	2007
	Complete	2012	2013	2013
Site Preparation	Start	2010	2014	2014
	Complete	2012	2016	2016
Generation Plant	Start	2013 / 2015	2016	2016
	Complete	2018 / 2020	2022 / 2023	2022 / 2023
Transmission Facilities	Start	2010	2014	2014
	Complete	2020	2023	2023

EXHIBIT 7

Source: Schedule TOR-7, May 2010 Testimony

While not affecting the ultimate in-service dates for either unit, FPL contends that the company is experiencing regulatory schedule variance and minor delays. The company says the delays and variances are the result of slower than anticipated federal and state application approval processes.

Future schedule turbulence is possible at all regulatory levels. To preclude delays as much as possible, FPL states it is closely coordinating with all agencies, meeting regularly with them, timely responding to Requests for Additional Information from various agencies, and insuring that applications are complete when submitted.

In the near term, FPL's concentration on securing necessary licenses or regulatory approvals will remain the focus throughout the balance of 2011, all of 2012, and most of 2013. The company currently expects to complete licensing in late 2013.

ESTIMATED COST RANGE OF \$12.85 BILLION TO \$18.75 BILLION

FPL currently estimates the Turkey Point 6&7 completed project cost to be in a range from \$12.85 billion to \$18.75 billion.⁴ The range is slightly increased from last year's estimate. The lower end is slightly less (\$1.77 million, 0.014 percent) and higher on the upper end, (\$3.84 million, 0.02 percent). Expenditures for calendar year 2010 totaled \$25.6 million, \$17.0 million below projections. The variance stems from lower than anticipated costs and shifting some tasks to later phases of the project.⁵

COLA REVIEW SCHEDULE ISSUED IN MAY 2010

FPL submitted its Combined Operating License Application (COLA) to the Nuclear Regulatory Commission in June 2009. The NRC docketed the COLA in November 2009 and issued the COLA review schedule in May 2010. This schedule anticipates the issuance of a

⁴ Docket No. 110009-EI, TOR-2 (True-Up to Original), SDS-18, filed May 2, 2011

⁵ Docket No. 110009-EI, Schedule T-6B (True-up), SDS-3, filed March 1, 2011.

FPL submitted its Combined Operating License Application (COLA) to the Nuclear Regulatory Commission in June 2009. The NRC docketed the COLA in November 2009 and issued the COLA review schedule in May 2010. This schedule anticipates the issuance of a final Environmental Impact Statement in October 2012 and a Final Safety Evaluation Report in December 2012. Adding 12 months for mandatory hearings, FPL estimates its COLA review for Turkey Point 6&7 will be completed by the end of 2013.

FPL continues to receive NRC Requests for Additional Information (RAI) during the COLA evaluation process. Counting the requests is subjective, since NRC communications often contain multiple requests. To date, the NRC has issued 328 separate Requests for Additional Information. Of those, 160 related to safety (including security and emergency preparedness) and 168 refer to environmental matters. FPL states that the company responds to each in a timely manner, seeking to comply with a 30-day deadline for safety issues and a 45-day requirement for environmental items. Fifty-five RAIs remain open.

FPL recognizes that COLA delays are possible. Regulatory changes resulting from the incident at Fukushima may impact the NRC review and approval schedule. The NRC is also concurrently reviewing other U.S. applications of similar design. Seven applications now under review also use the AP1000 design, with four having in-service dates prior to FPL's dates.

Licensing Costs Lower Than Expected

In 2010, licensing costs totaled \$30.27 million compared with the earlier company estimate for the year of \$35.44 million. The variance (\$5.16 million) is the result of lower than expected costs for NRC fees, Bechtel COLA support, transmission permitting, Site Certification Application support, New Nuclear Project staffing, and from unused contingency.⁶

NRC Extends AP1000 Design Certification Amendment Review

In December 2010 Westinghouse provided the NRC Revision 18 to the AP1000 Design Certification Amendment. The current schedule for NRC rulemaking is September 2011 but may be delayed by a May 2011 NRC announcement citing three additional technical issues with the design:

- The containment vessel internal pressure calculations must be revised. The NRC will review the revisions in June 2011.
- The NRC challenged the analytical guidelines of the *Shield Building Design Report*. Westinghouse will conduct further load combination calculations.
- Preliminary Westinghouse calculations validating the design of the passive containment cooling system tank were questioned by the NRC. Westinghouse is working to verify the calculations.

AP1000 design certification by the NRC is a prerequisite for FPL to obtain a Combined Operating License. Recognizing this, FPL created its project schedule with margin to allow for some process delay. Additional adjustments to FPL's NRC review schedule, if any, will affect that margin.

Construction Contract Decision Delayed Until 2013-2014

⁶ Docket No. 110009-EI, T-Schedules, SDS-1, Pre-Construction, T-6B (True-up), filed March 1, 2011

FPL has deferred a decision on whether to use a single vendor for a combined engineering, procurement, and construction (EPC) contract or one contractor for the engineering and procurement portions and a separate vendor for construction. The company says it feels no pressure at this point to enter into either type and believes a lack of schedule clarity makes it advantageous to defer the decision.

FPL is balancing currently known aspects of cost, workforce availability, and other factors against tomorrow's unknowns. Although the company may be accepting some risk by deciding to defer this decision, FPL believes a patient posture currently best serves its interests. The company acknowledges that the latest this decision could be made without incurring additional schedule delay is probably in the 2013-2014 timeframe.⁷ FPL does not believe deferring a major construction contract negatively impacts the overall project cost or schedule.

Long Lead Forging Reservation Agreement Deferred Again

A Forging Reservation Agreement between FPL and Westinghouse Corporation was signed in 2008. This agreement reserved manufacturing capacity until December 2009 for specialized, ultra-heavy AP1000 forgings. The original agreement included a reservation fee of \$10.8 million.

Before the original expiration date, the parties signed a six-month extension without changes or costs, shifting expiration to June 2010. FPL and Westinghouse have since agreed to three additional extensions, shifting the expiration to March 2011, then June 2011, and currently to July 2011. The latest change preserves the original terms and specifications, with negotiations ongoing to further extend the expiration date. FPL expects resolution before the current contract expires.

FPL believes that extending the current agreement best meets its interest by reducing current expenditures, preserving flexibility and cost certainties while securely holding a manufacturing slot, and minimizing financial exposure should they decide to defer or cancel the project. FPL acknowledges risk that at some point the agreement could be dissolved instead of extended. The contract specifies a partial refund of reservation fees, minus 15 percent for administration, if Westinghouse is able to remarket the slot. If Westinghouse is unable to remarket the reservation, FPL could lose the entire \$10.8 million reservation fee.

While FPL believes that extending the agreement is the proper course in the near term, it also realizes that the time for a decision is approaching. Long lead forgings issues must be settled and manufacturing begun no later than 2015 in order to meet current in-service dates.

The highly specialized Japanese long lead forging facilities are located well away from the damage zones associated with the 2011 earthquake and tsunami. FPL does not believe these natural disasters or their aftermath will result in any impact to Turkey Point 6&7 project schedule or cost.

Joint Ownership Not A Priority

In 2008, the Commission ordered FPL to maintain regular discussions with prospective joint owners. In 2010, FPL provided four quarterly status reports to the Commission, but conducted only one meeting, in May. Potential participants include the Florida Municipal Energy Association, Florida Municipal Power Agency, Orlando Utilities Commission, Jacksonville Energy Association, Seminole Electric Cooperative, Ocala Electric, and Lakeside Electric.

⁷ Scroggs, FPL Interviews, April 5, 2011.

During interviews for this review, FPL stated that it does not believe that the benefits of joint ownership outweigh the disadvantage of having the involvement of additional stakeholders and decision makers. FPL continues to believe it will need 100 percent of the Turkey Point 6&7 capacity for its own use and additional owners will only diminish the amount of power available to FPL. Based on these facts, staff does not believe joint ownership is or will be an FPL priority.

2.1.2 Turkey Point 6&7 Project Cost Estimates

The original FPL determination of need cited a cost range from \$12.08 billion to \$17.76 billion, divided into four categories: site selection, pre-construction, construction, and Allowance for Funds Used During Construction (AFUDC). See EXHIBIT 8.

Turkey Point 6&7 2007 Determination of Need Cost Estimate		
Category	Low	High
Site Selection	\$8,000,000	\$8,000,000
Pre-construction	\$465,000,000	\$465,000,000
Construction	\$8,149,000,000	\$12,124,000,000
AFUDC	\$3,461,000,000	\$5,160,000,000
TOTAL	\$12,083,000,000	\$17,757,000,000

EXHIBIT 8

Source: TOR-2, SDS-18, May 2, 2011 Testimony

Current FPL project cost estimates appear below, in EXHIBIT 9. The all-in cost of bringing Turkey Point 6&7 online is now predicted to be in a range from \$12.85 billion to \$18.75 billion. The company believes the most likely outcome is that project costs will be in the upper end of the range. In the current estimate range, low and high endpoints are up \$769.5 million (6.4 percent, low side) and \$993.5 million (5.6 percent, high side) compared to the original need determination filing.

Turkey Point 6&7 Current Total In-Service Cost Estimate		
Category	Low	High
Site Selection	\$6,118,105	\$6,118,105
Pre-construction	\$229,490,909	\$251,411,898
Construction	\$8,974,728,121	\$13,153,504,833
AFUDC	\$3,642,182,163	\$5,335,446,159
TOTAL	\$12,852,519,298	\$18,750,480,995

EXHIBIT 9

TOR-2, SDS-18, May 2, 2011 Testimony

Turkey Point 6&7 site selection was complete as of 2009. Actual expenditures were 24 percent lower than originally predicted.

CONFIDENTIAL DRAFT

The current cost estimate range for pre-construction is 50.6 percent and 45.9 percent lower than the 2007 Need Determination for the low and high values. Those figures do not represent savings, however. Money was deferred from pre-construction to the construction phase when licensing and construction were decoupled in 2010. Deferment caused an increase of \$825.7 million on the low end of the construction phase estimate and \$1.03 billion on the high side.

2.1.3 Project Feasibility Analysis Supports Continuation

Project feasibility analyses are conducted annually for the Turkey Point 6&7 project as part of ongoing executive management oversight and as part of annual FPSC Nuclear Cost Recovery Clause hearing testimony. These analyses consider multiple scenarios, varying conditions, and assumptions to determine feasibility, while providing additional accountability and project oversight. Each annual study uses updated fuel cost forecasts, environmental forecasts, capital cost estimates, and sunk costs.

FPL states that the analytical methodologies and approaches used in the 2010 feasibility study are nearly identical to those of the 2007 need determination and previous annual analyses. FPL updated its assumptions in early 2010 and included them in all its 2010 resource planning analyses. Among the assumptions revised for this year's analysis are:

- ☐ FPL's load forecast
- ☒ Assumed in-service dates of 2022 and 2023, and
- ☐ Financial / economic assumptions.

In response to an FPSC order, FPL also updates and includes five informational categories in its annual long term feasibility analysis including:

- ☐ Fuel forecasts
- ☐ Environmental forecasts
- ☐ Breakeven costs
- ☒ Capital cost estimates, and
- ☒ Sunk costs.

The company states that its most recent feasibility analysis predicts the project remains solidly cost-effective in six of seven base case scenarios for fuel and environmental compliance costs, and predicts a break even outcome in the seventh scenario. The company states that this year's study fully supports continuation of the Turkey Point 6&7 project, and that the project remains feasible and viable, offering substantial benefit over any non-nuclear alternatives.

2.2 Project Controls and Oversight

2.2.1 Project Controls Evolve

FPL believes that the Turkey Point 6&7 project controls and oversight are comprehensive, adequate, and responsive to the project. Primary controls are:

- ☐ Budgeting and reporting process,
- ☒ Schedule and activity reporting processes,
- ☒ Contract management process, and
- ☒ Internal and external oversight processes.

Internal and external oversight elements and processes consist of:

- ☐ Executive management,
- ☐ Subordinate managers,
- ☐ Subject matter experts (SME) and team members,
- ☐ Mutually reinforcing schedules and cost controls, and
- ☐ Regular updates on risk, cost, and schedule.

The Project Controls group provides management with regular reports on schedule, budget, costs, vendor performance, and risks. They use Primavera scheduling software, capable of real time updating and monitoring. Primavera can also sort data by need, producing customized status reports.

Project managers, technical representatives, and quality assurance personnel daily watch vendor performance, ensuring tasks performed meet contract time and cost constraints. Integrated Supply Chain (ISC) sourcing specialists and contract managers monitor contract change orders and contractor performance. Cost or schedule anomalies are reported, allowing quick risk identification and prioritization, development of mitigation strategies, and the implementation of solutions.

Changes to Turkey Point 6&7 project controls over the last year continued as an evolutionary process. Some control tools are direct results of recommendations contained in the 2009 project management review by Concentric Energy Advisors. FPL made no changes to project management controls as a result of any quality assurance reviews or internal/external audits conducted in 2010.

FPL uses white papers when appropriate to capture key project decisions. Each memorandum records thought processes and decision making architecture in near real time, preserving it for later review or recall. FPL management believes these documents represent their adherence to and a desire for a high degree of project management transparency.

In 2010, FPL created five new procurement process manuals, one new project guideline, 11 project instructions, and one desktop instruction. The company also revised one procurement process manual and one project guideline.

Looking ahead, FPL also produced a discovery production instruction for the NRC COLA hearings. This document was created in anticipation of COLA litigation. It includes tools for devising strategy and a control process for responding to NRC discovery obligations.

2.2.2 Risk Management Report Developed

FPL has developed and implemented a High Level Risk Summary and Quarterly Risk Assessment. Used to characterize and track project risk, each was employed throughout 2010. The reports provide detail on the probability of occurrence for each risk, with analysis of potential impact(s) to project implementation, cost, and schedule. Six areas are routinely assessed to identify risk, estimate probability of occurrence, and gauge potential consequences:

- ☐ Economic feasibility
- ☐ Technological feasibility
- ☐ Regulatory recovery

CONFIDENTIAL DRAFT

- ☐ Local approvals
- ☒ State approvals
- ☒ Federal approvals

FPL believes these reports better establish issue ownership, provide greater detail for project managers at all levels, and are reviewed more frequently than previous risk summaries.

2.2.3 Management Oversight Evolving

FPL made no major changes to its project management oversight, but the systems, procedures, reports, and policies used in management oversight continue to evolve. Among actions to be implemented in 2011 is a revision of the monthly project dashboard.

2.2.4 Audits Target Project Expenditures And Controls

FPL Internal Audit reviewed the New Nuclear Project during 2010. According to the Internal Audit Manager, this audit examined approximately 50 percent of the project dollars flowing through the NCRC process. Findings were minor and were shared with the process owners, Regulatory Affairs, Legal, and Executive Management. The audit did not recommend any changes for Turkey Point 6&7 controls or processes. A 2011 internal audit will be conducted, with the same level of coverage as the 2010 review.

Jefferson Wells Audit Findings Minor

In 2010, Jefferson Wells completed an audit of 2009 expenditures, characterizing the Turkey Point 6&7 project controls as adequate and noting that costs were appropriately charged. Staff summarized that audit in last year's report.

In early 2011, FPL Internal Audit group again used Jefferson Wells to audit 2010 project expenditures. Auditors reviewed sample transactions for project expense reporting, invoices, and payroll processes. The audit was outsourced to allow FPL Internal Audit to concentrate its limited audit resources elsewhere. The audit report was completed in May 2011, identifying a need for only minor corrections and adjustments. All were completed by FPL during the audit.

Staff reviewed the audit report, noting a few exceptions in documentation of project expense reporting. All findings were minor and corrected. Employee training is ongoing. No exceptions were noted in payroll or vendor invoices. The audit found that Turkey Point 6&7 controls are good and costs are appropriately charged to the project.

Concentric Controls Review Cites Areas For Improvement

In the first quarter of 2010 Concentric Energy Advisors reviewed and evaluated 2009 project internal controls. In January and February of 2011, Concentric conducted another review, this time with a focus on 2010 project activities.

Concentric reviewed Turkey Point 6&7 project policies, procedures, and instructions, particularly those revised in the last year. Current organizational structures and milestones were evaluated. Concentric also evaluated project actions and decisions for prudence using three criteria as determining factors:

- ☐ Prudence relates to actions or decisions; costs alone cannot be prudent or imprudent
- ☐ A presumption of prudence exists and the burden to show imprudence falls on the challenger
- ☒ An exclusion of hindsight; judgment based on things known or knowable at the time

Using these criteria and its observations of FPL management controls, contract oversight, administrative processes, and project internal procedures, Concentric concluded that neither FPL project management decision-making nor actions led to imprudent project costs. Concentric also cited six areas for project improvement.⁸ These observations included procedural, reporting, or training shortcomings noted during the review. In response, FPL revised management Dashboard reports, updated invoicing checklists and approval sheets, and adopted improvements to its Cost Recovery Detail report. One recommendation to adopt required time intervals for review of FPL Project Instructions is under review.

2.2.5 Quality Assurance Audited By NRC

Quality Assurance holds vendors accountable for process and product quality. Regular oversight of vendor activity and procedures, development of new Quality Assurance programs, off-site inspections of key component manufacture, and review of New Nuclear Project procedures continues. During 2010, Quality Assurance assessors monitored vendor compliance with contracts and FPL procedures. No areas of non-compliance were noted in 2010.

NRC inspectors audited FPL in February 2011 to verify the effective implementation of project Quality Assurance processes and procedures. The inspection assessed compliance with provisions of 10 CFR Part 21⁹ and portions of Appendix B, 10 CFR Part 50.¹⁰

FPL Quality Assurance stated that this review was a routine and standard NRC inspection evaluating whether FPL Quality Assurance for COLA development contained controls consistent with federal nuclear requirements. It was not the result of a complaint or suspicion of project mismanagement. Quality Assurance acknowledges that NRC inspectors found FPL noncompliant with 10 CFR Part 21 and stated that the company takes the violations seriously. Specifically, the NRC inspectors noted that:

- ❑ The FPL procedures used are inappropriate to evaluate deviations or failures to comply associated with substantial safety hazards and to notify the NRC within the required timeframe of identification of a defect or a failure to comply.
- ❑ FPL procedures ENG-QI-2.2 and IP-801 included definitions different than those used in 10 CFR 21.3, "Definitions," and altered their intended meaning.¹¹

FPL Quality Assurance also explained that the violations stemmed from NRC-approved fleet procedures employed by FPL's New Nuclear Project group, in a common practice known as "bridging." Subsequently, the fleet processes were updated without parallel changes in FPL's New Nuclear group, creating the discrepancies found by NRC inspectors.

FPL responded in writing to the NRC findings by the May 2011 due date. The company response addressed probable cause and corrective actions underway or scheduled. FPL plans to continue to use the nuclear fleet processes as bridging documents, but strengthened with specific Turkey Point 6&7 detail.

⁸ FPL witness Reed, Docket No. 110009-EI, testimony filed March 1, 2011, Exhibit JJR-5.

⁹ "Reporting of Defects and Noncompliance"

¹⁰ Appendix B, 10 CFR Part 50, "Quality Assurance Program Criteria for Nuclear Power Plants and Fuel Reprocessing Plants"

¹¹ ENG-QI-2.2, "10 CFR 21 SSH Evaluation/Reporting," Revision 6, July 2010 and IP-801, "Evaluating and Reporting Defects and Failures to Comply for Substantial Safety Hazards in Accordance with 10 CFR Part 21," Revision 15, September 2008.

2.3 Contract Oversight and Management

FPL states that since April 2010, it made no revisions to project contractor selection or contract management policies. FPL has signed new contracts and made changes to existing ones through change orders.

Two years ago, FPL decided that significant expenditures for preliminary design, procurement, and construction planning were premature. The company opted to defer these activities until licensing is more complete. FPL continues to believe this strategy provides additional risk control.

Bechtel remains the primary contractor for COLA and SCA support. Specialty engineering companies support the Army Corps of Engineers permit and other permit applications. Westinghouse/Shaw is providing support to FPL and Bechtel for COLA review and RAI responses.

2.3.1 Contracts Executed or Modified

During 2010, FPL New Nuclear initiated one new contract in excess of \$1,000,000. In early 2011, FPL added another. Five change orders also exceeded \$100,000. Combined, the new contracts and change orders represent less than 1 percent of the estimated total project expenditures.

Open contracts whose value exceeds \$250,000 appear below in **EXHIBIT 10**. Totals reflect the original contract plus increases from subsequent change orders. The Bechtel contract is the largest at [REDACTED]. Competitively bid and signed in 2007, the contract has nearly 30 change orders. All change orders are documented by single or predetermined source justifications.

Turkey Point 6&7 Contracts Greater than \$250,000				
Status	Contactor	Description	Amount	Type
Open	Bechtel Power Corporation	COLA / SCA prep & RAI support	[REDACTED]	C, S, P
Open	BVZ Power Partners- Nuclear	Engineering / construction plan		S,P
Open	Layne Christensen Co.	Exploratory / UIC well installation		C
Open	Dickerson Florida, Inc.	Exploratory UIC well site prep		C
Open	Golder Associates Inc.	Post-SCA submittal support		S
Open	Environmental Consulting and Technology, Inc.	SCA support		S
Open	Westinghouse Electric Co.	COLA/SCA prep & RAI support		S, P
Open	HDR Engineering	Conceptual engineering of cooling water supply / discharge		C/S
Open	Electric Power Research Institute	Advanced Nuclear Technology program participation		S
Open	McNabb Hydro geologic Consulting	UIC SME support		S
Open	Eco Metrics, Inc.	Environmental consulting		S
Open	Ecological Associates	Seagrass survey / report		S
Open	Jefferson Wells	New Nuclear audit		C/S

A

CONFIDENTIAL DRAFT

Open	McNabb Hydro geologic Consulting, Inc.	Post-SCA / UIC licensing	[REDACTED]	S
* C = Competitive Bid, S = Single/Sole Source, and P = Predetermined Source				

EXHIBIT 10

Source: Schedule T-7, FPL Testimony, March 1, 2010

The BVZ contract, was originally estimated at [REDACTED]. The scope of work was finished in late 2009, below the estimate. FPL paid the final invoices [REDACTED] in early 2010, but the contract remained technically open in FPL's accounting system. The company asserts it has initiated steps to formally close the contract.

Unlike last year, when three change orders ([REDACTED]) were greater than \$1 million, only five change orders during this review period exceeded \$100,000. **EXHIBIT 11** lists these change orders.

Turkey Point 6&7 Change Orders Greater than \$100,000		
Contractor	Description	Amount
Westinghouse Electric Co.	COLA prep and RAI support	[REDACTED]
Golder Associates, Inc.	Post-SCA submittal support	[REDACTED]
Environmental Consulting and Technology, Inc.	SCA support	[REDACTED]
Eco-Metrics, Inc.	Environmental consulting services	[REDACTED]
HRD Engineering	Engineer cooling water supply & discharge	[REDACTED]

EXHIBIT 11

Source: Document Request Response, PTN 6&7 DR-1.33

Change orders were reviewed for adherence to FPL internal controls, processes, and content. No anomalies were found.

2.3.2 Invoice Sampling Found No Errors

As part of its ongoing audit oversight, staff reviewed 2010 invoices from four vendors: Bechtel Power Corporation, BVZ Power Partners – Nuclear, Golder Associates, Inc., and Environmental Consulting and Technology, Inc. Staff requested for review the invoices from four separate months for each vendor:

- ☐ Bechtel – March, May, August, and October
- ☐ Golder – February, April, July, and December
- ☐ Environmental Consulting and Technology – January, June, September, and November
- ☐ BVZ – March, June, July, and December

The total value of Bechtel invoices audit staff reviewed was [REDACTED] or [REDACTED] percent of 2010 expenditures.¹² FPL appropriately disallowed slightly more than [REDACTED], the majority from warranty work that should not have been billed. Nearly [REDACTED] of additional disallowance was related to erroneous work charges caught by FPL controls. FPL processed

¹² Docket No. 110009-EI, Schedule T-7A, SDS-3, filed March 1, 2011

CONFIDENTIAL DRAFT

eight change orders to the contract during these four months. Each change order was administrative, with no cost impact to the contract.

The Golder Associates invoices reviewed totaled [REDACTED] or [REDACTED] percent of 2010 expenditures. July invoices were adjusted for small, non-reimbursable items. FPL processed three change orders during the reviewed months. Change Order No. 1 and Change Order No. 3 were administrative with no cost impact. Change Order No. 2 had an impact, raising the not-to-exceed contract value to [REDACTED] 2

For Environmental Consulting and Technology, Inc., only three of the four months had activity. Staff reviewed the invoices, totaling [REDACTED] or [REDACTED] percent of 2010 expenditures. 3 No disallowance by FPL was noted and two change orders were included. Change Order No. 1 approved a contract increase of no more than [REDACTED] and Change Order No. 3 raised the not-to-exceed contract value to [REDACTED] 4 5

The BVZ contract is inactive and complete. No invoices or change orders were processed during the months reviewed.

Staff notes that FPL policies and procedures are followed. Pushback and disallowances occurred and were documented by FPL contract oversight personnel. When required, the appropriate signatures authorizing various levels of expenditure were on the FPL Invoice Checklist / Approval Form.

2.3.3 Contract Management Policies Unchanged

FPL made no revisions to contract management policies or procedures during 2010. In addition, no changes were made to contractor selection policies or procedures.

The company states that it continues to refine existing controls in an ongoing, evolutionary manner. Managers believe invoicing mistakes and erroneous vendor overcharges are routinely and quickly discovered under existing protocols, each invoice to be validated by at least two reviewers as it moves through the payment process. FPL states that it continues the practice of monthly reviewing every invoice received during the month. Each invoice is compared to prevailing labor rates; hours are reviewed by sub-job, and travel expenses are checked for appropriateness, applicability, and justifications.

3.0 Extended Power Uprate

3.1 Follow-up of 2009 Deferred Issues

The 2010 NCRC order deferred resolution of all FPL-specific issues until the 2011 NCRC.¹³ Among other things, the Commission believed deferring the determination of prudence would allow a more thorough examination of EPU management changes in 2009. This belief formed the basis of a follow-up review, conducted in late 2010. During this review, staff conducted a thorough review of events leading to and following the EPU management changes. Staff requested relevant documents, conducted interviews, inspected invoices, and reviewed personnel evaluations from the EPU projects.

Audit staff issued five document requests, and interviews were conducted with the former president of FPL Group Nuclear, current and former vice presidents for uprates, the Chief Nuclear Officer, other EPU managers, and the CEO of Concentric Energy Advisors. Concentric's audit report questioned whether subpar performance played a role in the EPU changeover and was critical of FPL's lack of full disclosure at NCRC hearings about rising project cost estimates. The Concentric report concluded by making recommendations for remedial actions or programs.

Audit staff also conducted a targeted review of invoices and change orders from the five largest EPU contracts to determine whether established procedures were followed. Staff reviewed a sample of invoices and change orders to determine if project expenditures were necessary and justified. The samples covered three months prior to the EPU management changeover, the month changes occurred, and a three month period following the changes. Invoices for long lead items were also reviewed. **EXHIBIT 12** and **EXHIBIT 13** show the amount invoiced under each contract and the dollar totals reviewed by staff.

St. Lucie EPU Invoices Reviewed Apr-Oct 2009							
	Bechtel	Siemens	Westinghouse	Shaw/SWEC	Areva	Long Lead	TOTAL
\$ Invoiced							\$53,698,180
\$ Reviewed by Audit Staff							\$28,458,625
% Reviewed	26.27	99.69	36.26	46.21	22.63	51.14	53.00

EXHIBIT 12

Source: DR-5, EPU Follow-up

¹³ Order No. PSC-11-0095-FOF-EI

Turkey Point EPU Invoices Reviewed Apr-Oct 2009							
	Bechtel	Siemens	Westinghouse	Shaw/SWEC	Areva	Long Lead	TOTAL
\$ Invoiced							\$58,691,940
\$ Reviewed by Audit Staff							\$37,997,814
% Reviewed	50.95	99.45	60.37	62.73	79.14	71.13	64.74

EXHIBIT 13

Source: DR-5, EPU Follow-up

Staff believes that the key contracts reviewed, representing the major vendors involved, and the proportion of total dollars investigated provide a comprehensive sampling. Invoices and justifications were completed in accordance with existing FPL procedures. Responsible individuals provided the appropriate authorizations when expenditures exceeded limits established by FPL guidelines. Staff found no evidence of improper or duplicative invoicing, unnecessary work or rework, overpayments, overcharging, or other examples of mismanagement by the former EPU management team. The amounts invoiced by vendors and paid by FPL corresponded. Appropriate pushback was documented for unallowable vendor expenses.

Audit staff's review of personnel evaluations provided no indications of mismanagement by the previous EPU team or dissatisfaction on the part of FPL senior executives with the performance of former EPU management personnel.

Staff agrees with FPL witness Reed that FPL did not take the initiative to more fully inform the Commission about significantly increasing, but not fully vetted, cost estimates during the NCRC hearings in September 2009. Staff believes that FPL should adopt a fuller transparency before the Commission.

3.2 Key Project Developments

3.2.1 St. Lucie 1 LAR Withdrawn and Resubmitted

FPL originally submitted the St. Lucie Unit 1 License Amendment Request to the NRC in April 2010. The NRC staff acceptance review identified three areas deficient in scope and depth, preventing the NRC from completing a detailed technical review. Areas identified as insufficient were spent fuel criticality analysis, control rod withdrawal at power, and the station blackout coping analysis.

During the summer of 2010, FPL provided additional information to the NRC and held meetings to address concerns regarding the application. FPL argued that the NRC staff concerns represented a small percentage of the total application and additional information could be completed after the NRC acceptance for review. However, the NRC required the additional information prior to acceptance for review. On August 13, 2010, FPL notified the NRC that it was withdrawing the St. Lucie Unit 1 LAR.

CONFIDENTIAL DRAFT

FPL quickly responded to NRC feedback, and resubmitted the application on November 22, 2010. On March 9, 2011, the NRC issued its acceptance for review of the FPL St. Lucie Unit 1 LAR, and commented that the submission now contained sufficient technical information to make an independent assessment regarding the proposed license amendment. FPL currently estimates that the St. Lucie 1 EPU LAR will be approved in March 2012, unless additional information requests and further delays are experienced.

3.2.2 St. Lucie 2 LAR Submitted

FPL submitted the St. Lucie Unit 2 EPU LAR in late February 2011. The company anticipated an NRC acceptance review would be received by April 2011, and a final NRC approval of the EPU LAR would follow in April 2012. As of June 2011, however, the NRC had not issued an acceptance review notification.

In March 2011, FPL moved the estimated start of the St. Lucie Unit 2 Spring 2012 outage from April to June 2012. This outage schedule change may provide the 12-14 months necessary for the NRC to approve the St. Lucie Unit 2 EPU LAR and for FPL to complete the uprate in the fall of 2012.

Further delay of Unit 2 EPU LAR acceptance by the NRC, a large number of NRC requests for additional information seeking technical information, or a withdrawal and submittal scenario similar to St. Lucie Unit 1 LAR, could push the completion of the project further into 2013. However, FPL could complete the uprate work in September 2012 as scheduled and continue running St. Lucie Unit 2 at the currently licensed power level until the NRC provides final LAR approval. In either case, further delays would prevent St. Lucie from operating at the new uprate level until the NRC approves the LAR.

3.2.3 Turkey Point 3&4 LAR Submitted

FPL submitted the Turkey Point Unit 3&4 Alternate Source Term (AST) LAR to the NRC in June 2009. FPL anticipates NRC approval of this LAR in June 2011.

The Turkey Point Spent Fuel Criticality LAR was submitted to the NRC in August 2010 and has been accepted for review by the NRC. FPL anticipates approval of this LAR in August 2011.

The Turkey Point Unit 3&4 EPU LAR was submitted to the NRC in October 2010, and accepted for review in March 2011. FPL anticipates final approval of this LAR by early 2012, in time for the Unit 3 outage in February 2012. Any delays in the LAR approval will likely impact both the Unit 3 Spring 2012 outage and the Unit 4 Fall outage in late 2012.

The Turkey Point Core Operating Limits Report LAR was submitted in February 2011 and accepted by the NRC for review in March 2011. FPL expects approval of this LAR by March 2012.

3.2.4 Work Stoppages occurred in 2010 and early 2011

The EPU project experienced two work stoppages in 2010 and one in early 2011 that impacted EPU project scheduling and costs. One work stoppage in 2010 happened outside of an outage and had little project impact. However, the two other work stoppage events occurred during an outage and impacted both project schedule and costs. The work stoppages are discussed below.

Siemens Work Stoppage At Turkey Point Unit 3

The work stoppage impacting the project schedule and costs the least occurred in October 2010. Under Station Area Operations Work Order No. 10-030, the Turkey Point Unit 3 main transformer upgrades were to be completed by Siemens in October 2010. On October 16, 2010, Siemens workers reported completing the station area operations work package, and the main transformer was released from clearance as if all work was completed. Upon completion of the work, the 480-volt feed to the main transformer control cabinet was energized.

A Siemens worker went back to the control cabinet and [REDACTED]

The worker [REDACTED]

The work stoppage averted potential damage to the main transformer equipment and injury or death to the worker attempting to connect the cables to the control cabinet breaker. The event resulted from differences in Turkey Point plant processes and those Siemens workers followed at other plants.

FPL site controls address work stand downs and stoppages. These controls are designed to ensure workers complete activities according to approved policies, procedures, and engineering and design specifications, under safe, secure, and professional working conditions.

Siemens work was stopped on Saturday, October 16, 2010, and approval was given to go back to work on Tuesday morning, October 19, 2010. The company stated that the Siemens work stoppage did not impact the duration of the overall Turkey Point project schedule in 2010. The total number of days spent to perform the analysis, complete corrective actions, implement recommendations, and complete the documentation to close out the Action Request is approximately five days. FPL stated that the [REDACTED] associated with the work stoppage were [REDACTED]

Bechtel Work Stoppage Issued At Turkey Point Unit 3

On November 2, 2010, FPL required its Engineering, Procurement, and Construction (EPC) contractor to halt all uprate work, curtailing plant walk downs being performed at the Turkey Point Unit 3 site. The action was due to a [REDACTED]

FPL required Bechtel to institute an immediate human performance stand down and a detailed human performance improvement action plan. The purpose of a work stand down is to prevent workers from using unaccepted work techniques that can potentially cause harm to individuals and the plant. The stand down caused FPL and Bechtel to focus on those conditions causing the potential danger, and provided necessary refresher training to workers prior to allowing them back to work.

Upon completion of the corrective actions on November 11, 2010, Bechtel was allowed to resume work in the field on November 15, 2010. The project incurred a two-week delay in demobilization activities after the Turkey Point Unit 3 initial outage.

According to EPU site personnel, this stand down also delayed the start of Turkey Point Unit 4 initial pre-outage construction activities. Following the stand down, an initial estimate of the total costs was approximately [REDACTED] FPL is submitting [REDACTED] for recovery this year

CONFIDENTIAL DRAFT

under the NCRC process. Negotiations are underway to determine what amounts might still be subject to reimbursement between the parties. Staff believes that costs associated with stand downs should be closely reviewed to make sure an appropriate amount is borne by the contractor.

FPL does not have a specific timetable for resolution. However, audit staff believes that costs not recaptured through contractual remedies, including the [REDACTED] submitted this year as part of the NCRC process, should be closely examined for suitability to recover. 1

Siemens Work Stoppage At St. Lucie Unit 2

Audit staff believes the work stoppage at St. Lucie Unit 2 was an avoidable event. As an event occurring in 2011, the costs associated with it will be part of the 2012 NCRC hearings.

The scheduled St. Lucie Unit 2 refueling outage began in January 2011 and was scheduled to be completed in March. Approximately 30 days into the outage, work was halted due to damage caused by Siemens workers. [REDACTED] 2

[REDACTED] At the time of the 3
incident. [REDACTED] 4

FPL called an immediate work stoppage on the stator core iron and a root cause analysis was performed by FPL and Siemens. The initial cost estimate associated with the repair was approximately [REDACTED] FPL noted that those costs have been somewhat mitigated by [REDACTED] 5
[REDACTED] 6
[REDACTED] 7
[REDACTED] 8

Audit staff reviewed the root cause analysis and believes Siemens has accepted full responsibility for the work stoppage and damage to the rotor stator. Siemens liability is contractually limited to approximately [REDACTED]¹⁴ FPL has not yet determined the full extent of costs associated with the work stoppage and subsequent outage delay. 9

The work stoppage delayed completion of the St. Lucie Unit 2 outage and the start of two outages later in 2011. The unit was brought back on line on May 7, 2011. FPL originally expected an additional 20 megawatts of increased power output from more efficient turbine operations. Preliminary testing in early June confirmed the increased power achieved was approximately 34 megawatts. However, due to the extended outage, replacing Unit 2 base load generation may incur additional costs. FPL had not yet completed a full assessment of all costs associated with the work stoppage.

Currently, costs not covered by contractor liability or other insurance can be submitted through the NCRC process for recovery. Staff believes that costs not recaptured by contractual remedies, if submitted for recovery, should be carefully considered and closely examined for suitability under the clause.

3.2.5 EPU outage dates extended

In early 2011, FPL made changes to three of the four remaining outages scheduled to start in 2011 and 2012. The St. Lucie Unit 1 Fall outage (110 days) was changed to start in November 2011 and complete in March 2012. The St. Lucie Unit 2 Summer outage (95 days) was changed to begin in June 2012 and end in September 2012.

¹⁴ EPU Document Request Responses 3.6

CONFIDENTIAL DRAFT

FPL moved the Turkey Point Unit 3 Spring outage (120 days), to begin in February 2012 and complete in June 2012. The Turkey Point Unit 4 Fall outage (120 days) scheduled to begin in October 2012 and complete in January 2013 was not changed. **EXHIBIT 14** shows the changes made to the uprate outage schedule.

EPU Outage Changes						
Unit	Previous Start	Previous Completion	# Days	Revised Start	Revised Finish	# Days
PSL Unit 1	08/29/11	12/17/11	110	11/26/11	03/15/12	110
PTN Unit 3	01/09/12	05/08/12	120	02/06/12	06/05/12	120
PSL Unit 2	04/20/12	07/24/12	95	06/27/12	09/30/12	95
PTN Unit 4	10/01/12	01/29/13	120	10/01/12	01/29/13	120

EXHIBIT 14

Source: Document Request Response, EPU DR 2.8

FPL explained the changes were made to provide additional time for engineering and planning. Staff believes the additional time necessary was caused partly by Bechtel's lack of timeliness and quality completing design modifications, additional LAR engineering necessary to support the LAR submittals, and delays associated with the St. Lucie Unit 2 work stoppage.

3.2.6 Bechtel changes management at Turkey Point 3&4

In early 2010, FPL experienced difficulty keeping Bechtel on schedule with design packages for the upcoming Turkey Point Unit 3&4 outages. Design engineering was considerably behind in early 2010, and the lack of quality and timeliness contributed to the decision to defer certain design packages and work into the next Unit 3 outage during the Spring of 2012.

In May 2010, Bechtel did not respond to project scope changes in a timely manner, prompting FPL to require a Change Management Plan. The plan defined specific changes required to manage the deferral of certain modifications to the next Unit 3 outage. During June, Bechtel continued to mobilize staff to complete the currently approved staffing plan and approved scope changes.

FPL continued to pressure Bechtel to improve timeliness and quality of design engineering packages throughout the summer. These issues improved some during the latter part of 2010, but Bechtel made changes to its project management team at Turkey Point in early 2011. Bechtel made the change to support FPL's needs to complete the upcoming 2011 and 2012 outage engineering design packages.

EPU management at Turkey Point indicated the new Bechtel project management team is more responsive to FPL needs and requests. FPL believes the design engineering quality and timeliness issues have been addressed. Design engineering is completed for the first two 2011 outages and is being completed for the Unit 3 Spring 2012 outage. The Turkey Point Unit 4 Spring 2011 outage began in March and finished in May 2011. All work scheduled for the outage was completed.

3.2.7 2011 Cost Estimate Increased

The 2010 EPU estimate for the uprate projects ranged between a low of \$2,053 million and a high of \$2,299 million, with a difference of \$246 million (12.0 percent). In May 2011, FPL witness Jones identified an increased estimate range for the completion of the St. Lucie and Turkey Point uprate projects.

The 2011 estimate range is between a low of \$2,324 million and a high of \$2,479 million, with a difference of approximately \$155 million (6.7 percent). The difference between the two estimates is \$271 million (13.2 percent increase) on the low end and \$180 million (7.8 percent increase) on the high end. Compared to the initial 2007 Need Determination estimate of \$1,798 million, the current high range of \$2,479 million is \$681 million (37.9 percent) greater.

EXHIBIT 15 shows the estimated construction and carrying charges for the years 2007-2011 and compares the need determination estimate with the FPL May 2010 and 2011 non-binding estimates. The exhibit also shows the percent change in each category between the 2007 need estimate and the high end of the 2011 estimate range.

EPU Cost Estimates and Percent Change 2007 - 2011						
Category	2007 Need Estimate (million)	2010 Range (million)		2011 Range (million)		2007 to 2011 % Change
		Low	High	Low	High	
Construction	\$1,446	\$1,900	\$2,141	\$2,114	\$2,265	56.6%
AFUDC and Carrying Costs	352	\$153	\$158	\$209	\$214	-39.2%
TOTAL	\$1,798	\$2,053	\$2,299	\$2,324	\$2,479	37.9%

EXHIBIT 15

Source: May, 2010 ScheduleTOR-2, and Witness Jones May 2011 Testimony, pg. 32

The increase in construction costs between the 2007 need estimate and the high end of the new estimate is an increase of 56.6 percent. According to FPL, the difference is due to project uncertainties such as increased licensing costs, unknown risks, scope modifications, added engineering and design costs, added power block engineering and procurement, and ongoing contracts for the remaining outages. FPL states that as final design engineering analyses, NRC licensing reviews, and construction planning go forward, the company will be able to provide greater certainty in the range and total project cost forecast.

The March 2011 testimony of FPL witness Jones states that approximately 50 percent of the design modification phase is complete, representing approximately 625,000 hours of the 940,000 hours estimated in this phase (as of April 2011). FPL has confirmed to audit staff that design modification hours for the current project scope may increase, but could not state specifically how much the increase might be at this time.

Audit staff identified the potential for project schedule delays and additional outages in its July 2010 report. The longer and more complex EPU outages planned for 2011 and 2012

believes these types of changes could increase project costs beyond the 2011 estimate range. Audit staff has confirmed with EPU management that the 2011 estimate could increase in 2012 or 2013, but FPL could not provide any specific range at this time.

3.3 Project Controls and Oversight

3.3.1 Changes To Controls and Oversight

FPL's EPU team makes modifications to its project controls on an ongoing basis. However, EPU site management has the flexibility to determine whether additional procedures and controls are necessary for their plant site. Audit staff believes that benefits for having consistently similar controls for both sites exist, but realizes the need for flexibility to reflect the level of control necessary at each plant site.

In addition to EPU Project Instructions, project management must follow FPL Nuclear Policies and Procedures. These procedures are directed at nuclear operations fleet-wide as well as each site, and must be followed by EPU project management during the uprate project. During 2010, one new EPU Project Instruction was completed, nine were revised, and two were deleted from service. Five EPU Project Instructions are being considered by FPL for further revision during 2011.

Bechtel also has an established set of policies and procedures that guide it in the engineering, procurement, and construction of the project. Bechtel's Nuclear Work Process Procedures are required to conform to FPL's policies and procedures, as well as all regulatory requirements for nuclear construction and operation.

3.3.2 Project Risk

The Executive Vice President & Chief Nuclear Officer holds daily fleet operations conference calls with all FPL sites. These daily calls provide all FPL sites the ability to discuss site events, exchange operational best practices, discuss similar operating experiences and solutions, offer insights to problematic conditions, and brainstorm common issues. During outage conditions, these daily calls aid EPU management in a similar way by considering conditions and situations experienced in other uprate projects.

FPL identifies significant EPU project risks weekly in the Risk Registers and includes them in the Monthly Operating Performance Report. The probability of each identified risk occurring and the estimated potential cost impact determine the weighted cost value assigned. Mitigation activities and strategies are developed and assigned to specific project team individuals for risk resolution. When each risk is satisfactorily mitigated, the risk is closed in the Risk Registers and removed from the total risk potential estimated for the project.

Project risks are updated and vetted in the quarterly Vendor Integration Meeting that includes vendor management, FPL executive management, and EPU project management representatives. FPL conducts a weekly meeting with the Executive Vice President Nuclear Division & Chief Nuclear Officer to update FPL senior level management of project risks and mitigation strategies employed.

3.3.3 Internal and External Audits completed

FPL's Internal Audit group hired Jefferson Wells to complete an annual audit of 2010 EPU project transactions. The audit reviewed sample transactions related to project expense

reporting, invoices, and payroll processes. FPL outsourced the annual audits to more efficiently use its limited internal audit staff resources on higher risk audits. The 2010 EPU Project transactions audit report was completed in May 2011. The audit examined EPU project transactions during 2010. The audit report noted that minor corrections and adjustments were identified and completed. All were completed by FPL during the audit.

Annual reviews of the EPU project controls have been completed by Concentric Energy Advisors, Inc. since 2008. Concentric has also occasionally performed other work for FPL, such as the review of a 2010 employee complaint letter. During 2010, FPL implemented the control changes recommended by Concentric in its annual review, as well as those identified during the investigation of the employee complaint.

In late 2010, FPL hired WPD Associates to complete the annual 2010 EPU controls review. WPD Associates is a small consulting company specializing in project management. The WPD president, FPL witness Derrickson, concluded that the EPU controls meet 11 of 12 ingredients he believes are good indicators a project is being prudently and reasonably managed. He noted that one of the 12 ingredients did not apply to FPL, and he made no recommendations for improvement. The ingredients used by Mr. Derrickson are:

- ☐ Management commitment
- ☐ Financial resources
- ☐ Realistic and firm schedule
- ☐ Clear decision making authority
- ☐ Flexible project control tools
- ☐ Teamwork – Individual commitment
- ☐ Engineering ahead of construction
- ☐ Early startup involvement
- ☐ Organizational flexibility
- ☐ Ongoing critique of the project
- ☐ Bethesda office for licensing
- ☐ Owner takes the project lead

3.3.4 Quality Assurance

FPL's Quality Assurance group provides the EPU projects with oversight of all safety-related work and major non-safety projects valued greater than \$100,000. Quality Assurance staff assigned to each site conduct quality surveillances and work inspections, provide daily quality summaries, and prepare safety-related nuclear oversight reports. Other staff members are responsible for completing off-site vendor oversight, including reviews of specifications, manufacturing processes, and delivery of safety-related equipment.

Audit staff reviewed the FPL Quality Assurance Daily Quality Summaries for the period March through December 2010. Seven of 25 St. Lucie EPU Quality Assurance summaries (28 percent) and 15 of 53 Turkey Point summaries (28 percent) contained at least one issue identified as unsatisfactory.

FPL QA reported weaknesses in vendor quality procedures, controls, and vendor supervision of processes. Only one review finding was considered significant, and FPL addressed it through additional vendor oversight and corrective cooperation. There were no unresolved major quality assurance issues impacting the projects during 2010.

3.4 Contract Oversight and Management

Contract oversight and management are shared between the EPU Contracts Group, Project Controls, site technical representatives, and the Integrated Supply Chain (ISC). ISC also provides long-lead procurement, contract management, and administrative support as required. Periodic evaluations are completed for major contractors to document overall performance.

3.4.1 Bechtel Performance Evaluations

In 2010, FPL conducted a Bechtel performance evaluation for each uprate site. Audit staff reviewed both vendor performance evaluations completed by FPL. Although the vendor was the same at each site, the results were significantly different.

St. Lucie EPU

The evaluation of Bechtel's St. Lucie performance was completed during the first St. Lucie Unit 1 outage, in April-May 2010. The evaluation measured five areas: safety, human performance, quality, schedule, and management. Bechtel earned an overall rating of [REDACTED] percent and received an equivalent percentage of the incentive available for that outage. FPL viewed the result as favorable.

Turkey Point EPU

In August 2010, FPL evaluated Bechtel Turkey Point performance, shortly before the first outage (Unit 3). Six areas were measured: quality of work, schedule, organization and management, responsiveness and cooperation, safety, and ALARA¹⁵ compliance. The evaluation was [REDACTED] during much of 2010.¹⁶ [REDACTED] Project management changes made by Bechtel in early 2011 have improved performance.

3.4.2 Existing Contracts

During early 2010, the EPU Contracts Group continued to make revisions to existing contracts, outgrowths of increased LAR engineering detail, the mid-course review, and outage optimization.¹⁷ In addition, FPL moved some early outage activities to later outages, creating requirements to store some equipment and modify delivery dates for other items.

There are three types of existing EPU contracts: competitive, single/sole source and original equipment manufacturer (OEM). Fifty currently existing EPU contracts with values greater than \$250,000 were opened from 2007 to 2009. During 2010, two closed, 11 had no invoice activity, and the remaining 37 had expenditures of \$236.3 million.

Twenty-three (46 percent) of existing contracts were competitively bid (\$578.1 million), 22 (44 percent) are sole/single source (\$365.8 million), and five (10 percent) are OEM (\$54.3 million). Thirty-seven (74 percent) are more than \$1 million, totaling \$997.3 million. Overall, existing contracts make up \$1 billion (92 percent) of the \$1.1 billion total contract dollars.

¹⁵ 10 CFR 20.1003, *Code of Federal Regulations*; acronym for "as low as (is) reasonably achievable," exposure to ionizing radiation.

¹⁶ [REDACTED]
¹⁷ Changes include scope changes, modification of technical specifications, delivery dates, terms and conditions, and funding.

3.4.3 New Contracts - 2010

During 2010, FPL implemented 54 new EPU contracts greater than \$250,000; of these, 17 had no charged expenditures. The remaining 37 had project expenditures of \$18.6 million. Four contracts were completed during the year, with a total value of \$3.8 million.

The total estimated value of new contracts was \$91.8 million dollars, or about 8 percent of all uprate project contract dollars. Twenty-five (46 percent) of these are competitively bid, 11 (20 percent) are single sourced, nine (17 percent) are OEM, four (eight percent) are Previously Determined Source (PDS), and five (nine percent) are replacement contracts.

Sixteen (30 percent) new contracts opened in 2010 are greater than \$1 million and total approximately \$70.2 million. Eight (50 percent) were competitively bid, two (13 percent) were single/sole source, four (24 percent) were OEM, and two (13 percent) were PDS.

FPSC audit staff reviewed the sole/single source justifications for all single/sole source contracts. The justifications sufficiently comply with FPL procedural requirements for third party to understand the rationale for single sourcing the work rather than using competitive bidding.

EXHIBIT 16 lists the 2010 new contracts with values greater than \$1 million. The contract number, work description, contract amount, and contract type are shown.

EPU Current Contracts Greater Than \$1 Million			
No.	Description	Amount	Type
52	Replacement Condensate Pumps (PSL)		Competitive
53	Condensate Pumps (PTN)		Competitive
54	Main Feed water Pumps (PTN)		Competitive
56	Turbine Digital Upgrade (PTN)		Competitive
57	Electro-Hydraulic Fluid Systems (PTN)		Competitive
64	Pre-planning Turbine Generator Installation Work (PSL)		Single Source
69	LAR/RAI for Non-Fuels NSS related scope (PSL)		Predetermined Source
74	Main Steam Turbine Control Replacement (PSL)		Competitive
76	Furnish New Spent Fuel Pool Heat Exchangers (PTN)		Competitive
77	Rewind/Refurbish/Upgrade Condensate Pumps (PTN)		Competitive
79	Initial Payment for LOI Stator Core Donut (PSL)		OEM
82	Rod Control System Upgrades (PSL)		OEM
85	NSSS Engineering and Modification Support (PTN)		Predetermined Source
92	Turbine Generator Installation (PSL)		Single Source
100	CEDMS Power Switch Refurbishment (PSL)		OEM
102	Implementation Spares for Turbine Generator (PSL)		OEM
TOTAL		\$70,216,425	

EXHIBIT 16

Source: Schedule T-7, Witness Jones, March 2011

A

3.4.4 Contract Management and Oversight

Contract management is essentially unchanged from a year ago. Contract management and oversight is a shared responsibility of the EPU Project Site Manager and

CONFIDENTIAL DRAFT

Technical Representatives/Contract Coordinators who administer site services. At the completion of authorized work, the Technical Representative/Contract Coordinator is responsible for verifying that the contractor met all obligations and determines if any outstanding contract deliverables exist. These representatives and coordinators also determine whether billed work is satisfactory, make sure the level of approval necessary for payment is present, and close out the contract when all work is completed.

Bechtel interfaces with both EPU Project and site management to provide contract oversight during the project. As the EPC contractor, Bechtel coordinates the work of contractors toward the completion of the construction and testing portion of the EPU projects. Bechtel is also responsible for providing nuclear work procedures, performance indicators, and monitoring for on-site contractors. FPL reviews these procedures to ensure they conform to FPL procedures and updates them when necessary.

3.4.5 EPC Contract Oversight

As discussed in staff's July 2010 audit report, FPL and Bechtel are joint managers of the Engineering, Procurement, and Construction (EPC) contract for the duration of the St. Lucie and Turkey Point Uprate Projects. The FPL and Bechtel Project Director/Managers resolve any matters relating to EPC contracts. The Contract Change Control Process for documenting contract scope, schedule, and cost changes is documented in each site's EPC contract.

Any changes to the EPC contract scope are handled through project scope change requests or negotiated contract revisions. Change requests are submitted to the FPL Site Project Managers by Bechtel. These change requests are reviewed and vetted by the site managers and the Site Director.

FPL's Nuclear Filing Requirements Schedule T-7A shows the combined value of the Bechtel EPC contracts for the St. Lucie and Turkey Point uprates is approximately [REDACTED].¹ The total of these two contracts represents [REDACTED] percent of the current \$1.1 billion total value of EPU Project contracts.²

From Schedule T-7A, the combined EPC contract expenditures in 2010 were [REDACTED].³ FPL spent approximately [REDACTED] on the Turkey Point EPC contract and [REDACTED]⁴ on the St. Lucie contract. As of the end of 2010, the cumulative uprate expenditures for the EPC contracts were approximately [REDACTED] percent) for the Turkey Point contract and [REDACTED] percent) for the St. Lucie contract.⁵⁶

Since April 2010, FPL made a total of five revisions to the Bechtel EPC contracts, three at St. Lucie and two at Turkey Point:

St. Lucie EPU

The first revision for the St. Lucie EPC contract was issued in June, incorporating an amendment modifying the balance of plant specifications for EPU activities. Two additional revisions were issued in September to increase the authorization to expend by [REDACTED] and to revise the compensation and payment section of the contract for target pricing. Including the 2010 revisions, St. Lucie EPC expenditures remained below the total contract value of [REDACTED].⁷⁸⁹

Turkey Point EPU

CONFIDENTIAL DRAFT

Two revisions were made in October to the Turkey Point EPC contract. The first replaced Appendix 2, Compensation and Payment, to include target pricing. The second increased the EPC contract authorization from [REDACTED] to [REDACTED] in support of project / management, engineering and implementation costs through the end of 2011. Including the 2010 expenditure authorizations, the Turkey Point EPC contract remained below the total contract value of [REDACTED]

2

4.0 Conclusions

4.1 New Construction, Turkey Point 6&7

FPL is focused primarily on licensing at all levels and responding to regulatory requests for additional information. Licensing will remain the focus through late 2013 and currently defines the project critical path. The COLA is submitted and NRC approval review is underway. The SCA and local permitting are taking longer than expected. Uncertainty exists for the overall licensing schedule and intermediate milestone target dates. Staff believes some additional schedule shift may occur, but the timing or extent cannot be foreseen. The majority of project execution, construction, and expenditures lie beyond 2014, but the overall project schedule remains unchanged. Turkey Point 6&7 in-service dates are still targeted for 2022 and 2023, respectively.

Regulatory responses to the Fukushima accident may affect NRC schedules, permit timeliness, access to capital, hearing dates, and public opinion about new nuclear construction. FPL New Nuclear project managers universally expressed the opinion that regulatory changes will occur. The nature of change and the impacts on project cost and schedule cannot be predicted.

FPL has revised project cost estimates slightly upward. Final project costs are now projected in a range from \$12.85 billion to \$18.75 billion.

The window of opportunity for negotiating a construction contract is approaching. Staff believes that the latest an EPC or an EP and C could be initiated without impact to the current schedule is in the 2013-2014 range.

The long lead forging reservation agreement was deferred again, this time until July 2011. The parties are currently negotiating a further extension. Cancellation could cause FPL to lose part or all of its \$10.8 million reservation fee. Manufacture must begin no later than 2015 to avoid schedule impact.

Staff believes FPL has an adequate system of project controls, risk evaluation, and management oversight. Regular periodic reports address the Turkey Point 6&7 project schedule, budget, costs, vendor performance, and risks.

4.2 Extended Power Upgrades

The follow-up review of issues deferred from the 2010 hearings found no unnecessary work or rework, overpayments, or overcharging by vendors due to mismanagement. Contract management and invoice control followed established FPL and EPU procedures. A review of personnel evaluations showed no indications of dissatisfaction by senior executives with performance. However, staff agrees with FPL witness Reed that FPL missed a valuable opportunity to fully inform the Commission about significantly increasing but not fully vetted project cost estimates during the September 2009 hearings. Staff recommends the company

CONFIDENTIAL DRAFT

adopt far more transparency in future testimony to this Commission, precluding a similar level of uncertainty about project performance.

NRC response to Fukushima may impact the timeliness of the LAR approval process and public opinion about continued nuclear operations. EPU project managers expressed the opinion that regulatory changes will occur. The potential for impact to project cost and schedule is unknown.

Audit staff believes there could be project cost impact due to additional LAR engineering and scope changes. Some added costs to support the LARs are likely.

Staff is concerned that additional delays during the longer and more complex outages remaining in 2011 and 2012, or increased scope from LAR licensing, may extend project completion further, into late 2013 or beyond. The schedule could also be extended if the NRC fails to approve any of the LARs within the timeframes currently anticipated.

During 2010 and early in 2011, FPL experienced several work stoppages and stand down events that created project delays and increased costs. Staff believes that the Siemens St. Lucie 2 work stoppage represents an avoidable event with significant cost impact. FPL claims that the costs are charged back to the responsible contractor to the extent permitted under the contract, but under current rules may submit those not recovered by warranty, liability insurance, or legal remedy through the NCRC recovery process. Staff believes that costs not recaptured by contractual remedies, if submitted for recovery, including the [REDACTED] in the current FPL request, should be closely examined for suitability under the clause.

Staff believes FPL has an adequate system of project controls, risk evaluation, and management oversight for the St. Lucie and Turkey Point EPU projects. Regular periodic reports address the project schedule, budget, costs, risks, and vendor performance.