BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 120009-EI
FLORIDA POWER & LIGHT COMPANY

MARCH 1, 2012

IN RE: NUCLEAR POWER PLANT COST RECOVERY
FOR THE YEAR ENDING
DECEMBER 2012

TESTIMONY & EXHIBITS OF:

TERRY O. JONES

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FLORIDA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF TERRY O. JONES

DOCKET NO. 120009-EI

MARCH 1, 2012

Q. Please state your name and business address.

A. My name is Terry O. Jones, and my business address is 700 Universe Boulevard, Juno Beach, FL33408.

Q. By whom are you employed and what is your position?

A. I am employed by Florida Power & Light Company (FPL) as Vice President, Nuclear Power Uprate.

Q. Please describe your duties and responsibilities in that position.

A. In my current role, I report directly to the Chief Nuclear Officer. I am responsible for the management and execution of the Extended Power Uprate ("EPU" or "Uprate") Project.

Q. Please describe your educational background and professional experience.

A. I was appointed Vice President, Nuclear Power Uprate on August 1, 2009. In my current position I provide executive leadership, governance, and oversight to ensure the safe and reliable implementation of the EPU Projects for the four FPL nuclear units.

I joined FPL in 1987 in the Nuclear Operations Department at Turkey Point. Since then, my positions at FPL have included Vice President, Operations, Midwest Region; Vice President, Nuclear Plant Support; Vice President, Special Projects; Vice President, Turkey Point Nuclear Power Plant; Plant General Manager; Maintenance Manager; Operations Manager and Operations Supervisor. Prior to my employment at FPL, I worked for the Tennessee Valley Authority at the Browns Ferry Nuclear Plant and served in the US Nuclear Navy. I hold a Bachelors of Science degree and an MBA from the University of Miami.

Q. Are you sponsoring any exhibits in this proceeding?

A. Yes, I am sponsoring or co-sponsoring the following exhibits which are incorporated herein by reference:

- Exhibit TOJ-1, T-Schedules, 2011 EPU Construction Costs, containing schedules T-1 through T-7B. Exhibit TOJ-1 contains a table of contents listing the schedules that are sponsored and co-sponsored by FPL Witness Powers and myself.
- Exhibit TOJ-2, EPU Workforce, Investment, and Cost Recovery Summary
- Exhibit TOJ-3, Extended Power Uprate Project Instructions (EPPI) Index as of December 31, 2011
- Exhibit TOJ-4, Extended Power Uprate Project Reports 2011
- Exhibit TOJ-5, St. Lucie Unit 2 Main Transformer
- Exhibit TOJ-6, St. Lucie Unit 2 Turbine Rotor
- Composite Exhibit TOJ-7, St. Lucie Plant Pictures
- Composite Exhibit TOJ-8, Turkey Point Plant Pictures

- Exhibit TOJ-9, Extended Power Uprate Work Activities List as of December 31, 2011
- Exhibit TOJ-10, Equipment Placed In Service in 2011
- Exhibit TOJ-11 Plant Change Modification (PCM) Status as of December 31, 2011
- Exhibit TOJ-12, Extended Power Uprate Project Schedule as of December 31, 2011
- Exhibit TOJ-13, Summary of 2011 Extended Power Uprate Construction Costs

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to present and explain the EPU project; key management decisions and project activities that occurred in 2011; FPL's 2011 Uprate construction expenditures; and the procedures, processes, and controls that ensure that those expenditures are reasonable and the result of prudent decision making. My testimony also explains the careful engineering-based process employed by FPL to ensure that it is including in its Nuclear Cost Recovery request only nuclear Uprate costs that are "separate and apart" from other costs, such as those for base rate nuclear operations and maintenance or capital projects that are unrelated to the nuclear Uprate Project.

Q. Please summarize your testimony.

A. The EPU project is a complex undertaking to safely increase the capacity of FPL's four existing nuclear units – St. Lucie (PSL) Units 1 & 2 and Turkey Point (PTN) Units 3 & 4 – which will provide significant and quantifiable benefits for customers without expanding the footprint of FPL's existing nuclear power plant sites. Upon completion in 2013, FPL estimates that approximately 490 megawatts electric power (MWe) will be provided by the EPU project for FPL's customers, and that customers will realize

significant fuel cost savings as a result. This represents a 40 MWe increase over the previous assumption that the EPU project could be expected to provide approximately 450 MWe for the benefit of FPL's customers, and a 91 MWe increase over the conservative initial projection of 399 MWe. Most of this increased output will begin serving customers in 2012.

FPL's substantial investment in the EPU project – only a small portion of which is recovered through the Nuclear Cost Recovery (NCR) clause – is employing over a thousand workers and achieving complex nuclear fleet improvements that will serve FPL's customers for decades. Through 2011, as shown on Exhibit TOJ-2, for the EPU project, FPL has:

- invested approximately $1.3 billion; and
- employed over 3,300 EPU workers at its nuclear power plant sites.

This investment in Florida's energy infrastructure and economy has been made possible by the legislature's policy to support investment in nuclear projects, set forth in the NCR statute, and the Commission's careful implementation of that policy through the NCR Rule and this annual hearing process.

Through 2011, FPL has invested a total of $1.3 billion in the EPU project and has collected $149 million through the NCR Clause. Consistent with the NCR Rule, FPL recovers (i) carrying charges on the capital investment, (ii) incremental Operations & Maintenance (O&M) expenses, and (iii) partial-year revenue requirements for systems placed in service for the EPU project – not its construction costs. Construction costs

will be recovered through base rates over the life of the uprated units or systems placed in service. While the NCR amount is modest in comparison to FPL's total investment, the annual nuclear cost recovery process and continued support for investment in nuclear projects is crucial to the successful completion of the EPU project.

The project team substantially completed the licensing engineering in 2011 and continued responding to Nuclear Regulatory Commission (NRC) Requests for Additional Information (RAI) associated with the EPU License Amendment Request (LAR) submittals made in 2010 and 2011, and is in the process of completing design modification engineering, procuring equipment and materials, and implementing plant modifications necessary to support the uprate conditions for each of the nuclear units. This process is supported by robust and overlapping project schedule and cost controls, along with rigorous risk management. Additionally, the EPU team manages the Uprate work in a manner that ensures that only the costs necessary for the Uprates are expended and included in the Nuclear Cost Recovery process.

Progress in 2011 included the following:

- the successful completion of two EPU outages, one at Turkey Point Unit 4 and the other at St. Lucie Unit 2 resulting in increased electrical output from St. Lucie Unit 2 of 31 MWe that is already benefitting FPL's customers;
- the continuance of the LAR engineering evaluations along with the submittal of the EPU LAR for St. Lucie Unit 2 and submittal of the Core Operating Limits Report (COLR) LAR for Turkey Point;

- the acceptance for review of the three EPU LARs by the NRC – the St. Lucie Unit 1 EPU LAR, the St. Lucie Unit 2 EPU LAR, and the Turkey Point Units 3 & 4 EPU LAR – and the COLR LAR for Turkey Point;
- NRC approval of the Turkey Point Alternative Source Term (AST) LAR and Spent Fuel Criticality LAR;
- continued work towards completing the engineering design of approximately 220 plant design modification packages;
- continued intensive management of major vendors including the Engineering, Procurement and Construction (EPC) vendor Bechtel;
- establishment of a target price for the St. Lucie scope of work and discussions related to a possible target price for the Turkey Point scope of work;
- extensive modification engineering for the 2011 St. Lucie and Turkey Point EPU outages and continued management of the EPC vendor and other major vendors;
- continued scheduling and planning for implementation of the modifications in proper sequence; and
- continued forward-looking project management resulting in adjustments to outage dates and durations and project plans.

FPL prudently incurred approximately $681 million of EPU costs during 2011, as compared to the May 2, 2011 actual/estimated amount of approximately $610 million. The 2011 variance is primarily attributable to additional NRC-required licensing engineering and NRC resource constraints which resulted in unanticipated project

delays, increased work scope for design modification engineering, and increased modification implementation time due to increased work scope and constructability complexities.

Q. Please describe how the remainder of your testimony is organized.

A. My testimony includes the following sections:

- 2011 Project Summary
- Project Management Internal Controls
- Procurement Processes and Controls
- Internal/External Audits and Reviews
- "Separate and Apart" Considerations
- 2011 Project Activities
- 2011 Construction Costs

2011 PROJECT SUMMARY

Q. What is the EPU Project?

A. The EPU project will increase FPL's nuclear generating capacity from its four existing nuclear units by fitting the units with higher capacity and more efficient turbines and other necessary equipment to accommodate increased steam flow that will result from increased reactor power. This involves the modification or outright replacement of a large number of components and support structures within FPL's operating nuclear power plants. Each modification/replacement is considered a project in and of itself which is then integrated into the planned implementation work scope. In the case of

some major modifications, some permanent plant equipment will have to be removed in order to have the necessary access to perform Uprate modifications and then reinstalled as part of the construction process.

Because the project will modify FPL's operating nuclear plants, it is a much different construction project than constructing a new combined cycle generating unit at a greenfield site or a modernization project in which the existing generating unit is removed from the site before the new generating unit is installed. In addition to being much more technically difficult, there are far greater engineering, construction, and cost uncertainties since FPL is performing the EPU project on existing operating nuclear units. FPL plans to perform almost all of the modifications during the units' pre-planned refueling outages. Performing the Uprate work during the refueling outages minimizes the amount of time that these low fuel-cost generators are off line.

FPL expects the EPU project to produce approximately 490 net MWe for FPL's customers. This reflects the turbine vendor's estimate of the turbine generator's performance less the co-owners' share of PSL Unit 2 and increased plant electrical requirements. During 2011, plant heat balances were recalculated and estimates for house loads were reduced, which resulted in an increase from FPL's previous 450 MWe output estimates. These recalculations support FPL's current estimate that a total of about 490 MWe will be produced by the uprated units for FPL's customers.

Q. How will customers benefit from the EPU project?

A. Among other benefits, this increase in nuclear power output will: (i) enhance system reliability and integrity by diversifying FPL's fuel mix; (ii) provide energy and baseload capacity to FPL's customers with zero greenhouse gas emissions; (iii) provide significant fuel cost and environmental compliance cost savings; and (iv) due to the increased capacity at the Turkey Point site, will help maintain balance between generation and load in Southeastern Florida. Some of these benefits have been realized in 2011, when the replacement of a low pressure turbine generator at St. Lucie Unit 2 with a more efficient low pressure turbine generator resulted in increased electrical power for FPL's customers of approximately 31 MWe. Quantification of these types of benefits will be provided along with an updated project feasibility analysis in FPL's May 2012 testimony.

Q. Please describe the general approach to the EPU project.

A. In 2007, FPL prepared an initial conceptual engineering study for performing an EPU at St. Lucie and Turkey Point which included a conceptual cost estimate based on a preliminary scope. This study provided the basis for FPL's request for a determination of need. In addition, in 2008, Shaw Stone & Webster (Shaw) performed a scoping study for FPL.

The EPU project is currently being implemented in four overlapping phases:

1. In the Engineering Analysis Phase, the analyses that support the LAR are performed. During this phase, the major modifications required to implement the EPU are identified and confirmed, the LARs are prepared and submitted to the NRC for acceptance and approval, the NRC approves a license amendment for

each plant (or unit, as applicable), and the conceptual scope is better defined. In 2011 this phase of the project was essentially completed with the acceptance for review by the NRC of three EPU LARs, St. Lucie Unit 1, St. Lucie Unit 2, and the Turkey Point Units 3&4. The remaining effort for this phase is to respond to NRC RAIs, confirm any plant design modification changes that may be required as a result of the NRC's review, and obtain NRC approval of the LARs. In 2011, the NRC approved the Turkey Point AST LAR, which was submitted and accepted for review by the NRC in June of 2009, and the Turkey Point Spent Fuel Criticality LAR which was submitted and accepted for review by the NRC in August 2010.

2. In the Long Lead Equipment Procurement Phase, the major long lead equipment is procured. During this phase, purchase specifications were developed, vendor quotes were requested, vendor proposals were received and evaluated, contracts were awarded, and the cost of long lead equipment was better defined. The vast majority of this phase was completed in 2011. Delivery dates and payment schedules for this equipment were established around the planned outages when the equipment would be installed into each facility.

3. In the Engineering Design Modification Phase, the detailed modification packages are prepared. During this phase, calculations are prepared, construction drawings are issued, some equipment and materials are procured, general installation instructions are provided, and high level testing requirements are identified. These activities provide the basis for preparing detailed estimates of the implementation costs. Approximately 220 design modification packages will be

prepared, ranging from small modifications, such as changing a valve size, to major modifications, such as removing a major piece of large heavy equipment and replacing it with new larger and heavier equipment needed to support the EPU conditions of increased energy flow. Additionally, some design modification packages are necessary to meet NRC requirements. The engineering design modification packages needed for the three outages in 2011 were completed to support the preparation of the modification packages work scope along with progressing with those needed for the three 2012 outages.

4. The Implementation Phase consists of two major parts. The first part is planning and scheduling. Planning is the process to convert the design modification packages into detailed work orders for implementation. During this part of the implementation, revisions to the design may be warranted based on constructability. Scheduling is the process that takes the detailed work orders and converts them into a detailed integrated implementation schedule which ultimately is the point at which the final outage durations are determined. The second part of the implementation phase is actual execution of the physical work in the plant including extensive testing and systematic turnover to operations. This phase of the project is reaching its peak and will continue through completion of the EPU project. Following the startup of each unit and operation at EPU conditions, extensive baseline testing will be performed to ensure continued reliable operation. Once the final outage at each unit is complete and the unit is operating at EPU conditions the project close out will begin. Project close out completes the implementation phase of the project.

Q. Are some activities being performed in parallel?

A. Yes. FPL is performing many activities in parallel in order to bring the benefits of additional nuclear power generation to its customers as soon as practical. The current project schedule is approximately 5 years long and scheduled to end in 2013. On the other hand, if FPL had worked through each phase of the project in sequence (i.e., by performing all LAR analyses for all units first, then procuring all equipment for all units next, etc.) the EPU project would have taken many more years.

Q. When will customers begin receiving the additional output from FPL's nuclear units?

A. Customers began benefitting from an additional 31 MWe from St. Lucie Unit 2 in 2011, by virtue of the installation of a more efficient low pressure turbine generator rotor. Most of the additional output from the EPU project – about 336 MWe – is expected to come on line by the end of 2012. The remaining approximately 123 MWe will be realized in 2013 after the final outage.

Q. Does FPL include industry best practices into the work being performed for the EPU project?

A. Yes. For example, the FPL project team members participate in nuclear industry working groups organized by the Institute of Nuclear Plant Operations and the Nuclear Energy Institute and benefit from lessons learned at other plants. This is supplemented with direct engagement with our industry peers through benchmarking trips to other nuclear sites which have performed similar scopes of work to incorporate best practices. These sources help ensure project decisions are supported by the best information currently available.

Q. Will project scope continue to evolve as the project moves forward?

A. Yes. Even after completing the engineering analyses required for the LAR submittal, the potential exists that additional scope will be required by the NRC. After the NRC approves the LARs, the project scope will be further defined and, commensurate with engineering design modification progress, the cost estimate range will be further refined. During the engineering design modification phase, additional scope is identified as specific designs evolve. During the detailed constructability reviews additional required work scope may be identified including additional construction support activities such as rigging or interference removal. Once the modification packages are final and the work order planning is complete, the implementation scope will be fully defined allowing the final refinement of the detailed implementation cost estimates and outage schedule durations. These activities lead to increased cost certainty with the achievement of each milestone.

Q. Please provide a brief overview of 2011 activities and costs.

A. Through 2011, the EPU project was nearing completion of the Engineering Analysis and the Long Lead Procurement Phases, and progressing with the Engineering Design Modification and Implementation Phases in support of each outage. Several of the key activities completed in 2011 include:

- the successful completion of two EPU outages, one at Turkey Point Unit 4 and the other at St. Lucie Unit 2 resulting in increased electrical output from St. Lucie Unit 2 of 31 MWe that is already benefitting FPL's customers;

- the continuance of the LAR engineering evaluations along with the submittal of the EPU LAR for St. Lucie Unit 2 and submittal of the COLR LAR for Turkey Point;
- the acceptance for review of the three EPU LARs by the NRC – the St. Lucie Unit 1 EPU LAR, the St. Lucie Unit 2 EPU LAR, and the Turkey Point Units 3 & 4 EPU LAR – and the COLR LAR for Turkey Point;
- NRC approval of the Turkey Point AST LAR and Spent Fuel Criticality LAR;
- continued work towards completing the engineering design of approximately 220 plant design modification packages;
- continued intensive management of major vendors including the EPC vendor Bechtel;
- establishment of a target price for the St. Lucie scope of work and discussions related to a possible target price for the Turkey Point scope of work;
- extensive modification engineering for the 2011 St. Lucie and Turkey Point EPU outages and continued management of the EPC vendor and other major vendors;
- continued scheduling and planning for implementation of the modifications in proper sequence; and
- continued forward-looking project management resulting in adjustments to outage dates and durations and project plans.

In total, FPL spent approximately $681 million in 2011 (as compared to the $610 million that was previously estimated) to carry out these key activities and proceed

with the execution of the Uprate Project, all of which work was subject to the robust project planning, management, and cost control processes that FPL has in place and strives to continuously improve.

FPL's EPU activities and expenditures, including cost variances by cost category, and its internal processes and controls, are described in more detail below.

PROJECT MANAGEMENT INTERNAL CONTROLS

Q. Please describe the EPU project management organization during 2011.

A. As described below, FPL has robust project planning, management, and execution processes in place. These efforts are spearheaded by personnel with significant experience in project management within the nuclear industry. Additionally, the EPU project uses guidelines and Project Instructions to assist project personnel in the performance of their assigned duties. Exhibit TOJ-3, Extended Power Uprate Project Instructions (EPPI) Index as of December 31, 2011 is provided to illustrate the types of instructions that were used.

FPL has a dedicated Nuclear Power Uprate team within the Nuclear fleet that is responsible for monitoring and managing the Uprate Project, schedule, and costs. In addition to centralized project oversight, there is an EPU Site Director and an EPU organization at each site responsible for the efficient and effective engineering and implementation of the EPU project modifications. This decentralized management

structure is appropriate as the EPU Project carries out the implementation phase at each of the sites to better integrate EPU activities with plant operating and outage activities.

There is also a separate Nuclear Business Operations (NBO) group that provides accounting and regulatory oversight for the EPU Project. This organization is independent of the EPU Project team and reports to the Vice President Nuclear Finance.

Q. Please describe the role of the NBO group in more detail.

A. As described in project instruction EPPI-150, EPU Project – Nuclear Business Ops Interface, NBO provides accounting and regulatory oversight for the EPU Project. It is independent of the EPU Project team and reports to the Vice President Nuclear Finance. NBO's primary responsibilities include:

- Review, approval, and recording of monthly accruals prepared by the Site Cost Engineers;
- Conducting monthly detail transaction reviews to ensure that labor costs recorded to the EPU Project are only for those FPL personnel authorized to charge time to the EPU Project;
- Conducting on-going analysis to evaluate project costs to ensure they are "separate and apart";
- Creating monthly variance reports that include cost figures used in the EPU Monthly Operating Performance Report;

- Performing analyses of the costs being incurred by the project to ensure that those costs are appropriately allocated to the correct Capital Expenditure Requisitions established for each nuclear unit's outages;
- Assisting in the classification of Property Retirement Units;
- Setting up and maintaining the EPU Project account coding structure;
- Providing accounting guidance and training to the EPU Team;
- Working closely with FPL's Accounting and Regulatory Accounting Departments to determine which costs related to the EPU Project are capital and which are O&M;
- Managing internal and external financial audit requests and ensuring that findings and recommendations are dispositioned, as appropriate; and
- Providing oversight and guidance to the EPU Project Team in developing and maintaining accounting-related project instructions to ensure compliance with corporate policies and procedures, and Sarbanes Oxley processes.

Q. What other schedule and cost monitoring controls were in place during 2011?

A. FPL utilizes a variety of mutually reinforcing schedule and cost controls and draws upon the expertise provided by employees within the project team, employees within the separate NBO group, and senior Nuclear management. Within the organization of the Vice President, Nuclear Power Uprate is a Controls Group. The Controls Director provides functional leadership, governance, and oversight. Each site has a dedicated EPU Project Controls group lead by a Project Controls Supervisor. The site Project Controls group provides cost and schedule analysis and associated performance indicators on a routine and forward-looking basis thus allowing Project Management to make informed decisions. Exhibit TOJ-4, Extended Power Uprate Project Reports

2011, lists many of the reports that are a direct result of the information the Controls group provides, analyzes and produces.

FPL's efforts to meet the desired completion date of each uprate is tracked through the use of Primavera P-6 scheduling software, enabling FPL to track the schedule daily and update the schedule weekly. This allows Project Management to monitor and report schedule status on a periodic basis. Updates to the schedule and scope of the project are made as such changes are approved by management. FPL's use of this scheduling software system allows management to examine the project status at any time as well as request the development and generation of specialized reports to facilitate informed decision making. When FPL identifies a scheduled milestone date that may have a high probability of missing its schedule date, a mitigation plan is prepared, reviewed, approved, and implemented with increased management attention to restore the scheduled milestone date or mitigate any impact of missing the scheduled date.

As part of the site Project Controls group, there are several highly experienced Cost Engineers assigned to monitor, analyze, and report project costs associated with the Uprate Project. Governed by well established procedures and work instructions, the Cost Engineer receives contractor invoices and forwards them to technical representatives to ensure the scope of work has been completed and the deliverables have been accepted. For fixed-price contracts, the Cost Engineer matches the invoice amount to the correct amount and the deliverable work received from the subject

matter expert, which is then sent to the appropriate personnel for approval and payment. The Cost Engineer also prepares accruals and reviews variance reports monthly for each of the sites, to monitor and document expenditures and commitments to the approved budget. The Project Controls group operates in a transparent manner and its accountability is clear in providing sound analysis based on all available cost and schedule information at their disposal.

Q. What periodic reviews were conducted in 2011 to ensure that the project and key decisions were appropriately analyzed, reviewed and approved at the appropriate management levels?

A. Regularly scheduled meetings are held to help effectively manage the Uprate Project and communicate the performance of the project in terms of quality, schedule and costs. These include the following:

- Daily meetings to mutually share lessons learned information from each of the projects and to coordinate project activities;
- Weekly project management, project controls, and risk meetings to review the status of the schedules and project costs, and to identify areas needing attention;
- Biweekly meetings with the Chief Nuclear Officer; Vice President, Power Uprate; Implementation Owner South; and other project leaders to review project progress and work through any identified risks to schedules or costs;
- Routine, usually quarterly, FPL Executive Steering Committee meetings where Project Management presents the status of the project. Strategy discussions take place to help improve management of risk areas;

- Monthly Project Meetings involving FPL and individual major vendors during which the project schedules and challenges are discussed; and
- Quarterly Project Meetings involving FPL and its major vendors during which strategy discussions take place to help improve management of risk areas.

The EPU Project also produces several reports. Exhibit TOJ-4, Extended Power Uprate Project Reports, is a listing of reports generated by the project during 2011 with a brief description, the periodicity, and the intended audience of each report. Generally, the project reports provide a status of the project, scope changes, schedule and cost adherence/variance, safety, quality, risks, risk mitigation, and a path forward as appropriate. The information provided by these reports assists in the overall management of the EPU Project.

Finally, the project is annually reviewed to assess its continued economic feasibility. This analysis is conducted in a similar manner to the analysis that supported the affirmative need determination by the Commission, but it is updated to reflect engineering progress and what is currently known regarding the scope, cost, schedule,and predicted output of the project, and the cost and viability of alternative generation technologies. The analyses submitted by FPL Witness Sim in 2011 demonstrated that the EPU project continued to present a significant economic advantage in all fuel and environmental compliance cost scenarios. An updated feasibility analysis will be provided in the May 2012 NCR filing.

Q. Please describe the risk management process for the EPU project.

A. FPL's risk management process is governed by project instructions EPPI-340 and EPPI-345. FPL's risk management process is used to identify and manage potential risks associated with the uprates. A Project Risk Committee, consisting of site project directors and subject matter experts reviews and evaluates initial cost and schedule projections and any potential significant variances. This committee enables senior managers to critically assess and discuss risks faced by the EPU projects from different departmental perspectives. The committee also ensures that actions are taken to mitigate or eliminate identified risks. When an identified risk is evaluated as high, a risk mitigation action plan is prepared, approved, and executed. The high risk item is monitored through this process until it is reduced or eliminated. Additionally, an EPU Project Risk Management report is presented at meetings with senior management, identifying potential risks by site, unit, priority, probability, cost impact, and the unit or persons responsible for mitigating or eliminating the risk. These steps ensure continuous, vigilant identification of and response to potential project risks that could pose an adverse impact on cost or schedule performance of the project.

Q. Please describe the risk management process as it applies to Operational risk.

A. EPU Project work will be performed during normal plant operations and during planned refueling outages that are extended in duration in order to permit uprate work to be performed. The amount of work that can be safely performed during these plant conditions is dependent upon the minimum required systems or components needed to support the plant operating condition. Extreme care in the planning, scheduling, and execution of the work activities is required to ensure the plant is operated in accordance with applicable NRC regulatory and plant technical specification

requirements. This requires proper sequencing of work activities that can be safely performed during normal plant operations or those that must be performed during planned refueling outages, including work activities that can be safely performed in parallel and those that must be performed in series. This operational risk management accomplishes two major objectives: first is to ensure the equipment is in a state that makes it safe for workers to perform the work, and secondly that the plant systems and components are properly maintained to ensure public safety. This operational risk management through the careful planning, scheduling, and execution of work activities adds to the complexity of the implementation phase of the EPU project.

PROCUREMENT PROCESSES AND CONTROLS

Q. Please describe the contractor selection and contractor management procedures that applied to the EPU projects in 2011.

A. The contractor selection procedures applicable to the Uprate Project are found in General Operating Procedure 705, Purchasing Goods and Services-Policy and Definitions and its series of procurement procedures and Nuclear Fleet Guideline BO-AA-102-1008, Procurement Control. As explained in those procedures, the standard approach for the procurement of materials or services with a value in excess of $25,000 is to use competitive bidding. However, the use of single source, sole source, and Original Equipment Manufacturer providers is also necessary in certain situations. FPL's policies require proper documentation of justifications and senior-level management approval of single or sole source procurements.

FPL has maintained its focus on the process of documenting and approving single and sole source procurements, to ensure compliance with BO-AA-102-1008 and to facilitate review by third parties who are not directly involved in the nuclear procurement process. Training is provided to personnel responsible for having Single and Sole Source Justifications (SSJs) prepared, the SSJ expectations are included in appropriate project instructions, and all new applicable personnel assigned to the EPU Project are required to review and understand the SSJ expectations.

With respect to vendor management, the EPU Project Directors at each site assure vendor oversight is provided by the experienced Project Managers, the Site Technical Representative, and Contract Coordinators. Together, these representatives provide management direction and coordinate vendor activity reviews while the vendors are on site. The Contract Coordinators verifies that the vendor has met all obligations and determines whether any outstanding deliverable issues exist using a Contract Compliance Matrix. In addition to assisting with the development and administration of contracts, Nuclear Sourcing and Integrated Supply Chain groups complete updates as necessary to a Project Contract Log and report the status of contracts to Project Management. EPU management also holds meetings with vendors as previously mentioned.

Q. What is FPL's approach to contracting for the EPU project?

A. FPL structures its contracts and purchase orders to include specific scope, deliverables, completion dates, terms of payment, commercial terms and conditions, reports from the vendor, and work quality specifications. Project Management has several types of

contracts available depending on how well the scope of work and the risk associated with the work scope can be defined. Fixed price or lump sum contracts are used where practical. An example would be where project work scope is well-defined and risk is limited. Project Management will use a time and material contract where project work scope is not well-defined and where there is greater risk to completing the work scope. These and other contract provisions help ensure the contractors perform the right work at the right time for the right price, which ultimately benefits FPL's customers.

INTERNAL/EXTERNAL AUDITS AND REVIEWS

Q. Are FPL's financial controls and management controls audited?

A. Yes. Several audits have been conducted to ensure compliance with applicable project controls.

Q. Does Internal Audit conduct an annual review to ensure the project controls are adequate and costs are reasonable?

A. Yes. FPL completed an audit of EPU contract personnel time charges at Turkey Point. Experis, formerly Jefferson Wells, is in the process of performing an audit of 2011 expenses on behalf of the FPL Internal Audit Department. Specifically, the Experis audit is focusing on whether costs charged to the project are actually for the EPU project and are recorded in accordance with FPSC Rule 25-6.0423 and included independent testing of expenses charged to the EPU project for the period January 1, 2011 to December 31, 2011. Additionally, Internal Audit is performing an audit of the EPU contract personnel gate time at both the St. Lucie and Turkey Point sites.

Q. What external audits or reviews have been conducted to ensure the project controls are adequate and costs are reasonable?

A. FPSC staff is conducting two audits related to 2011 – a financial audit and an internal controls audit. The 2011 FPSC staff financial and internal controls audits will be provided to the Commission when completed.

Additionally, FPL retained Concentric Energy Advisors, Inc. to conduct a review of the 2011 EPU Project management controls. The results of this review is presented through the testimony of Mr. John Reed, the Chief Executive Officer of Concentric Energy Advisors.

"SEPARATE AND APART" CONSIDERATIONS

Q. Would any of the EPU costs included in FPL's filing have been incurred if the FPL nuclear generating units were not being uprated?

A. No. The construction costs, associated carrying charges and recoverable O&M expenses for which FPL is requesting recovery through the NCRC process were caused only by activities necessary for the Uprate Project, and would not have otherwise been incurred. I note that, as explained in FPL Witness Powers' testimony and schedules, only carrying costs and recoverable O&M expenses are requested for recovery for the EPU Projects, consistent with the Commission's NCRC rule.

Q. Please explain the processes utilized by FPL to ensure that only those costs necessary for the implementation of the Uprates are included for NCRC purposes.

A. Consistent with project instruction EPPI-180, EPU Nuclear Cost Recovery, FPL conducted engineering analyses to identify major components that must be modified or replaced in order to enable the units to function safely and reliably in the uprated condition. However, as inspections, LAR engineering analyses, and design engineering modifications are performed, the need for additional modifications or replacements necessary for the Uprate is identified. Likewise, certain modifications previously identified as necessary to the Uprate Project have been determined not to be necessary for the Uprate and have been removed from the EPU Project scope. FPL's 2011 EPU activities, and their associated costs, were "separate and apart" as required by the Nuclear Cost Recovery process.

2011 PROJECT ACTIVITIES

Q. What key activities occurred in 2011 in execution of the EPU project?

A. Several key activities occurred in 2011, including:

- the successful completion of two EPU outages, one at Turkey Point Unit 4 and the other at St. Lucie Unit 2 resulting in increased electrical output from St. Lucie Unit 2 of 31 MWe that is already benefitting FPL's customers;

- the continuance of the LAR engineering evaluations along with the submittal of the EPU LAR for St. Lucie Unit 2 and submittal of the COLR LAR for Turkey Point;
- the acceptance for review of the three EPU LARs by the NRC – the St. Lucie Unit 1 EPU LAR, the St. Lucie Unit 2 EPU LAR, and the Turkey Point Units 3 & 4 EPU LAR – and the COLR LAR for Turkey Point;
- NRC approval of the Turkey Point AST LAR and Spent Fuel Criticality LAR;
- continued work towards completing the engineering design of approximately 220 plant design modification packages;
- continued intensive management of major vendors including the EPC vendor Bechtel;
- establishment of a target price for the St. Lucie scope of work and discussions related to a possible target price for the Turkey Point scope of work;
- extensive modification engineering for the 2011 St. Lucie and Turkey Point EPU outages and continued management of the EPC vendor and other major vendors;
- continued scheduling and planning for implementation of the modifications in proper sequence; and
- continued forward-looking project management resulting in adjustments to outage dates and durations and project plans.

LICENSING

Q. Please describe the license amendment preparation and submittal activities in 2011.

A. FPL submitted the COLR LAR for Turkey Point and the St. Lucie Unit 2 EPU LAR to the NRC in 2011. The COLR LAR was submitted on February 21, 2011 and the St. Lucie Unit 2 EPU LAR was submitted on February 25, 2011; accordingly, FPL's efforts in 2011 included the continuing engineering analyses in support of responding to NRC RAIs. Additionally, the NRC completed its review and approved the Turkey Point AST LAR on June 23, 2011 and approved the Turkey Point Spent Fuel Criticality LAR on October 31, 2011. FPL continued to respond to NRC requests for additional information in a timely manner. The NRC accepted the following LARs for review in 2011: St. Lucie Unit 1 EPU LAR on March 9, 2011; the Turkey Point EPU LAR on March 11, 2011; the Turkey Point COLR LAR on March 29, 2011; and the St. Lucie Unit 2 EPU LAR on June 23, 2011. The NRC review and approval time for each EPU LAR was originally estimated to be approximately 12 months following NRC acceptance for review; however, actual review and approval times have been significantly longer primarily due to NRC resource constraints.

Q. Do industry-wide developments affect the NRC's review of FPL's EPU LARs?

A. Yes. The earthquake and tsunami in Japan and the earthquake in Virginia, discussed further below, have adversely impacted NRC staff resources, and consequently, the extended timeline for the review of FPL's EPU LAR submittals resulted in significant cost and schedule impacts to the EPU Project that will carry over into 2012.

Additionally, there is a development related to Westinghouse fuel performance analyses. Westinghouse's fuel performance analyses support the licenses of a number of nuclear power plants in the U.S., and in December 2011, Westinghouse informed

the NRC that a change to its fuel performance modeling related to Thermal Conductivity Degradation (TCD) would change the results of those analyses. Plants that rely on Westinghouse's fuel performance analyses will be required to assess the impact of the Westinghouse model changes on their nuclear fuel performance. Westinghouse's analyses underlie the fuel performance assumptions at Turkey Point Units 3 & 4 and at St. Lucie Unit 2.

On December 7, 2011 NRC staff asked FPL what the effect would be if similar modeling changes were made to the analyses used for the Turkey Point EPU LAR. FPL took prompt action to evaluate the impacts of the TCD issue on Turkey Point and submitted its evaluation to the NRC on December 31, 2011. FPL also proactively began assessing the impact on its St. Lucie Unit 2 EPU LAR. This is an open item that will be addressed by the NRC Staff and presented to the NRC's Advisory Committee on Reactor Safeguards. Further, it has resulted in additional LAR engineering activities and an adjustment to the anticipated Turkey Point LAR approval date.

PROJECT EXECUTION

Q. Please describe activities related to the Long Lead Procurement phase in 2011.

A. In 2011, FPL completed the majority of contracts for long lead equipment. Several long lead procurement items were received, inspected, and stored or prepared for installation at the St. Lucie and Turkey Point plants. These items include steam turbine rotors, generator rotors, moisture separator reheaters, feedwater heaters, and main

feedwater pumps. FPL also conducted several quality assurance reviews at the equipment manufacturing or testing locations.

Q. Please discuss the on-line and outage plant modification work that was successfully completed in 2011.

A. St. Lucie Unit 2 and Turkey Point Unit 4 successfully completed their first EPU outages in 2011. The major outage activities at St. Lucie Unit 2 included main generator stator rewind, replacement of the generator rotor, replacement of the main transformer for the increased electrical output at EPU conditions (a picture of which is attached as Exhibit TOJ-5), and replacement of the low pressure turbine rotor (a picture of which is attached as Exhibit TOJ-6). In total, the work for the St. Lucie Unit 2 outage required the following:

- Augmented staff of approximately 920 people at its peak;
- Approximately 4,000 individually planned, scheduled, and monitored activities supporting approximately 235 work packages; and
- Approximately 728,000 man hours of work.

The major outage activities at Turkey Point Unit 4 included feedwater heater inspections, feedwater heater drain valve replacements, isophase bus duct replacement, main transformer cooler upgrades, partial replacement of feedwater heaters, and feedwater heater drains digital controls replacement. In total, the work for the Turkey Point Unit 4 outage required the following:

- Augmented staff of approximately 905 people at its peak;

- Approximately 2,900 individually planned, scheduled, and monitored activities supporting approximately 240 work packages; and
- Approximately 242,000 man hours of work.

FPL completed all planned EPU work during the St. Lucie Unit 2 and Turkey Point Unit 4 outages. FPL also initiated an outage at St. Lucie Unit 1 in November 2011 and began preparations for the 2012 Turkey Point Unit 3 outage in 2011. A compilation of pictures showing the St. Lucie and Turkey Point sites and the work being performed there is attached as Composite Exhibit TOJ-7 and Composite Exhibit TOJ-8, respectively.

Additionally, Turkey Point completed the upgrade of the Turbine Gantry Crane, and outage preparation work was completed at both plants while the units were on-line. Exhibit TOJ-9, Extended Power Uprate Project Work Activities as of December 31, 2011, is a listing by unit of the work activities accomplished on-line or during outages by EPU personnel in 2011. Exhibit TOJ-10 lists the equipment that was placed in service in 2011.

Q. Does the EPU project require increased staffing during non-outage periods as well?

A. Yes. In fact, the peak 2011 staffing level at Turkey Point of 1,604 EPU workers occurred outside of an outage. FPL regularly employs approximately 1,600 people at its two nuclear power plant sites. Over the course of the year, St. Lucie and Turkey

Point averaged an additional 750 workers and 890 workers for the EPU project, respectively.

Q. Please describe the outage preparation work that occurs during non-outage periods.

A. In addition to the modification engineering that must be performed for upcoming outages, extensive construction planning and logistical work is also performed. Such planning occurred in 2011 for the EPU outages scheduled for 2012.

Q. Please describe the management of the EPC vendor and the progress in modification engineering made in 2011.

A. The EPC vendor, Bechtel, continued its efforts to prepare the detailed modification packages in 2011. During this phase, calculations are prepared, construction drawings are issued, equipment and materials are procured, general installation instructions are provided, and high level testing requirements are identified. These activities provide the basis for preparing detailed estimates of the implementation costs.

Due to design evolution and complexity of construction, modification engineering and work package preparation continued to take longer than anticipated in 2011. Accordingly, FPL directed Bechtel to subcontract some of the engineering design scope, prioritized design and planning work based on implementation schedules to minimize any impacts to outages, developed and began implementing a plan to streamline the number of Bechtel work packages based on lessons learned, and instituted regular Daily Issue Meetings and senior executive oversight meetings to enhance FPL's management and oversight of Bechtel's work.

Q. What was the status of the Plant Change Modification packages as of December 31, 2011?

A. Exhibit TOJ-11, Plant Change Modification (PCM) Status as of December 31, 2011, is a chart that illustrates the number of identified engineering modifications as of December 31, 2011, the number of PCMs that have been initiated, and those that have reached 90% and final completion. As can be seen in this exhibit, there were 222 PCMs identified of which 143 were finalized and approved for issuance as of December 31, 2011. This exhibit demonstrates that the design engineering progress and additional identified work scope was substantial in 2011.

Q. Please describe FPL's efforts to manage vendor costs in 2011.

A. FPL continued to manage its major vendors, including its EPC vendor, to ensure the costs expended for the assigned scopes of work are reasonable and appropriate, including challenging estimates of future staffing requirements. For example, FPL conducted senior-level management meetings in Frederick, Maryland at Bechtel's headquarters to address then-current trends and metrics. FPL also awarded scopes of EPC work at St. Lucie to other vendors -- Day & Zimmermann NPS and Shaw-- both of which are experienced nuclear industry construction firms. These work assignments were made as part of FPL's continuing efforts to control costs. Additionally, FPL modified the EPC vendor contract to establish a "target price" in the PSL EPC contract. FPL also utilized High Bridge Associates, Inc. (High Bridge), to provide additional cost estimating expertise in 2011 to help manage the EPC costs.

Q. Please discuss the Estimate at Completion received from Bechtel in 2011 for Turkey Point work.

A. During 2011, as part of its project and cost management process, FPL asked Bechtel to provide a proposed target price to complete the Turkey Point EPU work. High Bridge was retained by Bechtel at FPL's request to perform craft implementation estimating services for this effort. Bechtel's Estimate at Completion (EAC) was then provided to FPL in November 2011.

Upon receipt of the Turkey Point EAC from Bechtel in November 2011, FPL immediately began performing the due diligence necessary to determine the appropriateness of the vendor's estimate. The estimate that FPL received reflected (i) design evolution, which means even if the total number of modifications is not changing, complexity of design is changing; (ii) increased implementation complexity; (iii) constructability issues that affect implementation productivity; and (iv) the resultant increase in field non-manual (i.e., design engineers, field engineers, and craft supervision), direct, and indirect labor to complete the project.

Q. What does FPL's due diligence include?

A. In 2011, FPL began performing a field non-manual staffing analysis and a review of the resource loaded schedule. Additionally, FPL sought information from Bechtel to explain its supervision/engineer-to-craft ratios and sought information for FPL's field non-manual analysis. FPL also engaged other major suppliers to provide alternative proposals for certain portions of Bechtel's scope of work. As of the end of 2011, FPL had not yet completed its due diligence nor begun senior management vetting of the estimate provided by Bechtel or its potential impact to project costs.

Q. Were there any unplanned schedule changes in 2011?

A. Yes. The EPU portion of the St. Lucie Unit 2 spring 2011 outage lasted longer than planned, due to an error by Siemens, the vendor who is performing the turbine generator upgrade work. It was determined that a small tool – an alignment pin – had been left inside the generator stator core by Siemens personnel. When the stator core was tested for performance, the alignment pin caused damage. As a result, the replacement of some of the stator core iron was required to repair the damage caused by the pin, and this work caused the outage to be extended approximately 22 days.

Q. Was FPL prudent in the hiring of Siemens?

A. Yes. Siemens is the Original Equipment Manufacturer and therefore owns all the intellectual property necessary to perform this scope of work. Siemens is highly specialized and has an excellent track record with similar work on other FPL projects. Moreover, Siemens has a robust system of practices and procedures that have resulted in successful projects over the years. FPL reviewed and benchmarked Siemens's performance at other locations to validate those practices and procedures, and performed diligent oversight of Siemens. FPL contracted with Siemens in 2008, which was subject to the Commission's prudence review of 2008 decisions and costs in 2009.

Q. Were FPL's 2011 activities related to the training and oversight of Siemens prudent?

A. Yes. FPL followed its procedures and processes to ensure proper training of Siemens and oversight of the work Siemens was hired to perform, including the work performed in 2011. FPL (and its industry peers) relies on the vast experience and excellent performance record of its vendors, adheres to its procedures for managing contractors, and takes corrective action when errors occur.

Q. Were there any other work stoppages caused by contractor personnel errors in 2011?

A. Yes. In December, consistent with industry good practices, Bechtel suspended work being performed by its electrical craft personnel at St. Lucie following an event in which craft personnel commenced work on an incorrect motor control center. Upon discovery, the supervisor immediately stopped the work. No injuries occurred and no equipment was damaged. The Bechtel electrical personnel were retrained in applicable processes, and returned to work after approximately two days. Other EPU work proceeded as planned, and there were no impacts on the overall outage duration.

Q. Was FPL prudent in the hiring, training, and oversight of Bechtel and the personnel involved?

A. Yes. The particular crew members had the proper qualifications and had previously underwent all required training, including training that directly applies to the type of situation that occurred. Further, the work package that was issued for this scope of work was correct – and included a specific instruction to the crew to ensure it was working on the correct component prior to initiating work. Nonetheless, these particular crew members acted inconsistent with the training and instructions that FPL and Bechtel had provided.

PROJECT PLANNING

Q. Did FPL continue to adjust the assignment of modifications to outages in 2011?

A. Yes. FPL adjusted a few modifications out of the St. Lucie Unit 2 spring 2011 outage into the summer 2012 outage, and out of the Turkey Point Unit 4 spring 2011 outage into the fall 2012 outage. Additionally, some transmission and substation work was

moved to outages in 2012. These schedule revisions affected what FPL previously estimated would be placed in service in 2011.

Q. Were other project planning assumptions revised in 2011?

A. Yes. FPL determined in 2011 that the remaining outage dates and durations planned for 2011 and 2012 needed to be adjusted. The adjustments to the planned outage dates and durations were necessary in order to accommodate the refined work scope assigned for each outage, which scope reflects the modification previously made to outage assignments as well as increased project scope overall. FPL uses a variety of inputs to plan outages, including industry and fleet work experience from earlier outages where similar work activities were completed, refined engineering modifications scope and requirements, previous inspection results, and proper sequencing of the EPU modifications which must be coordinated with the NRC approval of the EPU LARs. As always, FPL must also factor into its planning and scheduling the safety of personnel performing work, e.g., securing system electrical, mechanical, and thermal energy sources, and ensuring that the unit that is in an outage is maintained safely and the other unit is operating safely in accordance with the operating license issued by the NRC. These outage schedule adjustments were previously discussed in my supplemental testimony filed in Docket No. 110009-EI on July 15, 2011.

Q. As of December 31, 2011, what was the overall EPU project schedule?

A. Exhibit TOJ-12, Extended Power Uprate Project Schedule as of December 31, 2011, illustrates the LAR, long lead material, engineering design, and implementation schedule for the EPU Project. Underlying this high–level schedule are tens of

thousands of individually-scheduled activities. FPL's overall project schedule reflected the following:

- The LAR analyses were completed and submitted to the NRC. NRC approval of the St. Lucie Unit 1 LAR which is required for FPL to increase the power output at the completion of the second EPU outage for St. Lucie Unit 1, is challenged. Review and approval prior to completion of the second outage for the other units is expected.
- Due to delays in NRC licensing there were significant cost and schedule impacts that occurred and will continue in 2012. In order to minimize the financial and timing impacts, a new plan for a St. Lucie Unit 1 mid-cycle outage was developed. The outage duration is planned to be several days; long enough to change instrumentation set points and other minor modifications necessary for operation in the approved uprate conditions. The outage will also allow FPL to implement processes and procedures for operating the plant in the uprate condition.
- Long lead material items were scheduled to arrive on site prior to the outage during which the equipment will be installed.
- PCM engineering design for each of the identified modifications was scheduled to be approved for implementation prior to the unit outage when each modification will be implemented.
- Implementation of the EPU modifications was scheduled to be completed during the revised durations of the scheduled refueling outages for each of the units.

Q. Did FPL conduct a "feasibility analysis" of the EPU project in 2011?

A. Yes. FPL conducted a feasibility analysis in 2011 using the high end of FPL's 2011 non-binding cost estimate range, which demonstrated that the EPU project was projected to be solidly cost-effective for FPL's customers. Specifically, a resource plan that included the EPU project was projected to cost less than a resource plan that did not include the EPU project in seven out of seven scenarios of fuel cost forecasts and environmental compliance cost forecasts. A feasibility analysis using updated project and resource planning assumptions will be performed again in 2012 and filed with the Commission in May.

Q. Have the 2011 earthquake and tsunami in Japan or the 2011 earthquake in Virginia and resulting effects on the nuclear power plants there affected the EPU project?

A. Yes. These two natural events have adversely impacted the NRC staff resources and delayed the review and approval of the FPL EPU LARs. This had a significant impact to FPL's plans and contributed to the decision to delay the start of the St. Lucie Unit 1 outage and caused concern in regards to timing of the Turkey Point Unit 3 outage start scheduled for 2012. As a result, we had to expend considerably more FPL and contractor resources to engineer and plan for a mid-cycle implementation for St. Lucie Unit 1 and to modify our plan to accommodate the downstream impact on the other Florida Units. Despite our continuing efforts to manage the adverse impact, the two natural disasters and subsequent NRC response had significant cost and schedule impacts on the project that unfortunately will carry over into 2012.

2011 CONSTRUCTION COSTS

Q. What type of costs did FPL incur for the Uprate Project in 2011?

A. As indicated in Exhibit TOJ-1, Schedule T-6 and T-4, and summarized on Exhibit TOJ-13, Summary of 2011 Extended Power Uprate Construction Costs, Tables 1 through 9 (all reflecting the true-up of actual 2011 costs), costs were incurred in the following categories: License Application; Engineering and Design; Permitting; Project Management; Power Block Engineering, Procurement, Etc.; Non Power Block Engineering, Procurement, Etc.; and Recoverable O&M. These costs were the direct result of the prudent project management, decision making, and actions as described previously. Each category reflects some variance against what was estimated earlier in 2011, which is to be expected, particularly at this stage of the project. Exhibit TOJ-13, Summary of 2011 Extended Power Uprate Construction Costs contains summaries of the EPU expenditures in 2011 for each of the NFR schedule categories. Table 1 is a summary of each of the categories showing the actual expenditure amounts. The amounts shown in the exhibits are slightly different than the NFR schedules as footnoted on the exhibit.

Q. Please describe the costs incurred in the License Application category and the variance, if any, from the 2011 actual/estimated costs in this category.

A. Licensing Costs in 2011 consisted primarily of charges for contractor services rendered in supporting preparation, review and NRC approval of the EPU LARs. The primary contractors are Westinghouse, Areva and Shaw Stone & Webster. FPL incurred $39.8 million in this category in 2011, which was $20 million more than the actual/estimated

amount. This variance was primarily attributable to the fact that costs to support NRC review and approval of the EPU LARs were significantly greater than expected. This included costs associated with the additional NRC-required engineering analyses and evaluations for the St. Lucie Unit 1 and 2 and Turkey Point EPU LARs.

Q. Please describe the costs incurred in the Engineering and Design category and the variance, if any, from the actual/estimated costs in this category.

A. Engineering and Design Costs consist primarily of costs for FPL personnel in the FPL engineering organizations at both sites and in the central organization. Some of these personnel provide management, oversight, and review, and preparation of the LAR activities, while others are oriented towards management, oversight, and review of the detail design activities being performed by the EPC contractor and other contractors. FPL incurred $23.3 million in this category in 2011, which is $3.1 million more than the actual/estimated amount. This was primarily attributable to scope growth and the costs required to manage the EPC contractor's engineering and implementation efforts for the PSL Unit 2 and PTN Unit 4 2011 outages.

Q. Please describe the costs incurred in the Permitting category and the variance, if any, from the actual/estimated costs in this category.

A. Permitting Costs reflect costs attributable to the State of Florida Site Certification Application for the St. Lucie and Turkey Point sites and the Substantial Revision Application for Increasing Discharge Temperature to the Florida Department of Environmental Protection (FDEP) for the St. Lucie Plant. These costs consist primarily of consulting services related to environmental work for site certification, compliance certification, FDEP application preparation, and FPL employee support.

FPL incurred $0.12 million in this category in 2011, which was $0.07 million more than the actual/estimated amount. This was primarily attributable to additional environmental work in the preparation of the Substantial Revision Application for Increasing Discharge Temperature to the FDEP for the St. Lucie Plant to ensure regulatory compliance.

Q. Please describe the costs incurred in the Project Management category and the variance, if any, from the actual/estimated costs in this category.

A. Project Management Costs relate to overall project oversight including project and construction management, and project controls and non-NRC regulatory compliance. These oversight activities are performed by personnel located at both sites, and by the EPU central organization and by non-EPU organizations such as NBO, New Nuclear Accounting and Regulatory Affairs. FPL incurred $35.1 million in this category in 2011 which was $1.3 million more than the actual/estimated amount. This was primarily attributable to an increase in FPL project and construction management oversight of the EPC vendor.

Q. Please describe the costs incurred in the Power Block Engineering, Procurement, Etc. category and the variance, if any, from the actual/estimated costs in this category.

A. The majority of the costs in this category reflect payments to the EPC vendor for engineering, procurement, and construction resources that supported the successful completion of the EPU outages at PSL Unit 2 and PTN Unit 4 in 2011 and the first month of the St. Lucie Unit 1 EPU outage, the continued engineering efforts to prepare for the 2011 and 2012 outages, payments to Siemens for turbines and generator rotors,

and payments to Thermal Engineering International for feedwater heaters and moisture separator reheaters, main condensers, and increased capacity heat exchangers and pumps required to support the uprate conditions. This category also includes costs for High Bridge cost estimating services.

Additionally, this category includes the cost to complete the modifications to the St. Lucie Unit 2 main transformer, low pressure turbine rotor, and main generator rotor replacements, and the main generator stator rewind. It also includes the cost to complete the modifications to the Turkey Point Unit 4 isophase bus duct system, modifications to the turbine gantry crane, and main transformer cooler upgrades. The major pieces of salvageable equipment included the main generator stator windings, a main transformer, a low pressure turbine rotor and miscellaneous metal materials. The salvage value of this equipment will be credited back to the EPU project appropriately.

FPL incurred $540.8 million in this category in 2011, which is $41.8 million more than the actual/estimated amount. The primary contributors to this variance were increased work scope and longer than estimated installation durations which included planning, scheduling, and execution of the modifications. Further adjustments may be necessary as the LAR reviews, design engineering, and implementation planning activities are completed.

Q. Please describe the costs incurred in the Non-Power Block Engineering, Procurement, Etc. category and the variance, if any, from the actual/estimated costs in this category.

A. Non-Power Block Engineering Costs consist primarily of costs for facilities for engineering and project staff at site locations, incremental spent fuel cask costs and the simulator upgrades required to reflect the uprate conditions. FPL incurred $5.4 million in this category in 2011. This represents $0.7 million less than the actual/estimated amount. The variance is primarily attributable to costs for the simulator phase modifications being moved to later than originally planned.

Q. Please describe the costs incurred as EPU Recoverable O&M.

A. Recoverable O&M expenses in 2011 were $12.2 million. This represents a variance of $0.5 million less than the actual/estimated amount. Consistent with FPL's capitalization policy, the commodities that make up these expenditures consist of non-capitalizable computer hardware and software and office furniture and fixtures needed for new project-bound hires, all of which are segregated for EPU Project personnel use only, as well as incremental staff and augmented contract staff. Additionally, the Turkey Point Independent Spent Fuel Storage Installation cask loading campaignwas included in this category along with O&M EPU equipment inspections and modifications.

Q. Please describe the costs incurred in the Transmission category.

A. Transmission Costs were $24.4 million in 2011, which is $6.3 million more than the actual/estimated amount. The expenditures in the Transmission category include plant engineering, line engineering, substation engineering, and line construction. This

variance is a result of the reclassification of the plant engineering for the procurement and installation of the new main transformer at St. Lucie Unit 2. Part of the substation construction was completed at Turkey Point. The remaining transmission and substation work is on schedule to support the EPU at each of the units. Work is being scheduled during unit outages and when system conditions permit.

Q. Were FPL's 2011 EPU expenditures prudently incurred?

A. Yes. FPL incurred costs of approximately $681 million in 2011. FPL's actual 2011 costs were greater than its previous estimate for the reasons described above, and are primarily attributable to additional NRC-required licensing engineering and NRC resource constraints, which resulted in unanticipated project delays, increased work scope for design modification engineering, and increased modification implementation time due to increased work scope and constructability complexities. Despite our continuing efforts to proactively manage the adverse impact from the two natural disasters and subsequent NRC response, we expect that the negative project cost impacts will, unfortunately, carry over into 2012.

All of FPL's expenditures were necessary so that the uprate work could be performed during the planned outages. Through well-qualified, experienced personnel's application of the robust internal schedule and cost controls, careful vendor oversight, and the ability to continuously adjust based on lessons learned and the project's evolving needs, FPL is confident that its EPU management decisions are well-founded and prudent. All costs incurred in 2011 were the product of such decisions, were prudently incurred, and should be approved.

Q. Does this conclude your direct testimony?

A. Yes.

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TOJ – 1

TOJ – 1 is in the Nuclear Filing Requirements Book

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TOJ – 2

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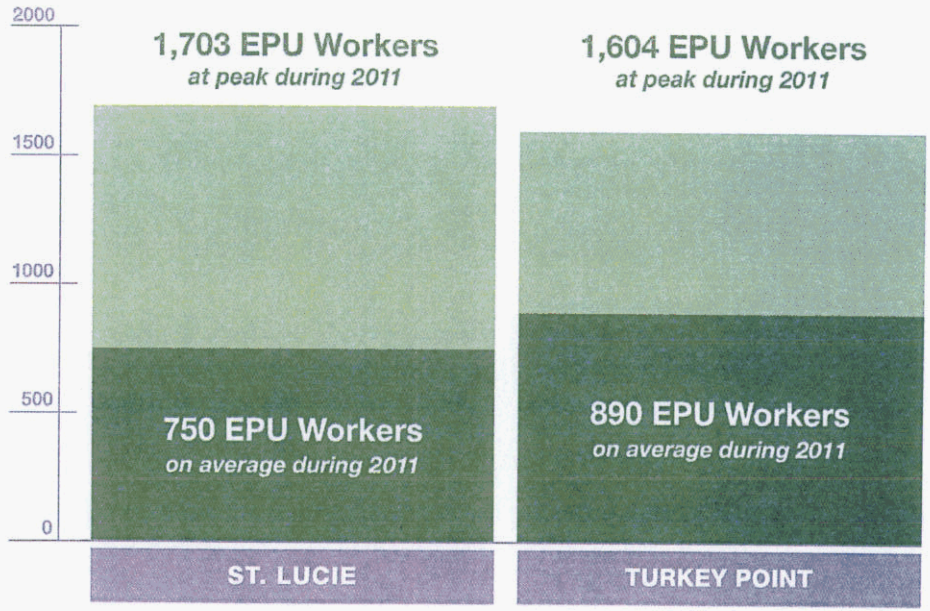
EPU Workforce Summary Jan.–Dec. 2011

Aerial photo of Turkey Point plant during recent uprate activity depicts only a small portion of overflow parking for project workforce.

2011 Workforce Figures

More than 3,300 workers in total



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Docket No. 120009-EI
EPU Workforce, Investment, and Cost Recovery Summary
Exhibit TOJ-2, Page 1 of 2

EPU Investment and Cost Recovery Summary Through Dec. 31, 2011

In 2011, the first 31 new megawatts from the extended power uprate project began providing power to FPL customers.

Figures above represent total amounts since the beginning of the project through Dec. 31, 2011

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Docket No. 120009-EI
EPU Workforce, Investment, and Cost Recovery Summary
Exhibit TOJ-2, Page 2 of 2

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TOJ – 3

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Extended Power Uprate Project Instructions (EPPI) Index as of December 31, 2011

Title	PI #	Revs	Issued
Project Administration	**100**		
Project Instruction Preparation, Revision, Cancellation	100	R4	11/21/2011
EPU Project Expectations & Conduct of Business	110	R23	9/16/2011
Roles & Responsibilities	140	R9	11/17/2009
EPU Project-Nuclear Business Ops Interface	150	R1	3/3/2010
EPU Project Formal Correspondence	160	R3	12/22/2011
Time and Expense Reporting to FPLE Support	170	R3	3/2/2011
EPU Nuclear Cost Recovery	180	R1	10/12/2010
Procurement	**200**		
PR and PO Funding Request and Single/Sole Source Justification	220	R5	1/24/2011
Project Invoice Process Instructions	230	R7	11/1/2010
EPU Contract Compliance Program	240	R3	2/1/2010
Project Target Price Control Process	250	R1	7/20/2011
Project Controls	**300**		
EPU Project Change Control	300	R10	12/6/2010
Forecast Variance and Trends	301	R1	11/28/2011
Nonbinding Cost Estimate Range	302	R0	7/20/2011
Development, Maintenance, and Update of Schedules	310	R6	5/5/2011
Cost Estimating	320	R2	3/23/2010
EPU Project Risk Management Program	340	R5	12/22/2011
EPU LAR Engineering Risk Management	345	Cancelled	5/18/2011
FPL Accrual Process	370	R4	11/28/2011
Project Self Assessment	380	R2	3/28/2011
EPU Obsolete and Spare Parts Process Guideline	391	R0	3/28/2011
Project Training	**500**		
EPU Project Personnel Training Requirements	520	R2	7/20/2011
EPU Project Qualification Guidelines	560	R4	1/3/2011
Quality, Engineering & Licensing	**600**		
EPU Uprate License Amendment Request	610	Cancelled	7/28/2011
Request for Information - St. Lucie and Turkey Point	640	R1	12/4/2011
Saint Lucie Specific	**800**		
St. Lucie EPU Project Severe Weather Preparation	810	R3	5/26/2011
EPU Project Environmental Control Program PSL	820	R1	12/1/2011
Turkey Point Specific	**900**		
Turkey Point EPU Project Severe Weather Preparations	910	R1	6/1/2010
EPU Project Environmental Control Program PTN	920	R0	11/12/2009

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TOJ – 4

Extended Power Uprate Project Reports 2011

Report	Report Description	Typical Periodicity	Audience
PSL, PTN Daily Report	Activities scheduled within the next six weeks	Daily	All project staff personnel, project management and project controls
Executive VP & Chief Nuclear Officer Summary	LAR status, engineering status, planning and implementation, and project risks	Biweekly	Executive Vice president & Chief Nuclear Officer and other invited guests
PSL, PTN, Accrual Report	Documents accruals for each site, vendor, amount, purchase order, remarks and references	Monthly	Nuclear Business Operations, Corporate accounting, EPU Project Management
PSL, PTN Variance Report	Cost actuals, budgets and forecasts for Operations & Maintenance (O&M) and Capital expenditures	Monthly	Nuclear Business Operations, Corporate accounting, EPU Project Management
PSL, PTN, Monthly Operating Performance Report (MOPR)	Dashboard of EPU project, scope definition, execution plan, resources, cost, schedule, quality, safety, environmental, licensing, and regulatory	Monthly	Executive Management, EPU Project Management
PSL, PTN Risk Matrix	Quantified risks, potential cost impact, weighted cost impact, probability of occurrence, and risks identified but not quantified	Weekly	Project Management, Input to Presentations

Extended Power Uprate Project Reports 2011 (continued)

Report	Report Description	Typical Periodicity	Audience
PSL, PTN Modification Schedules	Schedule for completing modifications	Weekly	Project Management, Input to Presentations
PSL, PTN Monthly Cash Flow Charts	Dashboard, progress indicators, resources, schedule, and costs	Monthly	Project Management
Executive Steering Committee Meeting Presentations	Project status, indicators, forecast issues, next steps	Quarterly	Executive Management
Bechtel Status Report	Dashboard, progress indicators, resources, schedule, costs	Weekly	Project Management
Key Supplier Meeting	Work scope status reports	As needed	Executive and Project Management

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TOJ – 5

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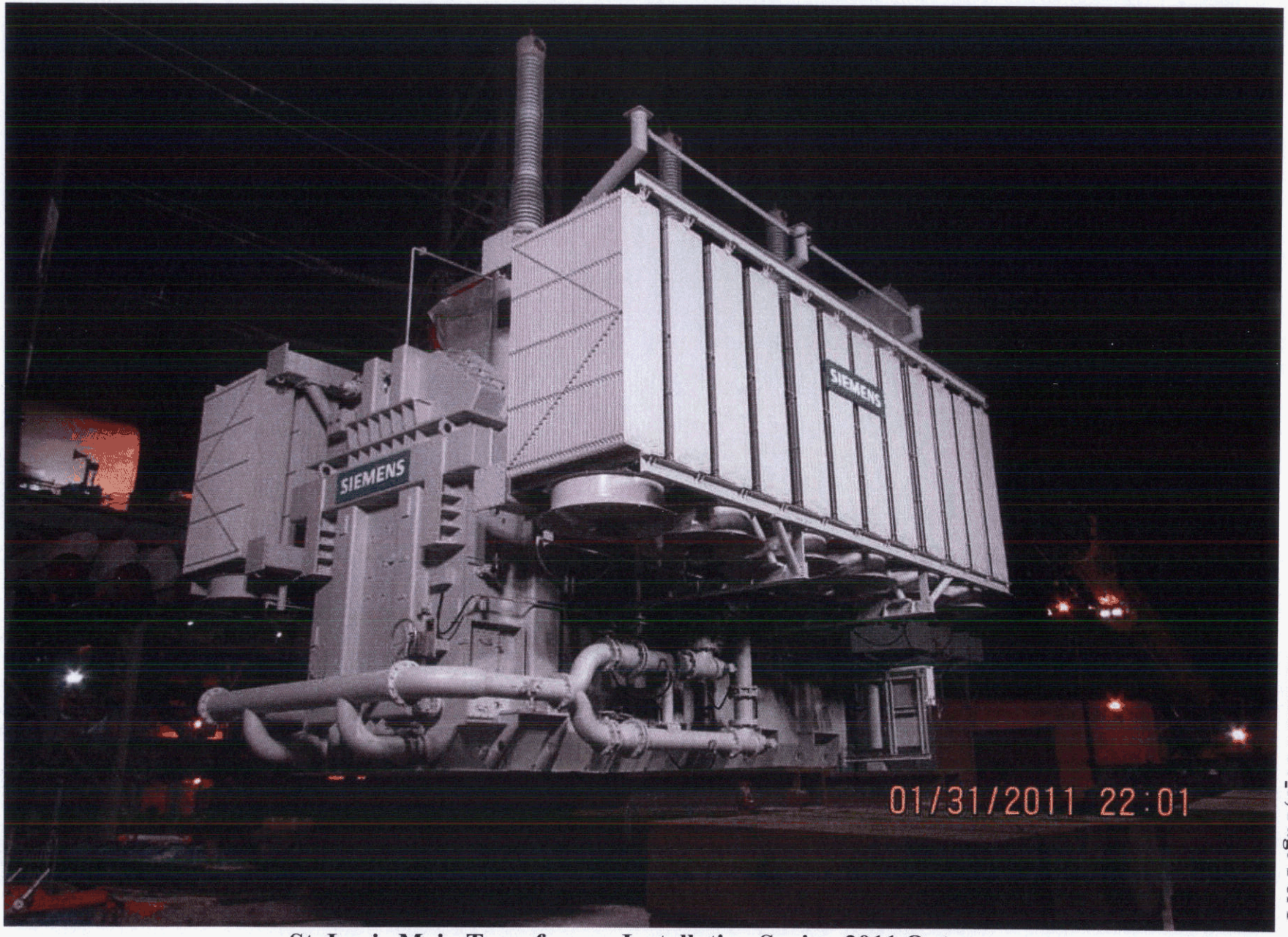

St. Lucie Main Transformer Installation Spring 2011 Outage

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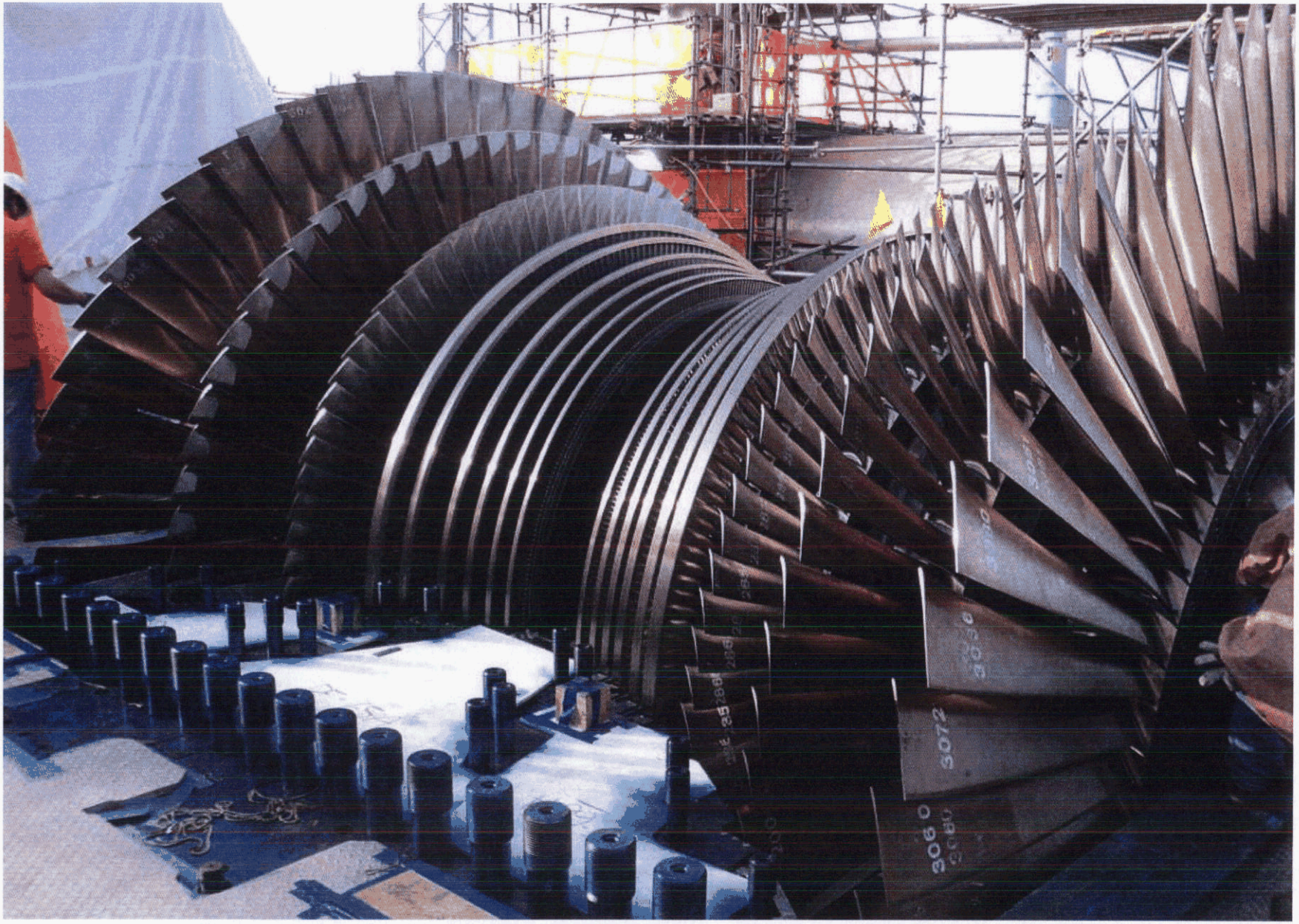

St. Lucie Unit 2 Low Pressure Turbine Rotor Installed in Spring 2011 Outage

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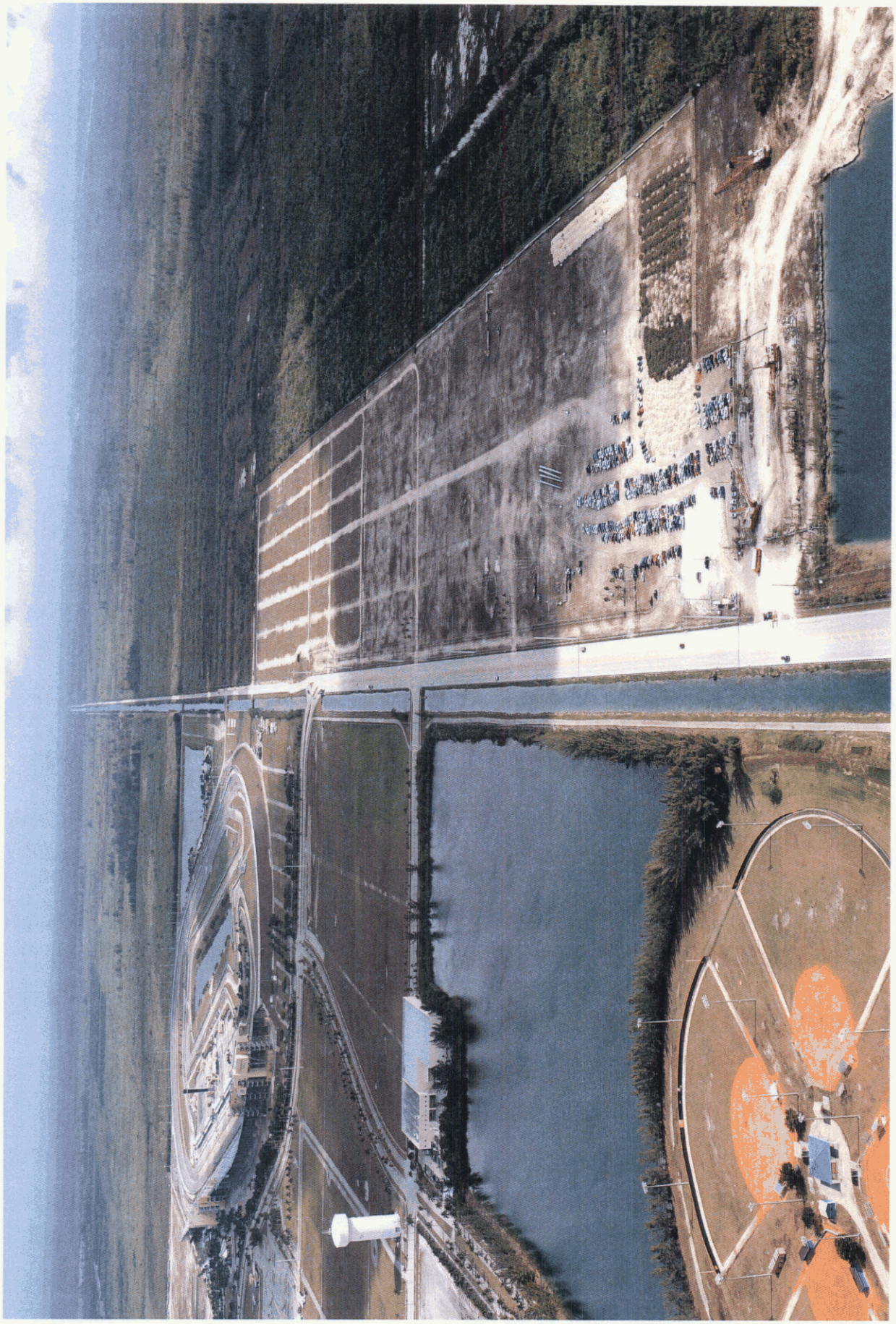

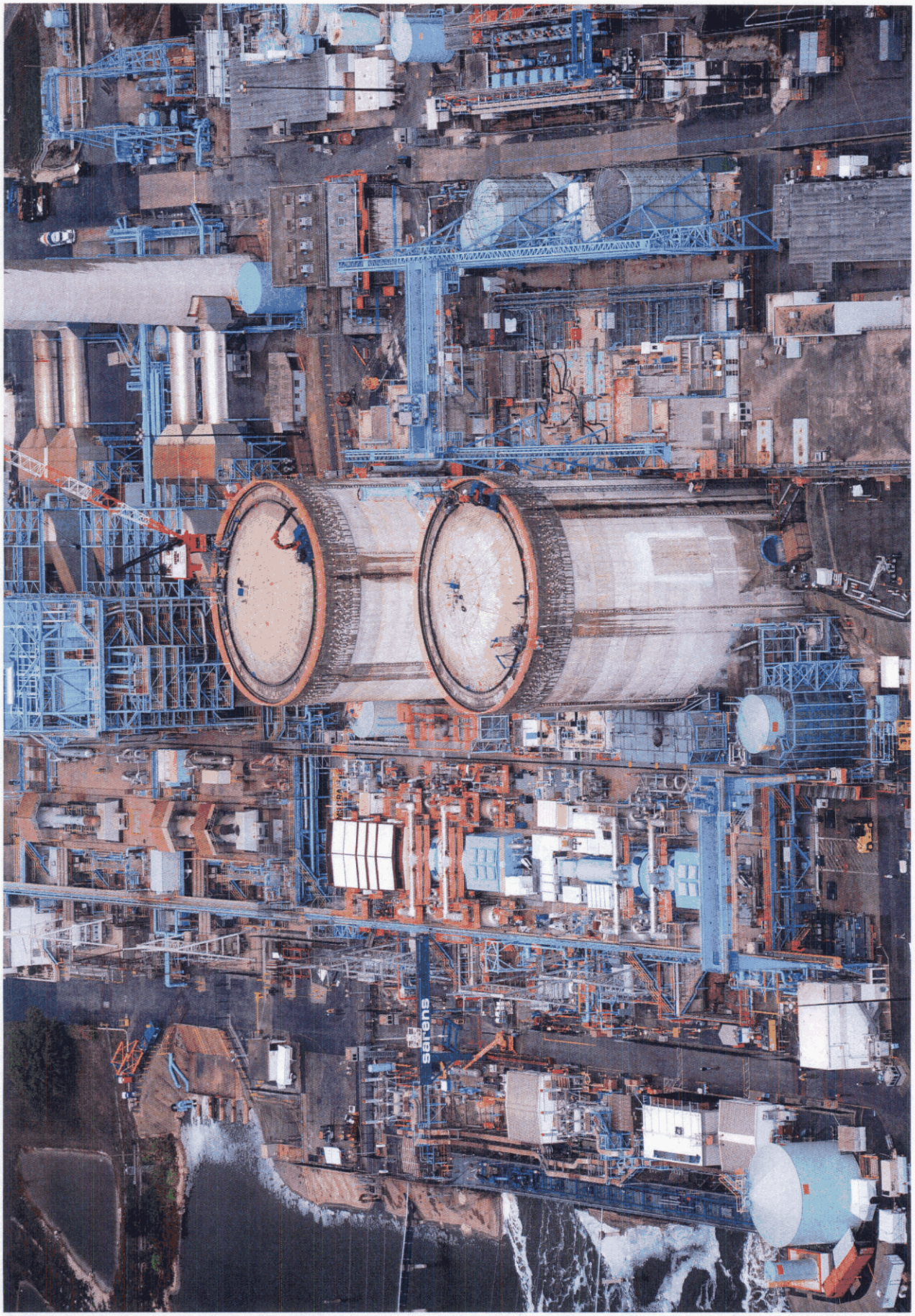
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2011 Extended Power Uprate (EPU) Work Activities as of December 31, 2011

St. Lucie Unit 2 Spring 2011 Outage	Description	Contract	Scoping Document
Condensate Pump A Replacement	Larger condensate pumps are needed to pump the increased condensate flows in the uprate conditions	Flowserve PO-130160	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, Balance of Plant (BOP), EPU, Scoping Study, February 2008
Main Generator Exciter Coolers/Blower	Increased cooling of the main generator exciter is required in the power uprate conditions	Siemens PO-116088	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Feedwater Heater/ Drain Cooler Tube Inspections	Perform inspections to determine needed modifications for the uprate conditions	Bechtel PO-117820	BOP analysis of component capabilities in the power uprate conditions
Feedwater Heater Nozzle Inspections	Perform inspections to determine needed modifications for the uprate conditions	Bechtel PO-117820	BOP analysis of component capabilities in the power uprate conditions
Main Generator Current Transformers (CT) and Bushing Replacement	Modifications required due to the modifications to the generator rotor and stator for uprate conditions	Siemens PO-116088	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Generator Environmental Structure	Required for provision of controlled environment to conduct Stator rewind in situ	Bechtel PO-117820	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Main Generator Hydrogen Seal Oil Pressure Increase	Increased hydrogen pressure for main generator cooling is required in the uprate conditions	Siemens PO-116088	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Main Generator Hydrogen Coolers	Increased main generator cooling is required in the uprate conditions	Siemens PO-116088	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008

2011 Extended Power Uprate (EPU) Work Activities as of December 31, 2011

St. Lucie Unit 2 Spring 2011 Outage	Description	Contract	Scoping Document
Generator Loop Test Trailer	Test is to determine defects in the core that may be exacerbated under EPU conditions	Bechtel PO-117820	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008. OEM recommendation to conduct in-situ stator rewind testing
Main Generator Rotor Replacement and Stator Rewind	Larger generator is needed to increase electrical output in the uprate conditions	Siemens PO-116088	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Low Pressure (LP) Turbine Rotor	Larger LP turbine rotors are required for the increased steam flow in the uprate conditions	Siemens PO-116088	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Main Transformer 2A Replacement Unit 2	Larger main transformers are needed to handle the increase in the main generator electrical output	Siemens PO-4500467077	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Control Element Drive Mechanism (CEDM) System Modifications	Modify the CEDM system to recover operational and safety margins in the uprate conditions	Westinghouse PO-118271	OEM Recommendation
Turbine Lube Oil Lift Pump Motor Replacement	Increased weight of LP Turbines requires increased motor High Pressure (HP)	Bechtel PO-117820	BOP analysis of component capabilities in the power uprate conditions

2011 Extended Power Uprate (EPU) Work Activities as of December 31, 2011

St. Lucie Unit 2 Spring 2011 Outage	Description	Contract	Scoping Document
Transmission and Substation modifications	Implement meter and relaying modifications at St. Lucie and replace switches in the St. Lucie switchyard At the Midway switchyard, #1, #2, #3 increase ampacity, replace switches, and fiber optic protection	T&D	Facilities Study, FPL EPU project, St. Lucie 1&2, Q114 & Q115, March 2009

2011 Extended Power Uprate (EPU) Work Activities as of December 31, 2011

St. Lucie Unit 1 Fall 2011 Outage	Description	Contract	Scoping Document
Condenser Material Modifications includes air removal	Strengthening of the Main Condenser is needed with higher steam and condensate flows in the uprate conditions	BPC PO-117820	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Containment Mini-Purge	Reduction of maximum allowed Containment pressure per NRC Plant Technical Specifications	Bechtel PO-117820	PSL License Amendment Request (LAR) Engineering
Feedwater Digital Modifications	Instrumentation to provide control the feedwater heater control and dump valves in the uprate conditions	Feedforward SC2287468	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Leading Edge Flow Meter (LEFM) Measurement Uncertainty Recapture (MUR)	Precision flow measurement instrument and instrumentation provides for increased certainty of operating parameters supporting uprate conditions	Cameron PO-116107	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Digital Electro-Hydraulic Computer System Modification	Modifications needed for increased certainty of turbine operating parameters supporting uprate conditions	Westinghouse Power PO-131940	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Electrical Bus Margin Modifications	Required to restore margin on electrical busses as a result of uprate	Bechtel PO-117820	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008

2011 Extended Power Uprate (EPU) Work Activities as of December 31, 2011

St. Lucie Unit 1 Fall 2011 Outage	Description	Contract	Scoping Document
Piping Vibration Modifications	Increases in steam and feedwater flows may cause piping vibrations. Restraints dampen the vibrations	Bechtel PO-117820	BOP analysis of component capabilities in the power uprate conditions
Main Generator Exciter Coolers/Blower	Increased cooling of the main generator exciter is required in the power uprate conditions	Siemens PO-116088	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Feedwater Heater Replacement (#5A & B)	Larger feedwater heaters are needed to process the steam and feedwater flows in the uprate conditions	TEI PO-118224	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Feedwater Regulating Valves Modification	Larger operating mechanisms are required to operate the feedwater regulating valves in the increased uprate conditions	Fisher Controls SC2262515	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Main Generator CT and Bushing Replacement	Modifications required due to the modifications to the generator rotor and stator for uprate conditions	Siemens PO-116088	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Main Generator Hydrogen Seal Oil Pressure Increase	Increased hydrogen pressure for main generator cooling is required in the uprate conditions	Siemens PO-116088	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Main Generator Core Replacement	Replace core to make the generator stator increased electrical output acceptable in the uprate conditions	Siemens	Testing of the main generator

2011 Extended Power Uprate (EPU) Work Activities as of December 31, 2011

St. Lucie Unit 1 Fall 2011 Outage	Description	Contract	Scoping Document
Main Generator Hydrogen Coolers	Increased main generator cooling is required in the uprate conditions	Siemens PO-116088	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Main Generator Rotor Replacement and Stator Rewind	Larger generator is needed to increase electrical output in the uprate conditions	Siemens PO-116088	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Moisture Separator Drain Control Valves Replacement	Larger valves are needed for the increased condensed water flow in the uprate conditions	Fisher Controls SC2262201	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Heater Drain Control Valves	Larger valves are needed to control the condensate flow in the uprate conditions	Fisher Controls SC2262201	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Feedwater Heater Drains/ Moisture Separator Reheater (MSR) Digital Controls	Reduce the operating band to optimize efficiency and maximize output	Bechtel PO-117820	St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Heater Drain Pumps and Motors Replacements	Larger pumps and motors are required to pump the increased heater drain flows in the uprate conditions	Flowserve Corp. PO-125454	St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Hot Leg Injection Flow Improvements	Increasing required flow under EPU and eliminating SPV with cross train power on in-series valves	Bechtel PO-117820	EPU LAR Engineering
HP Turbine Rotor	Larger inlet valves are required for increased steam flows in the uprate conditions	Siemens PO-116088	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, Balance of Plant, EPU, Scoping Study, February 2008

2011 Extended Power Uprate (EPU) Work Activities as of December 31, 2011

St. Lucie Unit 1 Fall 2011 Outage	Description	Contract	Scoping Document
Isophase Bus Duct Cooling	Increased cooling is needed for the electrical connections from the main generator to the main transformer in the uprate conditions	AZZ Calvert PO-120769	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
LP Turbine Rotor	Larger LP turbine rotors are required for the increased steam flow in the uprate conditions	Siemens PO-116088	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Main Feedwater Pump Replacement	Larger pumps are required to pump the increased feedwater flow required in the uprate conditions	Flowserve PO-121985	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Main Steam Isolation Valve (MSIV) Modification	Larger operators on the MSIVs are required to operate against higher steam pressure	Enertech for Actuators AMES for Valve Parts	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Main Transformer Cooler Modification	Increased cooling is needed to handle the increase in the main generator electrical output	ABB PO-112255, 126248	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008, ABB Engineering Thermal Loading Design Study, FPL St. Lucie, ABB Project Number, FP13469-1, Rev.1, August 25, 2008
Main Steam, Condensate and Feedwater Piping Supports Modifications	Increased steam and water flows in the uprate conditions require additional piping restraints	Bechtel PO-117820	BOP analysis of component capabilities in the power uprate conditions

2011 Extended Power Uprate (EPU) Work Activities as of December 31, 2011

St. Lucie Unit 1 Fall 2011 Outage	Description	Contract	Scoping Document
MSR Replacement	Larger capacity MSRs are required to heat and dry the steam flow in the uprate conditions	TEI PO-118205	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
CEDM System Modifications	Modify the CEDM system to recover operational and safety margins in the uprate conditions	Westinghouse PO-118271	OEM Recommendation
BOP Instrumentation	Setpoint and scaling of plant instrumentation for uprate conditions	Bechtel PO-117820	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Nuclear Steam Supply System Plant Instrumentation	Setpoint and scaling of plant instrumentation for uprate conditions	Bechtel PO-117820	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Safety Injection Tank Pressure Increase	Modification required to operate at higher pressure based on EPU conditions for small break Loss of Coolant Accident (LOCA) analysis	Bechtel PO-117820	EPU LAR Engineering
Steam Bypass Control System Unit 1 (DCS)	Add digital controls to the increased steam bypass system flow	Invensys PO-2263052	Engineering Design Modifications
Steam Bypass Flow to Condenser-Increase	Increased steam flow in the uprate conditions requires larger bypass capability to the main condenser	Bechtel PO-117820	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Turbine Cooling Water Heat Exchanger Replacement	Larger heat exchangers are needed for increased cooling in the uprate conditions	TEI PO-118278	St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008

2011 Extended Power Uprate (EPU) Work Activities as of December 31, 2011

St. Lucie Unit 1 Fall 2011 Outage	Description	Contract	Scoping Document
Diesel Oil Storage Tank (DOST) Operating Margin Modification	EPU required DOST capacity. Need loop seals in the fill & overflow lines	Bechtel PO-117820	EPU LAR Engineering
Equipment Qualification Modifications	Ensure and document that the equipment being modified meets equipment quality standards	Bechtel PO-117820	Engineering Design Modifications
Transmission and Substation Modifications	At St. Lucie, metering and relay work, at Midway switchyard, switch replacement	T&D	Facilities Study, FPL EPU project, St. Lucie 1&2, Q114 & Q115, March 2009

2011 Extended Power Uprate (EPU) Work Activities as of December 31, 2011

St. Lucie 2011 On-Line Activities	Description	Contract	Scoping Document
Training Simulator Modifications	Modifications needed to replicate the plant in the power uprate conditions	Western Services Corp. PO-118627	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Umbrella Modification "EPU Wrap-up"	Provides the basis for plant to go to EPU conditions. Wraps up all mods, assesses all systems, updates misc procedures, FSAR, etc	Shaw PO-112221	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Construction Temporary Power	Provide Un-interruptable Construction Power for Turbine Bldg work to implement EPU	Bechtel PO-117820	FPL Feasibility Study 2007, St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008
Spent Fuel Pool (SFP) Modifications	Regulatory driven modification for more highly enriched fuel required for EPU	Holtec PO-2291586	EPU LAR Engineering

2011 Extended Power Uprate (EPU) Work Activities as of December 31, 2011

Turkey Point Unit 4 Spring 2011 Outage	Description	Contract	Scoping Document
Heater Drain Valves Replacement	Larger valves are needed to control the condensate flow in the uprate conditions	Bechtel PO-117809	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Feedwater Heater #5 Drain Piping Modification	Higher drain water flows require larger piping in the uprate conditions	Bechtel PO-117809	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Main Transformer Cooler Modification	Increased cooling is needed to handle the increase in the main generator electrical output	Siemens PO-122154	T&D
Switchyard Modifications	Increased electrical output requires modification to switchyard equipment to support the uprate conditions	T & D	Generation Interconnection Service and Network Resource Interconnection Service System Impact Study. 11/25/08
Feedwater Heaters (5,6) Replacement (partial)	Larger feedwater heaters are needed to process the steam and feedwater flows in the uprate conditions	TEI PO-118241	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
MUR LEFM (Spool Piece Only)	Precision flow measurement instrument and instrumentation provides for increased certainty of operating parameters supporting uprate conditions	Cameron PO-116796	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008

2011 Extended Power Uprate (EPU) Work Activities as of December 31, 2011

Turkey Point Unit 4 Spring 2011 Outage	Description	Contract	Scoping Document
Isophase Bus Duct Replacement	Increased bus size is needed for the electrical connections from the main generator to the main transformer in the uprate conditions	AZZ / Calvert PO-124436	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Feedwater Heater Drains Digital Modifications (partial)	Instrumentation to provide control the feedwater heater control and dump valves in the uprate conditions	Invensys PO -126227	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Feedwater Heaters 1-4 Inspections with Contingency PCM for Feedwater Heater Modifications	Perform inspections to determine needed modifications for the uprate conditions	Bechtel/NPS	BOP analysis of component capabilities in the power uprate conditions
Sump PH Control, Install NaTB Baskets (partial)	Alternate Source Term (AST) method requires pH greater than 7.0. The current pH control system is not sufficient at uprate conditions	S&L PO-79551	AST LAR Engineering
Installation of Main Condenser Basket Tips	Condenser Basket Tips are required to monitor the main turbine back pressure for pre and post-EPU conditions	Day Zimmermann NPS (NPS)	Siemens Contract PO-116090
Repowering of the Alternate PTN Unit 3 SFP Cooling Pump Motor	Increased heat load on the SFP cooling system due to EPU conditions requires a 2nd cooling pump to be in operation	Bechtel PO-117809	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008

2011 Extended Power Uprate (EPU) Work Activities as of December 31, 2011

Turkey Point Unit 4 Spring 2011 Outage	Description	Contract	Scoping Document
Main Transformer Deluge Piping Modification	Installation of Fire protection Deluge System to properly interface with the revised spatial envelop of the modified Main Transformer with Coolers	Bechtel PO-117809	Form 14, NP-EPU-09-1926 Deluge System
Spent Fuel Pool Modifications	Regulatory driven modification for more highly enriched fuel required for EPU	TBD	EPU LAR Engineering

2011 Extended Power Uprate (EPU) Work Activities as of December 31, 2011

Turkey Point 2011 On-Line Activities	Description	Contract	Scoping Document
Training Simulator Modifications	Modifications needed to replicate the plant in the power uprate conditions	Western Services PO-118844	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Control Room Habitability	Modify control room HVAC system to provide acceptable radiological doses to the control room operators at uprate conditions	Bechtel PO-117809	AST LAR Engineering
Alternate SFP Cooling – Units 3 & 4	Increased power from the fuel requires additional cooling of the fuel when it is placed into the SFP	Joseph Oats PO-2259675	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Turbine Digital Controls Modification – Units 3 & 4	Enhanced controls for the new turbines. Current design is not sufficient for the new turbine configuration in the uprate conditions	Invensys PO-129689	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Turbine Electro-Hydraulic Controls – Units 3 & 4	Enhanced controls for the new turbines. Current design is not sufficient for the new turbine configuration in the uprate conditions	Siemens PO-130272	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008

2011 Extended Power Uprate (EPU) Work Activities as of December 31, 2011

Turkey Point 2011 On-Line Activities	Description	Contract	Scoping Document
MUR LEFM (Instrumentation) – Units 3 & 4	Precision flow measurement instrument and instrumentation provides for increased certainty of operating parameters supporting uprate conditions	Cameron PO-116796	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Environmental Qualifications Revise Documentation – Units 3 & 4	Ensure and document that the equipment being modified meets equipment quality standards	FPL	FPL PTN Feasibility Study 2007
Turbine Gantry Crane Modifications	Modifications needed to more efficiently and precisely move heavy EPU equipment loads	Bechtel PO-117809	Identified during scheduling and planning of moving EPU heavy equipment loads.
Units 3 & 4 High Head Safety Injection (HHSI) Pump Oil Change to Synthetic	Existing HHSI pump oil needs to be modified due to higher CCW temperatures caused by uprate conditions	Bechtel PO-117809	EPU LAR Engineering
Distributed Control System (DCS) – Interim Change to Computer Flux Map Program	Enables monitoring of the existing fuel design as it transitions to the new fuel design needed for the uprate	Zachry PO-115465	EPU LAR Engineering
Modify Technical Support Center (TSC) for Dose Reduction	Under uprate conditions, the TSC requires modifications to withstand increased radiation dose levels in a loss of coolant accident	Bechtel PO-117809	AST LAR Engineering

2011 Extended Power Uprate (EPU) Work Activities as of December 31, 2011

Turkey Point 2011 On-Line Activities	Description	Contract	Scoping Document
Temporary Power for EPU	Insufficient temporary power sources are available to support uprate modifications during 3R26 and 4R27 outages	Bechtel PO-117809	Identified during analysis of temporary power needs by EPU personnel
Site Security Reconfiguration Modification	Additional laydown space and a new entrance through the security perimeter fencing to reduce schedule impacts is required to accommodate EPU modifications in the 2012 outages	Zachry PO-229323 BRV PO-2291815 (Const)	Identified during analysis of site laydown needs for EPU equipment delivery, unloading and staging for 3R26 and 4R27 outages.
Feedwater Heaters #1, 2 and 4 Drain Piping Insulation	Removal of Asbestos Insulation and reinstall new insulation after inspections	NPS	Specification M-156
Add Valve Handwheel Extension for 867 Valves	A modification is required for the uprate to install a reach rod, hand wheel and locking mechanism for SI valves ¾-867. This will allow manual isolation of the normal HHSI cold leg injection path should either MOV ¾-843 A/B fail to close when switching to the hot leg injection flow path	Bechtel PO-117809	EPU LAR Engineering

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EQUIPMENT PLACED IN SERVICE 2011

	EPU Assets Placed in Service in 2011	Date Placed In Service
1	Nuclear - Turkey Point Condensate Pump Motor	April 2011
2	Transmission - Turkey Point Switchyard Disconnect Switch	May 2011
3	Nuclear - Turkey Point Unit 4 Generator Step-Up Transformer Upgrade	May 2011
4	Transmission - Turkey Point Switchyard Disconnect Switches	May 2011
5	Transmission - St. Lucie 2B Generator Step-Up Transformer	May 2011
6	Nuclear - St. Lucie Unit 2 Outage (PSL 2-19) 1. Condensate Pump Replacement 2. Low Pressure Turbine Rotor 3. Generator Upgrade Rotor Replacement & Stator Rewind 4. Generator Current Transformers and Bushings 5. Generator Hydrogen Seal Oil Pressure Increase 6. Generator Hydrogen Coolers 7. Exciter Cooler Upgrade 8. Feedwater Heater Nozzle Encapsulation	May 2011
7	Nuclear - Turkey Point Unit 4 Outage (PTN 4-26) 1. Iso Phase Bus Duct Replacement 2. Heater Drain Valve Replacement 3. Condenser Basket Tips	May 2011
8	Nuclear - St. Lucie EPU Fabric Building D HVAC	July 2011
9	Nuclear - St. Lucie Fabric Building E Roof	October 2011
10	Nuclear - St. Lucie Distribution	October 2011
11	Nuclear - Turkey Point Turbine Gantry Crane	December 2011
12	Nuclear - Turkey Point EPU Fossil Warehouse	December 2011
13	Nuclear - St. Lucie Simulator Phase II	December 2011
14	Nuclear - Turkey Point Spent Fuel Dry Cask Storage System (ISFSI)	December 2011

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Plant Change Modification (PCM) Status as of December 31, 2011

Unit	Currently Identified	Initiated	90%	Final
St. Lucie	102	100	85	74
Turkey Point	120	120	86	69
Total	222	220	171	143
Percent		99%	77%	64%

- Initiated – Scope document issued
- 90% - Implementation Review Package
- Final – Reviews completed and approved by Plant General Manager for issuance

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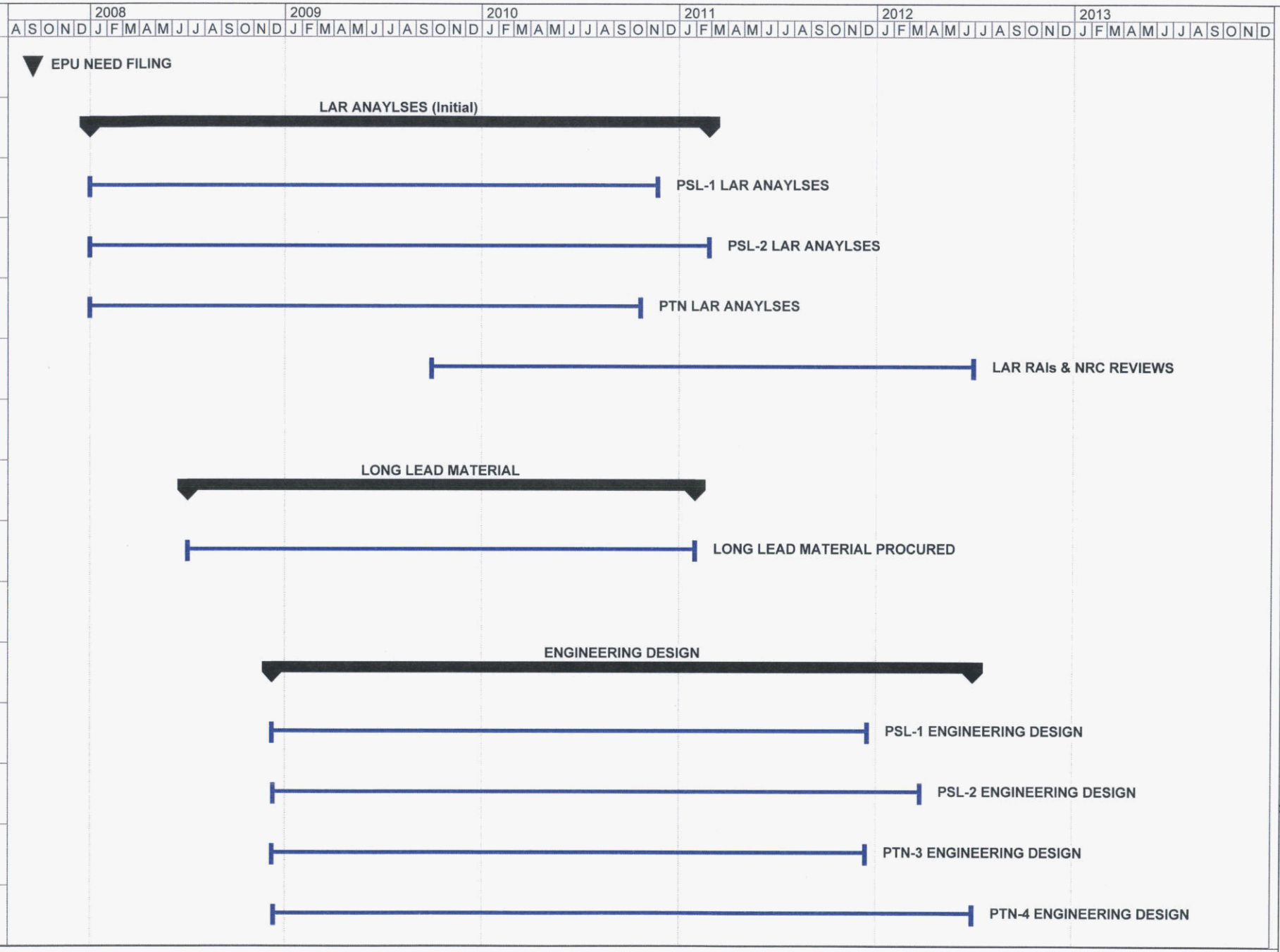
Extended Power Uprate Project Schedule as of December 31, 2011



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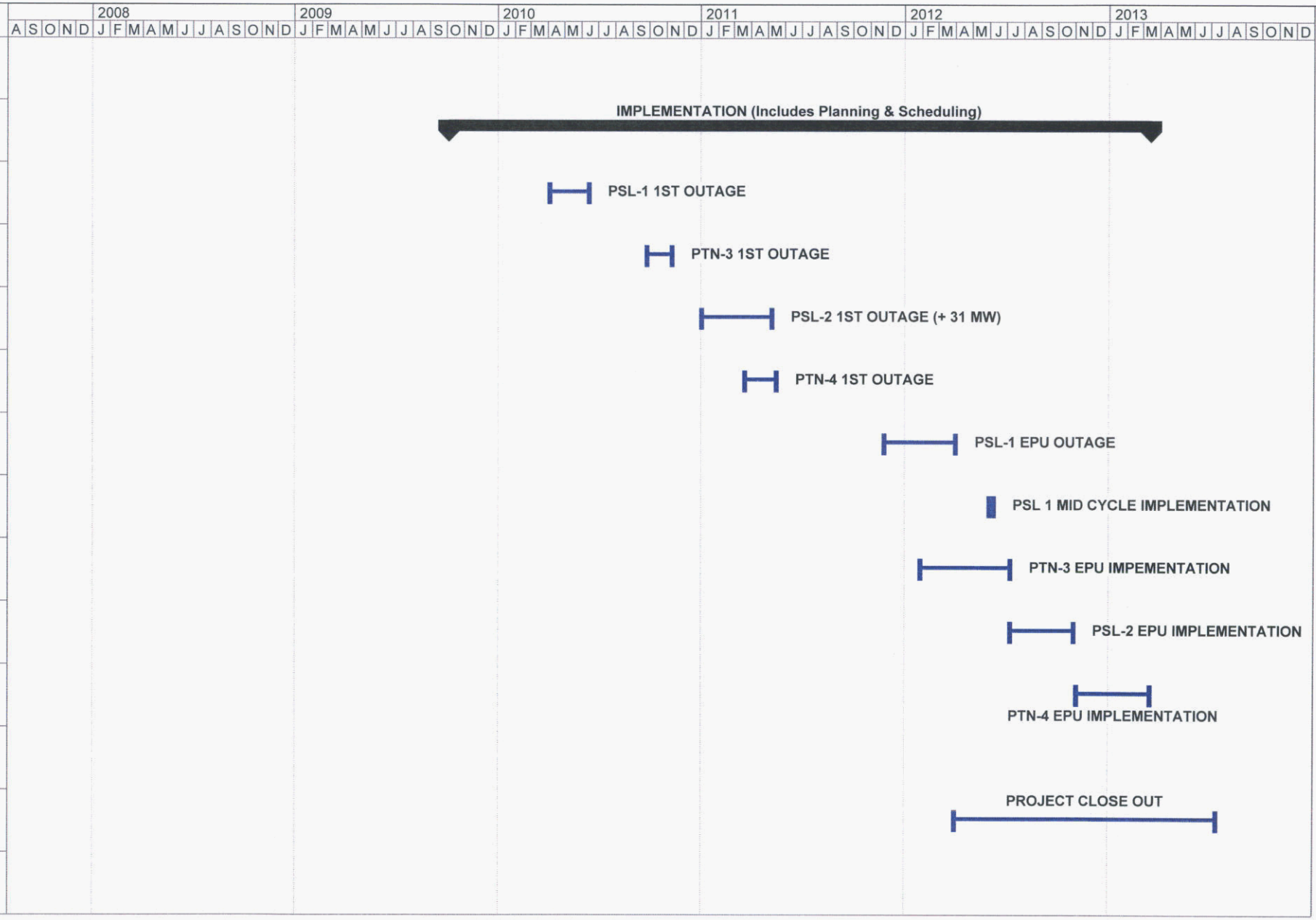
Extended Power Uprate Project Schedule as of December 31, 2011



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Extended Power Uprate Schedule
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Table 1. Summary of 2011 Extended Power Uprate Construction Costs

Category	Detail Table No.	2011 Actual Costs
Licensing	2	$39,788,789
Engineering & Design	3	$23,322,754
Permitting	4	$117,148
Project Management	5	$35,103,609
Power Block Engineering, Procurement, etc.	6	$540,830,250
Non-Power Block Engineering, Procurement, etc.	7	$5,433,443
Total EPU Construction Costs	**N/A**	**$644,595,993**
EPU Recoverable O&M	8	$12,161,796
Transmission Capital and Recoverable O&M	9	$24,384,014
Total Construction Costs & Transmission	**N/A**	**$681,141,803**

Tables include post in-service costs.

NFR Schedule T 4, O&M and T 6, Construction and Transmission costs amount to $678,846,511, which excludes post in-service project costs.

Table 2. 2011 Licensing Costs

Category	2011 Actual Costs
St. Lucie (PSL) License Amendment Request (LAR)	$19,001,240
Turkey Point (PTN) License Amendment Request (LAR)	$20,787,550
Total Licensing	**$39,788,789**

Table 3. 2011 Engineering and Design Costs

Category	2011 Actual Costs
St. Lucie (PSL)	
FPL and staff augmentation engineering	$9,902,543
Turkey Point (PTN)	
FPL and staff augmentation engineering	$13,420,211
Total Engineering and Design	**$23,322,754**

Table 4. 2011 Permitting Costs

Category	2011 Actual Costs
St. Lucie (PSL)	$22,509
Turkey Point (PTN)	$94,639
Total Permitting	**$117,148**

Table 5. 2011 Project Management Costs

Category	2011 Actual Costs
St. Lucie (PSL)	
FPL, staff augmentation, and regulatory accounting	$17,653,042
Turkey Point (PTN)	
FPL, staff augmentation, and regulatory accounting	$17,450,567
Total Project Management	**$35,103,609**

Table 6. 2011 Power Block Engineering, Procurement, Etc. Costs

Category	2011 Actual Costs
St. Lucie (PSL)	
FPL Procured Long Lead Material	$20,155,840
Turbine Generator Equipment procured from Siemens	$45,820,119
Siemens Labor - Alliance Agreement	$42,343,876
Bechtel EPC Contract	$116,563,050
Station Indirect Outage Costs	$6,458,987
Growth in Scope - CEDM and Spent Fuel Pool Rack Modifications	$3,897,017
Other Costs (plant support, office equipment, supplies)	$22,595,675
Adjustments (accounting timing)	($2,455,583)
St. Lucie (PSL)	**$255,378,981**
Turkey Point (PTN)	
FPL Procured Long Lead Material	$20,111,521
Turbine Generator Equipment procured from Siemens	$35,413,793
Siemens Labor - Alliance Agreement	$2,402,959
Bechtel EPC Contract	$191,474,001
Station Indirect Outage Costs	$705,247
Growth in Scope - Scope & Contingency	$0
Other Costs (plant support, office equipment, supplies)	$35,588,192
Adjustments (accounting timing)	($244,444)
Turkey Point (PTN)	**$285,451,269**
Total Power Block Engineering, Procurement, Etc.	**$540,830,250**

Table 7. 2011 Non-Power Block Engineering, Procurement, etc. Costs

Category	2011 Actual Costs
St. Lucie (PSL)	$657,225
Turkey Point (PTN)	$4,776,218
Total Non-Power Block Engineering, Procurement, etc.	**$5,433,443**

Table 8. 2011 Recoverable O&M Costs

Category	2011 Actual Costs
St. Lucie (PSL) and Turkey Point (PTN)	
Non capitalizable Feedwater Heater Inspections & Other Minor O&M Scopes	$6,320,989
PTN Independent Spent Fuel Storage Installation (ISFSI) Cask Loading Campaign	$4,250,118
Non capitalizable computer hardware and software, office furniture and fixtures for new project-bound hires, incremental staff and augmented contract staff.	$1,590,689
Total Recoverable O&M	**$12,161,796**

Table 9. 2011 Transmission Costs

Category	2011 Actual Costs
Plant Engineering	$20,457,933
Substation Engineering	$1,015,128
Substation Construction	$2,910,562
Recoverable O&M	$391
Total Transmission	**$24,384,014**