Docket No. 130009-EI: Nuclear Cost Recovery Clause.

Duke Energy Florida, Inc.

Crystal River Unit 3 Power Uprate and the Levy Units 1 & 2 Construction

Witness: Direct Testimony of WILLIAM COSTON and JERRY HALLENSTEIN, Appearing on behalf of the staff of the Florida Public Service Commission

REDACTED

Date Filed: June 20, 2013

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

COMMISSION STAFF

DIRECT JOINT TESTIMONY OF

WILLIAM COSTON AND JERRY HALLENSTEIN

DOCKET NO. 130009-EI

JUNE 20, 2013

Q. Mr. Coston, please state your name and business address.

A. My name is William Coston. My business address is 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850.

Q. By whom are you employed?

A. I am employed by the Florida Public Service Commission (Commission) as a Public Utilities Analyst IV, within the Office of Auditing and Performance Analysis.

Q. What are your current duties and responsibilities?

A. I perform audits and investigations of Commission-regulated utilities, focusing on the effectiveness of management and company practices, adherence to company procedures, and the adequacy of internal controls. Mr. Hallenstein and I jointly conducted the 2013 audit of Duke Energy Florida, Inc.'s (DEF) project management internal controls for the Extended Power Uprate (EPU) project at the Crystal River Unit 3 and Levy Nuclear Project.

Q. Please describe your educational and relevant experience.

A. I earned Bachelor of Arts and Master of Public Administration degrees from Valdosta State University. I have worked for the Commission for ten years conducting operations audits and investigations of regulated utilities. Prior to my employment with the Commission, I worked for six years at Bank of America in the Global Corporate and Investment Banking division.

Q. Have you filed testimony in any other dockets before the Commission?

A. Yes. I filed similar testimony in Docket No. 090009-EI, 100009-EI, 110009-EI and 120009-EI. This testimony addressed the audits of DEF's project management internal controls for the nuclear plant uprate at the Crystal River Unit 3 and the Levy Nuclear Project for the years 2009 through 2012. Additionally, in 2005 I filed testimony in Docket No. 050078-EI. The testimony addressed an audit of distribution electric service quality for Progress Energy Florida's vegetation management, lightning protection, and pole inspection processes.

Q. Mr. Hallenstein, please state your name and business address.

A. My name is Jerry Hallenstein. My business address is 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850.

Q. By whom are you employed?

A. I am employed by the Commission as a Senior Analyst, within the Office of Auditing and Performance Analysis.

Q. What are your current duties and responsibilities?

A. I perform audits and investigations of Commission-regulated utilities, focusing on the effectiveness of management and company practices, adherence to company procedures, and the adequacy of internal controls. Mr. Coston and I jointly conducted the 2013 audit of DEF's project management internal controls for the nuclear plant uprate at the Crystal River Unit 3 and new construction underway at the Levy site.

Q. Please describe your educational and relevant experience.

A. I earned a Bachelor of Science in Finance from Florida State University in 1985. I have worked for the Commission for twenty-three years conducting operations audits and investigations of regulated utilities. Prior to my employment with the Commission, I worked for five years at Ben Johnson Associates, a consulting firm that specializes in providing

economic and research services to state regulatory commissions.

Q. Have you filed testimony in any other dockets before the Commission?

A. Yes. I filed similar testimony in Docket No. 120009-EI. This testimony addressed the audits of DEF's project management internal controls for the nuclear plant uprate at the Crystal River Unit 3 and the Levy Nuclear Project for the year 2012. Additionally, I filed testimony in Docket 981488-TI, with an audit I conducted regarding the billing and sales practices of Accutel Communications, a reseller of telecommunications services.

Q. Please describe the purpose of your testimony in this docket.

A. Our testimony presents the attached confidential audit report entitled *Review of Duke Energy Florida, Inc.'s Project Management Internal Controls for Nuclear Plant Uprate and Construction Projects* (Exhibit CH-1). This audit completed to assist with the evaluations of nuclear cost recovery filings. The report describes key project events and contract activities completed during 2012 through April 2013 for the Crystal River 3 Uprate project and the Levy Nuclear Project. The report also presents descriptions of the current project management internal controls employed by DEF.

Q. Please summarize the areas examined by your review.

A. The Office of Auditing and Performance Analysis conducted an audit of the internal controls and management oversight of the nuclear projects underway at DEF. This is an ongoing annual review that examines the organizations, processes, and controls being used by the company to execute the Extended Power Uprate of Unit 3 at the Crystal River Energy Complex and the construction of Levy Nuclear Plant Unit 1 and Unit 2. The previous reviews were filed annually, since 2008, in the Nuclear Cost Recovery Clause dockets before the Commission.

The primary objective of this audit was to assess and evaluate key project developments, along with the organization, management, internal controls, and oversight that

DEF has in place or plans to employ for these projects. The internal controls examined were related to the following key areas of project activity: planning, management and organization, cost and schedule controls, contractor selection and management, and auditing and quality assurance.

Q. Are you sponsoring any exhibits?

A. Yes, our audit report is attached as Exhibit CH-1. The audit report's observations are summarized in the Executive Summary chapter for both the Extended Power Uprate project and the Levy Nuclear Project.

Q. Does this conclude your testimony?

A. Yes.

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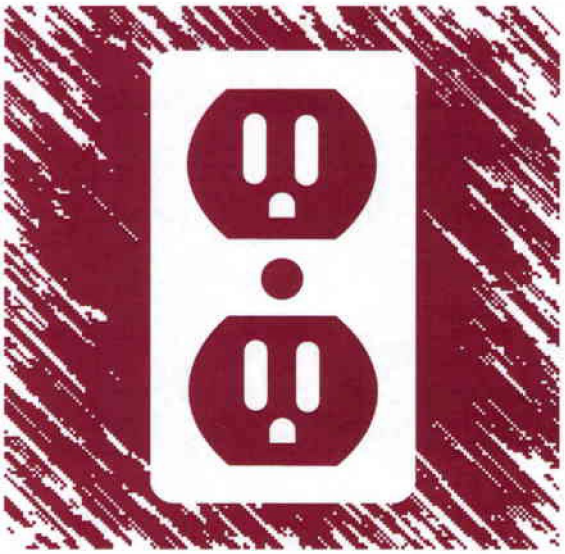

REVIEW OF DUKE ENERGY FLORIDA'S PROJECT MANAGEMENT INTERNAL CONTROLS FOR NUCLEAR PLANT UPRATE AND CONSTRUCTION PROJECTS

JUNE 2013

BY AUTHORITY OF

THE FLORIDA PUBLIC SERVICE COMMISSION
OFFICE OF AUDITING AND PERFORMANCE ANALYSIS

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

William "Tripp" Coston
Public Utility Analyst IV
Project Manager

Jerry Hallenstein
Senior Analyst

June 2013

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

PA-13-01-001

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1.0 Executive Summary

1.1 At a Glance

LEVY NUCLEAR PROJECT (LNP)

- No change to the total estimated project cost since April 2012.
- No change to the expected in-service dates for Unit 1 and Unit 2 since April 2012.
- The company's feasibility analysis concludes that the project is still viable.
- Evaluation by the NRC of its Waste Confidence Rule will delay issuance of Combined Operating Licenses (COL).
- Company authorized continue project funding through the end of 2015.

CR3 EXTENDED POWER UPRATE

- With the company's decision to retire the CR3 plant in February 2013, the EPU project has been canceled by the company.
- The company has shifted the project to close-out phase, with the project assets shifted to the decommissioning operation.

1.2 Audit Execution

1.2.1 Purpose And Objective

The Office of Auditing and Performance Analysis performed the sixth annual review of the internal controls and management oversight of the nuclear projects underway at Duke Energy Florida, Inc. (DEF or the company), formerly known as Progress Energy Florida, Inc. This review examines the adequacy of project management and internal controls employed in the company's construction of Levy Nuclear Plant Unit 1 and Unit 2 and Extended Power Uprate of Unit 3 at the Crystal River (CR) Energy Complex.

The primary objective of this review was to provide an independent account of project activities and to evaluate the internal controls DEF employs for these projects. The information provided in this report may be used by the Commission to assist in an assessment of the reasonableness of the company's cost-recovery requests for the projects.

Commission audit staff published previous reports in 2008 through 2012. Each was entitled *Review of Progress Energy Florida, Inc.'s Project Management Internal Controls for Nuclear Plant Uprate and Construction Projects.* The five previous reviews completed by Commission audit staff are filed in testimony in Docket No. 080009-EI, 090009-EI, 100009-EI, 110009-EI, and 120009-EI.

1.2.2 Scope

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

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

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

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

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

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

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

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

1.2.3 Methodology

Planning and research and initial data collection for this review were performed in January through March 2013. Additional data collection, site visits, interviews, analysis, and report writing were conducted in March through May 2013. The information compiled in this report was gathered via company responses to audit staff document requests, onsite visit to the Crystal River Energy Complex and the St. Petersburg main office, and interviews with key

project personnel. Audit staff also reviewed testimony, discovery, and other filings in Docket No. 130009-EI.

A large volume of information was collected and analyzed by audit staff. Specific information collected from DEF included the following categories:

- Policies and procedures
- Organizational structures
- Contract requests for proposal
- Contractor bids
- Bid evaluation analyses
- Contracts
- Internal audit reports and quality assessment reviews

1.3 Overview

1.3.1 Levy Nuclear Project

There has been no change to the estimated project costs since April 2012 when the LNP management team announced an increase in LNP costs to $18.8 billion [$24.1 billion including allowance for funds used during construction (AFUDC)]. **EXHIBIT 1** shows DEF's estimated total project costs for the years 2008 through 2012.

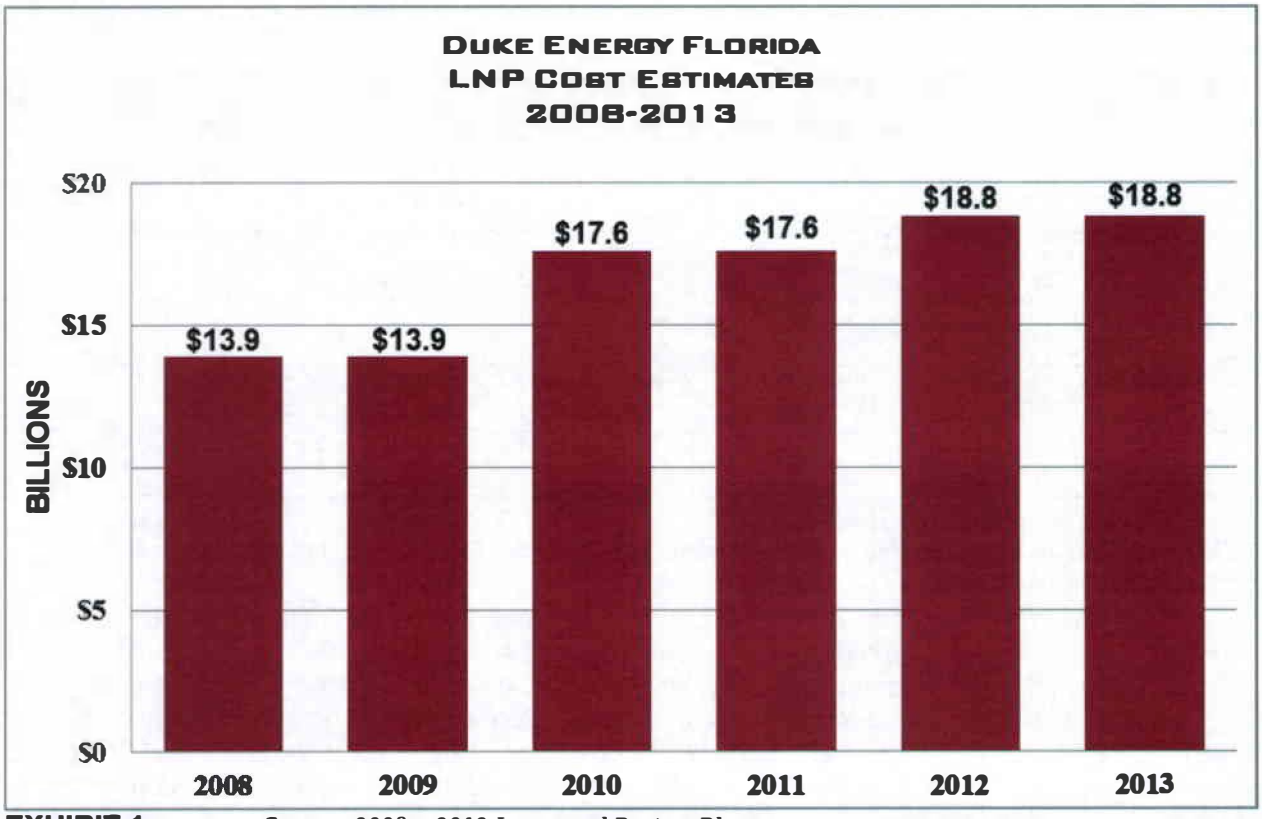


EXHIBIT 1 *Source: 2008 – 2012 Integrated Project Plans, DEF Response to Staff Data Request LNP DR 2.1.*

As of December 31, 2012, DEF has spent approximately $962 million on the Levy project including AFUDC. DEF has issued internal approval of [redacted] in LNP funding from May 1, 2013 through December 31, 2015.

LNP Schedule

There also has been no change in the LNP expected in-service dates for Units 1 and 2 since April 2012, when the LNP management team announced a shift in the in-service dates. Units 1 and 2 are currently scheduled to be in-service in 2024 and 2025, respectively.

While the in-service dates have not changed, DEF has experienced a delay in the expected receipt of the LNP Combined Operating License (COL). In April 2012, DEF anticipated receipt of the COL during the second quarter of 2013. However, in August 2012, the U.S. Court of Appeals struck down the NRC's Waste Confidence Rule which codifies the NRC's generic determination of the environmental impacts associated with the storage of spent fuel after the end of a reactor's licensed life of operation. As a result of the Court's actions, the NRC will not issue licenses for all pending COLs; however, licensing review activities will continue. DEF believes the NRC could issue the LNP COL in the fourth quarter of 2014 assuming the NRC promulgates a new Waste Confidence Rule by September, 2014 (target date directed by the NRC). According to DEF, a late 2014 COL issuance date will not require a revision to the estimated start of the LNP pre-construction, construction and in-service dates.

EXHIBIT 2 compares the current LNP Project Timeline to the 2008 and 2012 estimated timelines. The only change from the 2012 Timeline is to the Licensing and Permitting phase that is directly impacted by the NRC's current reassessment of the Waste Confidence Rule.

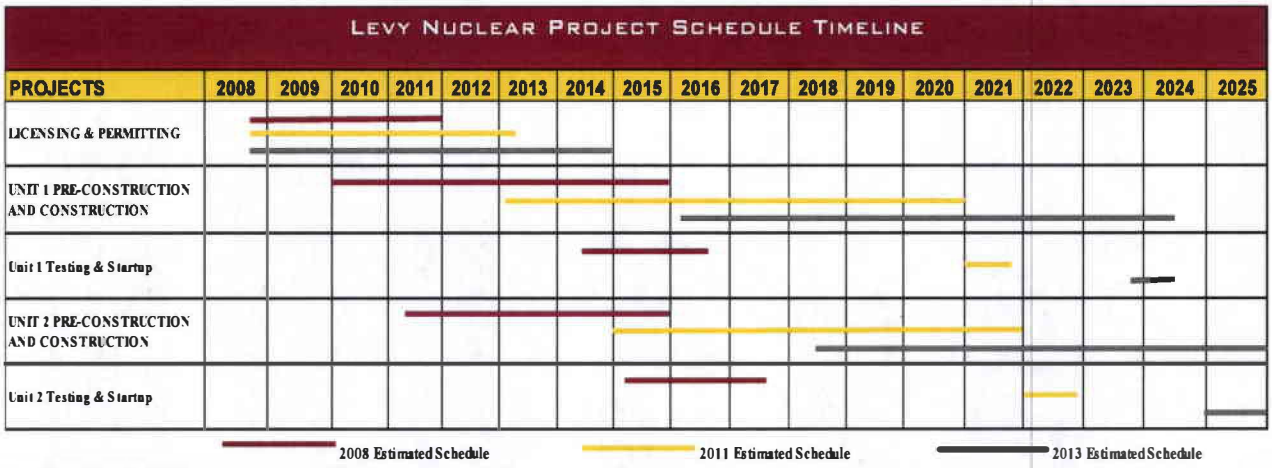


EXHIBIT 2 *Source: Integrated Project Plans and DEF Response to Staff Data Request LNP DR 2.1*

To mitigate the increased near-term uncertainty and enterprise risks, DEF's project management continues to maintain the partial suspension of the Engineering, Procurement, and Construction (EPC) Agreement for the LNP. According to DEF, the decision to suspend construction also provides additional time for economic conditions in Florida to improve and is in the best interests of both the company and consumers. DEF must begin negotiations with Westinghouse and Shaw, Stone & Webster (the Consortium) on the *Full Notice to Proceed* [redacted]

LNP Organizational Changes and Reporting

Progress Energy's merger with Duke Energy resulted in organizational changes. In 2012, Duke created a new Nuclear Development organization headed by the company's President and CEO. The organization supports the COL application process for all nuclear projects within Duke Energy. According to DEF, the new organization strengthens the quality assurance programs and ensures accountability for regulatory compliance.

Prior to Progress Energy's merger with Duke Energy, the primary tool used by Progress Energy's executive management for planning, assessing feasibility, and approving additional expenditures for the LNP was an annual Integrated Project Plan (IPP). The IPP had provided a fairly comprehensive window into Progress Energy's LNP project management and planning processes. Following the merger in July 2012, Duke Energy replaced the IPP with an abbreviated White Paper referred to as a Report to the Transaction and Risk Committee. The Transaction and Risk Committee approves funding for any transaction [redacted]. The first LNP Report to the Transaction Review Committee was presented on April 8, 2013

Commission audit staff notes that White Paper to the Transaction and Risk Committee does not specifically contain and endorse the current total projected LNP cost estimate. There are other documents that include detail surrounding the project, including cost and feasibility. However, this approach represents a change in how the company has previously documented and memorialized its decision process.

Work to be performed in 2013

In 2013, DEF continued to focus its efforts in obtaining the COL from the NRC. There are three major milestones left in obtaining the COL: (1) the NRC's review and issuance of the Final Safety Evaluation Report; (2) the mandatory hearing process with the NRC, and; (3) the NRC's promulgation of the Waste Confidence Rule.

Issuance of the Final Safety Evaluation Report (FSER) is expected in September 2013, 13 months later than DEF had anticipated in 2012. DEF attributes the slippage to the NRC's Requests for Additional Information to address concerns regarding the events at the Fukushima plants in Japan as a result of the March 2011 tsunami. Additionally, DEF supplemented the COL application with an amended emergency preparedness plan in response to a revised Emergency Plan Rule issued by the NRC Upon issuance of the FSER in September 2013, DEF anticipates the mandatory hearing process with the NRC to begin sometime in the fourth quarter of 2013. While DEF cannot actively mitigate the risk of delay to the Waste Confidence rulemaking schedule, DEF anticipates the NRC revised Waste Confidence Rule will be issued by the target date of September 2014.

In addition to performing work to obtain the COL, DEF continues to obtain the necessary environmental permits (e.g., wetland mitigation plan and aquifer performance test), perform transmission study-related activities, and participate in industry groups to evaluate the disposition of the AP1000 design and operation in China and with the Vogtle and V.C. Summer AP1000 projects.

1.3.2 Crystal River 3 Extended Power Uprate

During 2012, the EPU project, was still considered feasible by the company, contingent upon the final CR3 repair decision. The project team continued to focus on developing and finalizing the engineering scope and design for project completion at the direction of project senior management. On February 5, 2013, the company made the formal decision to retire and pursue decommissioning of the unit—rendering EPU project completion moot.

The company transitioned the project to close-out phase after the announcement. This process required the remaining project team to develop a plan to finalize and resolve all open issues with the project and transfer its assets to the decommissioning team. This process is was completed in May 2013.

License Amendment Request

The company continued to seek approval of its License Amendment Request (LAR) during 2012. Management believed this was the reasonable approach to take, given the necessary steps required to meet the NRC requirement. The company recognized that postponing the pursuit of the LAR during the timeframe when the company was evaluating the overall continued viability of the unit, could have impacted its ability to obtain the LAR timely in the future. With the company's decision to retire the CR3 unit, the company notified the NRC in February 2013 to stop all work on the LAR application.

2013 Work Scope

In addition to the LAR pursuit in 2012, the company continued to finalize its engineering design work for the final phase of the EPU project. Project management determined that it was necessary to continue this work to keep the final phase on schedule, had the company decided to make repairs to the unit. The company could have deferred some engineering work (and the team did shift some in-house engineering planning). However, this would have required the company to release its current vendor support. The company believed that the impact of re-training a new group of contractors when the company resumed work, would have been a hindrance to meeting the schedule.

2013 Contracts

The company did enter into several contracts during 2012 to assist with the final phase work development. These contracts--detailed in Chapter 3 of this report--were necessary to assist with such project areas as the delivery and storage of the turbines that were scheduled to be installed in the final project phase. In addition, the company added additional work authorizations to its existing contracts fund for the additional engineering design and LAR work.

1.4 Staff Observations

1.4.1 Levy Nuclear Plant

- Staff recognizes that potential delays in the NRC Waste Confidence Rulemaking after September 2014 may impact the issuance of the COL and overall project schedule.
- Staff notes that the company has not made any changes to its overall cost and schedule for the project, and that the company has followed proper project management protocol in its current focus on obtaining the COL.

- Staff notes that the company continues to schedule and enhance its Quality Assurance assessments and believes the company should continue to place a strong focus in this area as the Long Lead Equipment fabrication continues.

1.4.2 CR3 Extended Power Uprate

- Staff notes that the company's decision to repair or retire the CR3 unit was outside the scope of the EPU project management team's purview. Staff notes that the project team's decision to continue with its previously-authorized work scope was appropriate under generally accepted project management protocol.

- With the merger, the company implemented new policies and procedures to incorporate the current corporate approach. Because of the project cancelation, these new procedures did not significantly impact the project.

- Staff notes the company developed and implemented a project close-out plan for the EPU, which is an appropriate step under generally accepted project management protocol.

2.0 Levy Nuclear Project

2.1 Key Project Developments

During 2012 through April 2013, the work accomplished at DEF's Levy Nuclear Project (LNP) primarily covered activities in the areas of licensing, environmental approvals, and engineering. The LNP cost estimate and in-service date projections have not changed since DEF notified the Commission in its April 30, 2012 filing that the in-service date for the first LNP unit was shifted to 2024, with the second unit following 18 months later.

The overall cost is still estimated at $18.8 billion [$24.1 billion including allowance for funds used during construction (AFUDC)]. As of December 31, 2012, DEF has spent approximately $962 million on the Levy project including AFUDC.

DEF had received internal approval of $[redacted] in LNP funding from May 1, 2013 through December 31, 2015. The funding will be used to complete NRC licensing activities through receipt of the LNP Combined Operating License (COL), to manage the long-lead equipment and other costs associated with the LNP Engineering, Procurement, and Construction (EPC) Agreement, and to support other project-related activities.

2.1.1 NRC Licensing Delays

As recently as April 2012, it appeared the NRC might issue the LNP COL during the second quarter of 2013. However, in August 2012, the U.S. Court of Appeals struck down the NRC's Waste Confidence Rule which codifies the NRC's generic determination of the environmental impacts associated with the storage of spent fuel after the end of a reactor's licensed life for operation. As a result of the Court's actions, the NRC will not issue licenses for all pending COLs; however, licensing review activities will continue.

The NRC set a target date of September 2014 for finalizing the revised Waste Confidence Rule and has also indicated to DEF that it will conduct the LNP COLA mandatory hearings prior to issuance of the final Waste Confidence Rule. According to DEF, if the mandatory hearings are conducted in 2013 and the NRC promulgates a new Rule in September 2014, the LNP COL could be issued as early as the fourth quarter of 2014. According to DEF, a late 2014 COL date would not require a revision to the estimated 2024 LNP Unit 1 in-service date. DEF believes the cost of the approximate two year Waste Confidence delay will be less than $10 million.[1]

The NRC safety and environmental review schedule for the LNP Combined Operating License Application (COLA) is shown in **EXHIBIT 3.** All phases have been completed with the exception of the issuance of the Final Safety Evaluation Report (FSER). The FSER, which represents the completion of the NRC's safety review process, must be complete before the NRC can move forward with the mandatory hearing process. DEF anticipates that the Final Safety Evaluation Report will be issued in September 2013, 13 months later than DEF had anticipated during 2012. DEF attributes the slippage to the NRC's Requests for Additional Information (RAI) regarding risks associated with the events at the Fukushima nuclear plant in Japan. Since no new COLs will be issued until after the Waste Confidence Rule is resolved in

[1] DEF's Response to Citizens Second Set of Interrogatories, Docket No. 130009-EI, May 6, 2013.

2014, DEF decided to supplement the LNP COLA with an amended emergency preparedness plan to comply with a December 2011 NRC Emergency Plan Rule revision.

LEVY NUCLEAR PROJECT NRC COLA REVIEW SCHEDULE	
Environmental Review	**Status**
Phase 1 – Environmental Impact Statement (EIS) scoping summary report issued	Completed- May 2009
Phase 2 – Draft EIS issued to the Environmental Protection Agency (EPA)	Completed - August 2010
Phase 3 – Responses to public comments on draft EIS completed	Completed – April 2012
Phase 4 – Final EIS issued to the EPA	Completed - April 2012
Safety Review	**Status**
Phase A – Requests for Additional Information (RAIs) and Supplemental RAIs	Completed - March 2010
Phase B – Advanced Final Safety Evaluation Report (SER) without Open Items	Completed - September 2011
Phase C – Advisory Committee on Reactor Safeguards (ACRS) Review of Advanced Final SER	Completed – January 2012
Phase D – Final SER	September 2013

EXHIBIT 3 *Source: DEF Response to Staff Data Request LNP DR 1.3*

2.1.2 ENVIRONMENTAL APPROVALS

DEF is in the process of obtaining the necessary environmental permits for the pre-construction and construction phases of the LNP. The current status of significant non-NRC, federal environmental permits and authorizations is shown in **EXHIBIT 4** below. The primary environmental work completed in 2012 by DEF was to address the U.S. Army Corps of Engineers concerns regarding potential wetland impacts from groundwater withdrawals. In response, DEF submitted its Aquifer Performance Test Plan and Environmental Monitoring Plan to the State of Florida and the Southwest Florida Water Management District for approval. According to DEF, the U.S. Army Corps of Engineers' Clean Waters Act 404/10 Permit is expected to be issued in mid-2013 and will not affect the current LNP schedule.

LEVY NUCLEAR PROJECT FEDERAL ENVIRONMENTAL PERMITS AND AUTHORIZATIONS	
Permit/Authorization	**Status**
U.S. Army Corps of Engineers (USACE) Clean Waters Act 404/10 Permit	• Project application submitted. • Final Public Notice issued August 13, 2010. • Expect permit issuance mid-2013.
U.S. Department of Transportation (DOT)	• Registration for hazardous materials shipments needed for plant operations. • No activity to date.
U.S. Environmental Protection Agency (EPA) – Spill Prevention Control and Countermeasure Plan	• Plan needed when oil storage exceeds trigger levels. • No activity to date.
Prevention of Significant Deterioration (PSD) Air Construction Permit	• Permit issued by Florida DEP under approved Federal program. • Application filed June 2, 2008. • Final permit issued by FDEP on February 20, 2009
Title V, Clean Air Act Air Permit	• Permit issued by Florida DEP under approved Federal program. • Permit required for operation of a Title V facility. • Application will be filed to support startup. • No activity to date.

EXHIBIT 4 *Source: DEF Response to Staff Data Request LNP DR 1.2*

Additional environmental work performed in 2012 included finalizing the cultural resources review of the accessory parcels at the LNP site and blow down pipeline. DEF also finalized the approach on cultural resource surveys on the transmission line routes to the expressed concerns of the Seminole Tribe of Florida. The review and survey assess the impacts on potentially undiscovered archaeological resources at the LNP construction site and supporting transmission line routes. Both the review and survey have been approved by the Florida Department of State's Division of Historical Resources. DEF also continued planning for environmental compliance for construction mobilization, completed preliminary documents and surveys on the State of Florida Cross Florida Greenway easement, and negotiated purchase agreements on 16 parcels in the LNP Common Transmission Corridor.

2.1.3 Engineering Design Finalization

During 2012, the engineering activities primarily conducted were in support of the LNP COLA. Further engineering accomplishments in 2012 included:

- Inspections for oversight of the fabrication of long-lead equipment
- Inspections of LNP Unit 1 [redacted]
- Participation in AP1000 design reviews with other utilities
- Review for the conceptual design of a contingency desalination plant
- Evaluations and update of the seismic hazard at the LNP site

In 2012, DEF conducted engineering-related "Witness Points" and "Hold Points" for process inspection of fabrication of long-lead equipment and [redacted]. Witness and Hold Point inspections were conducted during the manufacturing of several items of long-lead equipment to make sure components were being manufactured in conformance with contracts. Additionally, Witness Point inspections were conducted on the [redacted].

DEF also continued participation in AP1000 reactor design reviews with the industry group of utilities including lessons learned from Southern Company's Vogtle Unit 3 nuclear power plant site and SCANA's V.C. Summer units. Additionally, in response to an NRC Request for Additional Information (RAI), DEF performed a feasibility analysis for the conceptual design of a contingency desalination plant that uses nuclear energy for seawater desalination applications.

Following the March 2011 accident at the Fukushima Nuclear Power Plant in Japan, the NRC has required all 104 nuclear power plants in the United States to re-evaluate seismic hazards using an updated Central Eastern US seismic model. DEF's LNP engineering team conducted a probabilistic seismic hazard analysis to estimate and evaluate the likelihood that various levels of earthquake-caused ground motions will be exceeded at a given location in a future time period.

2.2 Organizational Changes

As a result of the Progress Energy and Duke Energy merger in July 2012, the former LNP project transitioned from the New Generation Programs and Projects organization to the Nuclear Development organization in September 2012. The new Nuclear Development support group supports the COL application approval process of all nuclear projects within DEF.

2.2.1 Duke Energy's Nuclear Development Group

DEF's Nuclear Development organization includes 45 full-time members and an additional 14 contract support personnel for a total team of 59. During this change process, some individuals retired or changed assignments, but the consolidated team includes expertise to support the licensing phase of all future DEF AP1000 projects. **EXHIBIT 5** depicts the Executive Vice President, the Vice President, directors, managers, and supervisors within the Nuclear Development organization that fall under the direction of DEF's Chief Executive Officer.

The organizational change was made after discussions about implementation of the quality assurance program and other regulatory considerations. According to DEF, placing LNP in Nuclear Development strengthens the quality assurance programs and aligns accountability for managing regulatory outcomes with the organization implementing the project. Expected benefits from this change include:

- Places a clear line of responsibility for nuclear safety to a single corporate officer, the President, Duke Energy Nuclear.
- Ensures the construction organization has sufficient technical expertise, regulatory compliance expertise, and staffing to provide intrusive oversight of contractors.
- Provides for even greater clarity on the overriding priority of nuclear safety over cost and schedule considerations.
- Facilitates transfer of experience gained through construction with the plant, and with plant equipment, into the operating organization to prepare for successful plant operation.
- Facilitates use of existing regulatory compliance programs during plant construction and ensures accountability for regulatory compliance.

2.2.2 LNP Staffing Plan For 2013

According to DEF, in 2013 some small increases in the number of personnel in the Nuclear Development group will be made to strengthen areas where future retirements are anticipated or to replace contract personnel. DEF anticipates some shifting of resources to reflect merger changes and to align with a new fleet strategy involving engineering, reactor services, performance improvement, nuclear oversight and training. DEF also anticipates additional future staffing at the LNP site to reflect the NRC's regulation changes for emergency planning. Deployment to the LNP site to start initial construction is contingent upon the issuance of the COL.

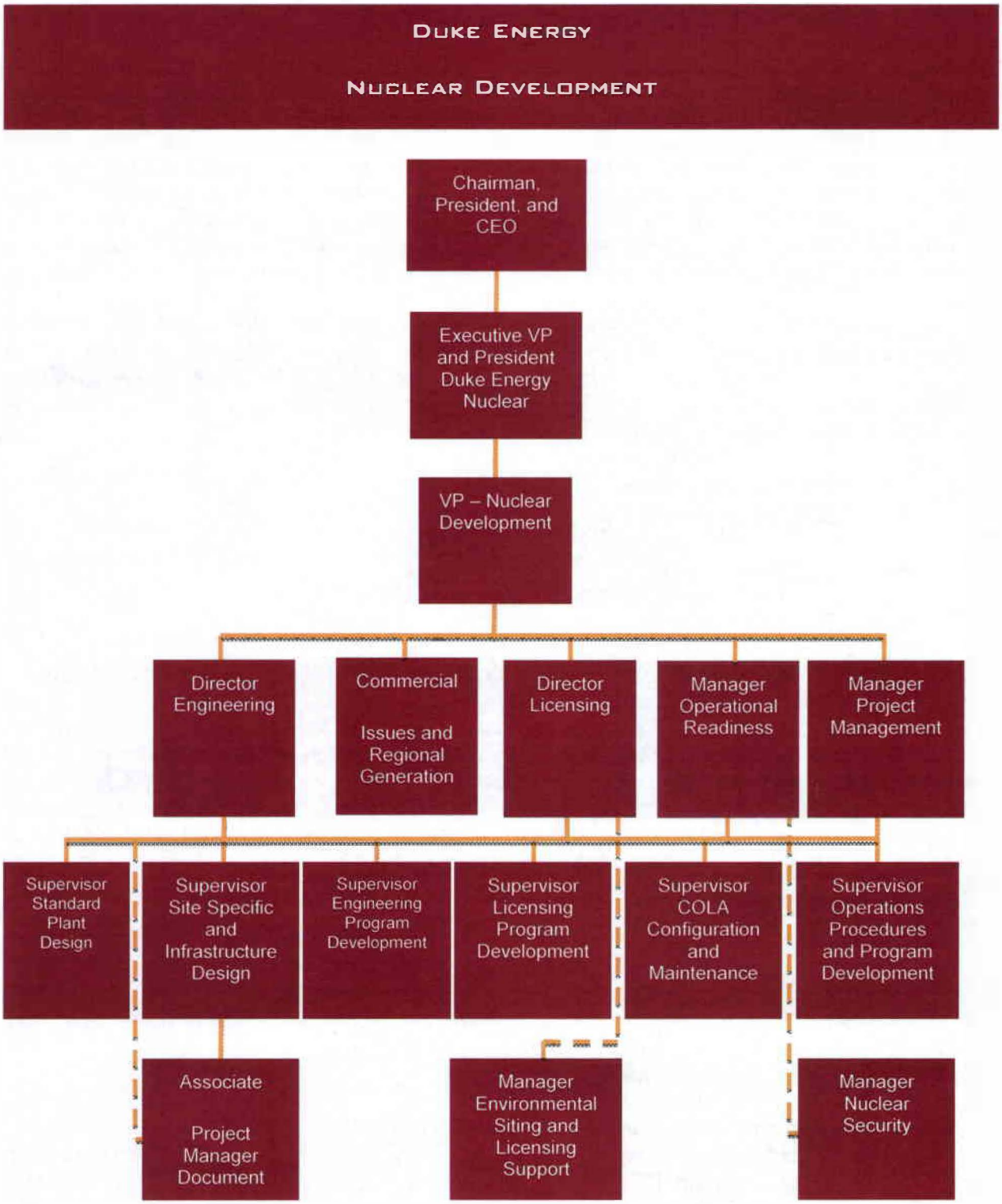


EXHIBIT 5

Source: DEF Response to Staff Data Request LNP DR 1.12

2.3 Report To The Transaction And Risk Committee

Prior to Progress Energy's merger with Duke Energy, the primary tool used by Progress Energy for planning the LNP, assessing the LNP's continued feasibility, and approving additional expenditures was an annual Integrated Project Plan (IPP). The latest revision occurred in April 2012. The IPP provided a comprehensive discussion on the status of the LNP including key milestones, project costs, post implementation incremental costs, industry experience and benchmarking, risk assessment, economic evaluation, contract and procurement strategy, and market analysis. The IPP had provided a fairly comprehensive window into Progress Energy's project management and planning processes.

Following the merger in July 2012, DEF replaced the IPP with an abbreviated White Paper referred to as a Report to the Transaction and Risk Committee. The Transaction and Risk Committee approves funding for any transaction [redacted] Funding [redacted] must be approved by Duke Energy's Board of Directors. The Transaction and Risk Committee is comprised of the following members:

- Chief Financial Officer
- Chief Legal Officer
- Vice President and Chief Risk Officer
- Vice President and Treasurer
- Vice President, Internal Audit, Ethics & Compliance
- Three other members from the Senior Management Committee

The first LNP Report to the Transaction and Risk Committee was presented on April 8, 2013. The Report includes the status of state regulatory and cost recovery issues, the current LNP schedule, the status of the Engineering, Procurement, and Construction Agreement (EPC), the current scope and costs, risks and mitigation, and the current LNP timeline. As discussed in section 2.3.3 below, the Report requested additional funding authorization of $[redacted] for the LNP over the three-year period 2013 through 2015. In contrast to the IPP, which was prepared annually and required signatures to approve funding, the Transaction and Risk Committee approved funding for a three-year period by majority vote. According to DEF, any additional funding during the three-year period would have to be brought back to the Committee for approval.

Commission audit staff notes that White Paper to the Transaction and Risk Committee does not specifically contain and endorse the current total projected LNP cost estimate. There are other documents that include detail surrounding the project, including cost and feasibility. However, this approach represents a change in how the company has previously documented and memorialized its decision process.

2.3.1 State Regulatory and Cost Recovery

With regards to state regulatory and cost recovery issues, the Report to the Transaction and Risk Committee notes that DEF's feasibility analysis filed with the Commission continues to indicate that completing LNP is more favorable than not doing so (see section 2.4). One aspect of the feasibility assessment of the LNP is a quantitative economic analysis of the cumulative life-cycle net present value of revenue requirements, or CPVRR. The current CPVRR modeling of the long-term financial prospects of LNP has not changed appreciably since the 2012 analysis. The following key considerations guided the company in its decision to move forward with the LNP.

- Capital expenditures for the LNP and alternative projects are one of the key inputs to the feasibility assessment. The estimates have been updated based on consideration of proposed revised in-service dates of June 2024 and December 2025. The updates for the 2013 analysis are very minor and do not represent a material change from the 2012 estimate.

- The long-term forecasts for fuels have changed somewhat since the 2012 study was performed. While the short-term forecast price of natural gas continues near historic lows, the longer-term price forecast is now higher than the 2012 forecast. Since the effect of the longer-term price forecast plays a significant role in this analysis, there is an overall increase in the expected benefits of LNP project completion.

- The long-range expectations for cost of capital and operating costs, long-range forecasts of customer growth, and expectations surrounding future environmental legislation are also among the key inputs. In general, these inputs have not changed significantly from the forecasts used in the 2012 study. The carbon emission costs forecasts used are also at similar levels as those used in the 2012 study.

2.3.2 Engineering, Procurement, and Construction Agreement

The December 2008 EPC Agreement was suspended on April 30, 2009 due to a determination by the NRC that a Limited Work Authorization could not be issued in advance of the COL for the LNP. Current work is limited to activities required to obtain the COL, major environmental permits, and long-lead equipment procurement activities associated with the 2009 suspension. Some long-lead equipment work orders were suspended or cancelled, while other equipment orders were completed or partially completed and stored.

Additionally, DEF continues to work with the Vogtle and V.C. Summer AP1000 projects to monitor design and construction issues. Often, collaboration results in revised strategies to address problems encountered during design change review, procedure development, training material development and issue resolution.

DEF has the right to terminate the EPC Agreement at any time. [redacted] See **EXHIBIT 7** in Section 2.3.5 for a detailed timeline of the LNP.

2.3.3 Current Scope and costs

Discussion on the current scope and costs in the Report to the Transaction and Risk Committee is related to the NRC COL licensing process and management of the EPC Agreement. According to DEF, these are considered to be the most important activities until receipt of the COL.

DEF's activities surrounding the licensing process include providing the necessary documentation that will allow the NRC to finalize its safety review, including a final COLA revision that is currently targeted to be submitted in June 2013. DEF continues to work on the following items for the NRC's review and closure:

- Changes to the LNP Emergency Plan to address recent Emergency Preparedness rulemaking.
- Revision to the Quality Assurance Program Description for LNP to reflect a Quality Assurance Program that is applicable to all new nuclear plant licenses.
- Revisions to proposed license conditions that address Fukushima-related actions.
- Changes to resolve issues related to the Radwaste Building classification for storage of radioactive waste.
- A Westinghouse design change to the reactor containment to meet post-accident cooldown requirements, and a request for exemption from certified design requirements.

EXHIBIT 6 below depicts $[redacted] in projected additional LNP EPC costs and DEF's costs through 2015. The funding would be used to complete NRC licensing activities through receipt of the LNP COL, manage the long-lead equipment and other costs associated with the LNP EPC Agreement, and support other project activities. Additionally, DEF anticipates that at a minimum, the pricing and dates of the EPC Agreement will be renegotiated and some site-specific design work will be re-started in late 2014 and 2015. Costs associated with these activities are included in the approved funding.

LEVY NUCLEAR PROJECT
PROJECTED COSTS
($ MILLIONS)

	May-Dec 2013	2014	2015	Total
EPC Agreement	[redacted]	[redacted]	[redacted]	[redacted]
DEF's Costs	[redacted]	[redacted]	[redacted]	[redacted]
Total Costs	[redacted]	[redacted]	[redacted]	[redacted]

EXHIBIT 6

Source: DEF Response to Staff Data Request LNP DR 2.1

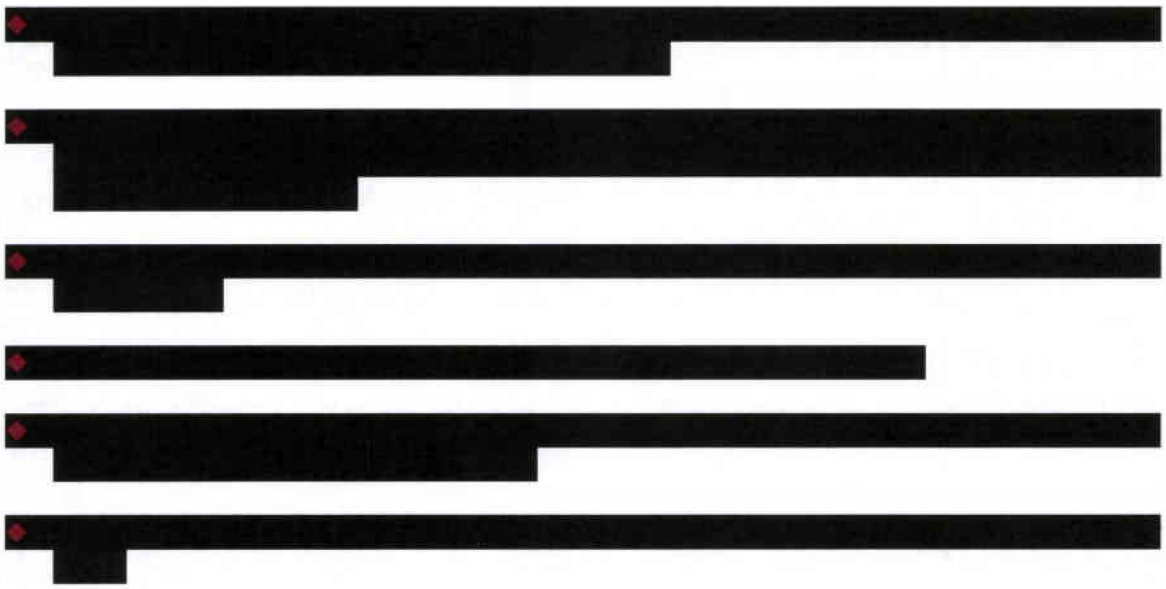
2.3.4 RISK AND MITIGATION

DEF's LNP project management holds monthly risk review meetings for COLA and near-term non-COLA projects. Project management identifies, reviews, and monitors project risks and mitigation strategies. Following these meetings, LNP project risk registers are updated and used as a quantification tool to monitor the probability of a risk occurring and the overall impact on the LNP. The former Integrated Project Plan provided detailed risk matrices to identify the major risks for both LNP COLA and non-COLA activities. The Report to the Transaction and Risk Committee does include risk matrices, but listed only the following three near-term risks:

- Potential Legislative Changes
- Licensing Delays
- Current State of Nuclear Development Economics.

The potential legislative changes refer to proposed bills that could have repealed the nuclear cost recovery statute enacted in 2006. However, no repeal occurred and the legislature instead revised the law. In terms of mitigation, DEF's current position is to continue monitoring legislative developments as a qualitative external risk in its feasibility analysis of LNP.

The risks of licensing delays are concentrated on the possible impacts to the receipt of the COL. According to DEF, licensing delays can be mitigated by active engagement with the NRC regarding emergent issues and timely submittal of all information requested through the Request for Additional Information (RAI) process. While DEF cannot actively mitigate the risk of a delay to the Waste Confidence rulemaking schedule, it intends to closely follow the NRC staff's progress and participate in public meetings in order to anticipate potential delays. DEF lists the following potential future risks to the COL receipt timing:



The risks associated with the current state of nuclear development economics include: energy and environmental policy (incentives or restrictions such as price of carbon), projected demand for electricity and plant retirements, resource diversity in the generation portfolio, and the expected capital and operating costs of new nuclear versus alternative generation resources such as natural gas. DEF acknowledges that there is little mitigation possible for these types of macroeconomics, as these factors are outside of DEF's control. DEF's position is to continue monitoring these external factors to ensure the project remains in the best interest of the company and its customers.

2.3.5 LNP Timeline

The Report to the Transaction and Risk Committee also provided a detailed timeline of the LNP. **EXHIBIT 7** is a condensed overview of the key events leading to the expected in-service dates of LNP Units 1 and 2.

LEVY NUCLEAR PROJECT TIMELINE AS OF 2013	
Event	**Date**
Commercial Operating Date Shifted to 2024-25	5/2012
Waste Confidence Rule expected	8/2014
Earliest COL issuance	12/2014
Resume Site Specific Engineering	Q1/2015
Start EPC negotiations	Q2/2015
Full Notice to Proceed	Q1/2016
Resume Transmission Engineering	Q2/2016
First Nuclear Concrete – Unit 1	Q1/2020
First Nuclear Concrete – Unit 2	Q2/2021
Unit 1 Commercial Operating Date	Q2/2024
Unit 2 Commercial Operating Date	Q4/2025

EXHIBIT 7 *Source: DEF Response to Staff Data Request LNP DR 2.2*

2.4 PROJECT FEASIBILITY

As part of the Nuclear Cost Recovery Clause Rule, the Commission requires DEF to provide an annual feasibility update for the LNP. DEF provides both a quantitative and qualitative feasibility analysis.

2.4.1 QUANTITATIVE ANALYSIS

As previously mentioned in section 2.3.1, DEF's quantitative analysis is an updated life-cycle net present worth economic assessment of the LNP, known as the cumulative present value of revenue requirements (CPVRR). The most recent CPVRR, prepared by DEF's System Planning group, was updated for the FPSC 2013 Nuclear Cost Recovery filing.

The CPVRR analysis compares LNP to all natural gas-fired base load generation using a range of fuel forecasts and a range of potential carbon compliance cost estimates. DEF uses the analysis to determine whether the LNP is more cost-effective than an all natural gas generation resource plan based on the estimated LNP in-service dates. This is the same approach DEF used to prepare the CPVRR in the Nuclear Cost Recovery filings since 2009. Based on the forecast assumptions and information used and presented in the 2013 filing, DEF's results of the CPVRR assessment indicate that moving forward with the LNP is economically viable.

DEF notes that the CPVRR is not a litmus test for the LNP and is simply one factor among many factors that must be considered in making a decision to move forward with construction of the LNP. [2] As explained below, DEF also performed a qualitative analysis that resulted in the determination that the LNP is still feasible.

2.4.2 QUALITATIVE ANALYSIS

DEF's qualitative analysis assesses the technical and enterprise risks of completing the LNP. From a technical standpoint, DEF believes the Westinghouse AP1000 nuclear reactor

[2] See page 50 of Direct Testimony of Christopher M. Fallon filed in Docket No. 130009-EI, May 1, 2013.

design uses proven technology and is economically feasible. In 2011, the NRC approved an amended reactor design for the Westinghouse AP1000 and, soon after, approved COLs for AP1000 units at Southern Company's Vogtle and SCANA's Summer plant sites. Additionally, in 2008, China started building four units to the AP1000 design. DEF continues to participate in industry groups to evaluate the disposition of the AP1000 design and operation in China and with the Vogtle and V.C. Summer AP1000 projects.

DEF also conducted a qualitative analysis of the enterprise or external risks to the LNP. Examples of enterprise risks include potential legislative changes and the current economic conditions identified in section 2.3.4 above. Specifically, DEF's enterprise risk analysis examines the overall uncertainty regarding the current economic conditions in Florida, lower than projected customer demand, lower natural gas fuel prices, and potential carbon emissions regulation. According to DEF, there has been little change in the enterprise risks since the decision was made to shift the LNP's in-service dates in April 2012. However, DEF does point out that the U.S. Court of Appeal's decision invalidating the NRC's recent promulgation of the Waste Confidence Rule will impact the issuance of the COL for the LNP, but DEF believes the overall LNP timeline or cost will not be affected.

From a qualitative perspective, DEF believes the LNP is still feasible. DEF continues to mitigate the enterprise risks and believes moving forward with the LNP on a slower pace with work focused on obtaining the LNP COL is the correct decision.

2.5 Project Controls and Oversight

As previously mentioned, the responsibility for completing the LNP was moved to DEF's Nuclear Generation's Nuclear Development group. According to DEF, the LNP project management approach and oversight are very similar to those formerly used by Progress Energy's New Generation Programs and Projects organization. However, the post-merger organization is one that relies more on corporate functions to provide support for projects and business functions. For example, the business-related evaluations of all contracts for Duke Energy's fleet operations, including LNP, is handled by the company's corporate procurement group as opposed to the individual nuclear generation group in the former Progress Energy organization.

2.5.1 Project Management Procedures Revised and Issued

DEF continues to review policies, procedures, and controls and revises documents as necessary based on changing business conditions, organizational changes, and project work schedules. During 2012, the following eight procedures specific to DEF's Nuclear Development and project management of the LNP were revised. The revisions incorporated reporting relationship and procedure changes resulting from various organizational re-alignments.

- Quality Assurance Plan for New Nuclear Plant Development and Construction Activities
- Progress Energy New Nuclear Plant Quality Assurance Program Description Topical Report
- EPC Contract Invoice Validation and Processing
- EPC Contract Sales & Use Tax Compliance

- EPC Contract Intellectual Property and Proprietary Information Management
- Process for Document Reviews and Affirmation
- Combined Operating License (COLA) Configuration Management
- Achieving Excellence in Nuclear Projects

With the merger, a nuclear fleet-wide effort is underway to merge both companies' procedures. As part of the merger effort, DEF also created the following new procedures in 2012:

- Fleet Operating Model
- Approval of Business Transactions Policy
- Corporate Functional Area Managers (CFAMS) and Peer Group Process
- Conduct of Nuclear Oversight
- Project Funding Approval
- Project Evaluation and Business Case Development

DEF is also reviewing anticipated procedures needed to support activities following COL approval by the NRC. DEF will be required to implement an updated Quality Assurance program and work is on-going to revise and update approximately 84 administrative procedures to comply with the modified NRC's N A-1 requirements. These are programmatic requirements for establishing and executing quality assurance programs. The initial draft of these procedures was completed in November 2012. As of January 2013, 12 procedures, targeted as high priority, were expected to be completed by March 2013. The next 28 procedures are projected to be completed by the end of June 2013. The remaining 44 procedures, of lower priority, do not have a projected completion date at this time.

DEF's procedures appear to be in compliance with the company's standards for development of policies and procedures. Audit staff recognizes that the company will continue to update and develop policies and procedures in the future, as specific events trigger the need for them.

2.5.2 Internal Audits And Quality Assurance Reviews

No internal audits of the Levy project were conducted during 2012 by DEF's Internal Audit Services Department. In addition, the Audit Services Department's 2013 audit plan does not currently include any audits of the LNP. Each year DEF's Audit Services Department employs a planning process to identify those areas to be audited in the upcoming year based on relative risk. The risk-based process identified the need for an audit of the LNP EPC contract. However, the revised LNP schedule, along with results of prior audits, drove revision of Audit Services' assessment of relative priority. The proposed audit was removed from the 2012 plan and deferred for future consideration.

The Audit Services Department also determined that an audit in 2012 on the Cost Recovery Clause was not warranted based on relative risks. A key factor was that financial

audits of the Cost Recovery Clause conducted in each year 2008 through 2011 found that process and controls to be effective overall. DEF notes that the Cost Recovery Clause will continue to be reassessed as a potential audit candidate during each year's annual audit planning process.

In 2012, DEF performed and participated in one Nuclear Procurement Issues Committee (NUPIC) audit and three Quality Assurance assessment reviews as shown in **EXHIBIT 8**. The NUPIC audit is a collaboration between DEF and other nuclear power generating companies that use the same nuclear supply vendors. The Quality Assurance assessment reviews were jointly performed by DEF's quality assurance auditors and DEF's Nuclear Oversight (NOS) Department. The Quality Assurance audit group is familiar with the specific contract related requirements outlined in a vendor's contract, while the NOS group specializes in nuclear safety and monitoring standards.

LEVY NUCLEAR PROJECT
QUALITY ASSURANCE ASSESSMENTS AND AUDITS
COMPLETED 2012

Description	Completed Dates
NUPIC Limited Scope Audit of Westinghouse NPP (AP1000)	August 20-23, 2012
Internal NOS Assessment of Harris Units 2 and 3 and Levy Units 1 and 2 Nuclear Plant Development Activities	September 10-14, 2012
NOS QA Surveillance Report Associated with Witness Point for Operation No. 41 for Quality Plan TSN-6102. Revision 1	October 9-12. 2012
NOS QA Surveillance Report Associated with Owner Witness Points for Operation No. 49 and 41 for Quality Plan TSN-6102 Revision 1	October 30- November 1, 2012

EXHIBIT 8 *Source: DEF Response to Staff Data Request LNP 1.32*

The purpose of the NUPIC audit was to assess the Westinghouse Electric Company, LLC programmatic controls and their implementation in the areas of Design, Procurement, Internal Audits and Corrective Action. There were no significant issues identified; however, seven findings were identified that required corrective action by DEF. The findings ranged from procedures not being adequately followed, to corrective actions not being addressed or properly identified, and supporting documentation missing or not correctly recorded. All findings were satisfactorily resolved.

Two of the three Quality Assurance reviews were to review documentation and procedures [redacted]. All concerns addressed in the reviews were satisfactorily resolved. The third Quality Assurance review was an assessment of activities performed by the legacy Progress Energy New Nuclear Plant Development and Project Management and Construction organizations. The purpose of the review was to determine the effectiveness of the organization's performance and implementation of the Quality Assurance program for activities associated with the LNP. The Quality Assurance review identified no escalations, findings, or recommendations.

Seven quality assurance assessments and audits are planned for 2013. Four of them will be NUPIC audits on Shaw Nuclear Services, Westinghouse Electric, Worley Parsons, and Sargent & Lundy. Two Quality Assurance audits are scheduled, one on the LNP long-lead equipment Owner Witness and Hold Points, and the other on Nuclear Development and Operational Readiness. The audits and quality assurance assessments planned for 2013 are shown in **EXHIBIT 9** .

Levy Nuclear Project Quality Assurance Assessments and Audits Planned for 2013	
Description	**Scheduled Dates**
NOS QA Surveillances conducted in support of Levy Long Lead Equipment Owner Witness and Hold Points	TBD based on manufacturing schedules
Duke Energy Supplier Audit of CH2M Hill	First Quarter 2013
NUPIC Limited Scope of Shaw Nuclear Charlotte NC AP1000 Projects	First Quarter 2013-Postponed from 4th quarter 2012 due to pending Shaw merger with Chicago Bridge and Iron
NUPIC Audit of Westinghouse AP1000	Third Quarter 2013
Internal NOS Assessment of Nuclear Plant Development and Operational Readiness	September 9-13, 2013
NUPIC Audit of Worley Parsons	Fourth Quarter 2013
NUPIC of Sargent & Lundy	Fourth Quarter 2013

EXHIBIT 9 *Source: DEF Response to Staff Data Request LNP 1.32*

2.5.3 Oversight of Contractors' Policies and Procedures

DEF states that it reviews contractors' policies, procedures and controls on an ongoing basis and revises these documents based on changing business conditions, organizational changes, etc. Field activity for both generation and transmission continues to be very limited. DEF's oversight and management plan for contractors did not change in 2012, but DEF implemented additional enhancements intended to improve the oversight and management of contractors for the LNP for the first part of 2013. An example was a procedural change to add gate requirements (additional authorization) for projects with total cost greater than or equal to $1 billion. Also, the corporate contract procedure was reviewed and revised in 2012.

DEF's project management continues to meet on a quarterly basis with the EPC Consortium (Westinghouse and Shaw Stone and Webster), and continues bi-weekly phone calls with the Joint Venture Team (Sargent & Lundy, Worley Parson, and CH2M Hill) to review and discuss the work supporting the Levy COLA. Items implemented in 2012 include:

- Issued revised Project Integration Management procedure to add gate (authorization) requirements for projects with total cost greater than or equal to $1billion.
- Issued a revised Project Quality Management procedure and added a Quality Assurance Program manual.

Audit staff reviewed these enhancements and believes these enhancements will strengthen internal controls.

2.5.4 Changes to Contracts and Contract Management

DEF issued two new RFPs for contracts in excess of $50,000 since the last audit staff report in 2012. The RFPs were for:

- Real estate surveying and mapping activities for the 40-mile Cheifland to Dunnellon Bike Trail.

- Detailed engineering design, permitting, and construction services for a 3.2 mile, 12 foot wide, multi-use paved trail on the Marjorie Harris Cross Florida Greenway.

DEF also provided work authorizations, change orders, and impact evaluations on all contracts previously examined in each of the Commission's audit reviews since 2008. There were two change orders executed for the Levy EPC contract in 2012, and 26 Joint Venture Team Impact Evaluations (assessment) written against the work authorizations (approval to proceed.) All but five of these Impact Evaluations have been incorporated into executed amendments to the contract work authorization.

A list of DEF contracts over $50,000 through December 31, 2012 is found in **EXHIBIT 10**. The list includes the original contract amounts /amended amounts, and actual dollars spent.

LEVY NUCLEAR PROJECT
CONTRACTS GREATER THAN $50,000

Vendor	Contract	Specific Scope	Amount	Actual Spent
AMEC Environ.	2720-280	Chiefland to Dunnellon Bike Trail Survey	[redacted]	[redacted]
Environ Services	14760-31	Response to the USACE 404 Position Letter	[redacted]	[redacted]
Golder Associates	453352-03	Provide U.S. Army Corps of Engineers Section 404 Permit, Fukushima Response, ASLB Contention 4, Support	[redacted]	[redacted]
Joint Venture Team	255934-09	COLA revisions, validation package for the revisions, Participation in Progress Energy Page Turn review of COLA R2, Integrated roadmap for COLA changes,	[redacted]	[redacted]
Joint Venture Team	255934-09 Amend 7	Preps for the ASLB Hearing on Contention #4, Environmental Impacts of Dewatering and Salt Drift, Prep Responses 4 Open Items from ACRS Subcommittee Meeting, Prep for Full ACR Committee Meeting, & Complete Response to NRC Letter.	[redacted]	[redacted]
Joint Venture Team	255934-09 Amend 8	Calculation Revisions for QA Record Compliance Phase 1, USACE Recover Branch Recommendations & Ecological Monitoring Plan, Aquifer Performance Test Plan, US SSC Phase 1 Evaluation and Fukushima Flooding and other Natural Hazards RAI Response, 404r Permit revisions.	[redacted]	[redacted]
Joint Venture Team	255934-09 Amend 9	CEUS SSC Phase II, NRC Meeting, and RAI Response, Aquifer Performance Test Plan and Environmental Monitoring Plan, Support for NRC Commissioners' Mandatory Hearing Safety Panel #2, , ASLB Contention 4 Supplementary Support, Desalination Plant Water Supply and Waste Water System Design.	[redacted]	[redacted]
Joint Venture Team	255934-09 Amend 10	Cross Florida Greenway Property Delineation and USE, NRC Public Telecons, RG 1.60 FIRS Evaluations and Liquefaction Revisions, 404 Permitting to Show Plant Components-Vicinity of Cross Florida Barge Canal and NRC August 30, 2012 CEUS SSC Telecon Action Items.	[redacted]	[redacted]
O'Steen Brothers, Inc.	571467	Engineering Services, Permitting, & Construction in Support of a Recreational Trail on the Marjorie Harris Car Cross Florida Greenway.	[redacted]	[redacted]
O'Steen Brothers,Inc	571467 Amend 1	Construction of Alternate Trail Section 4B Portion of the Recreational Trail.	[redacted]	[redacted]
Shaw Environ.	460258-12	Phase I Environ Assess. for Identified parcels.	[redacted]	[redacted]

EXHIBIT 10

Source: DEF Response to Staff Data Request LNP 1.25-supplimental

3.0 Crystal River 3 Extended Power Uprate Project

3.1 EPU Key Project Developments

3.2.1 EPU Project Closure

During 2012, the EPU project, was still considered feasible by the company, contingent upon the final CR3 repair decision. The project team continued to focus on developing and finalizing the engineering scope and design for project completion at the direction of project senior management. On February 5, 2013, the company made the formal decision to retire and pursue decommissioning of the unit—rendering the EPU project completion moot.

Had the decision process led to completing the repairs to the unit, the company intended to complete the EPU project scope. In order to fully support this endeavor, there was a need to continue planning and developing the final phase work requirements. This approach required the company to incur EPU-related project costs during the review period.

The 2012 merger between Progress Energy and Duke energy resulted in management and corporate changes that influenced the evaluation approach. The decision whether to retire or repair CR3 had been an ongoing examination by the company (both legacy and post-merger.) This examination included a series of complex technical and economical evaluations.

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As a result of the decision to retire the plant, the EPU project has transitioned to a Close-Out phase. This is the appropriate step under generally accepted project management practices.

EPU Project Close-Out Process

The company formalized its EPU Project Close-Out on March 25, 2013. This process outlines a series of steps to determine the appropriate actions for all remaining project issues. Because the project was canceled prior to full implementation, the project team developed a customized plan that included outstanding issues associated with the implementing the final phase of the project. The project team identified the following items to be included in its close-out plan:

- Demobilization
- Finalization of NRC Regulatory involvement
- Resolution of Contracts and Purchase Orders
- Component Preservation
- Engineering Change and Work Order closure
- Closure of the Financials
- Asset recovery
- Project Close-Out to Records

The project team stated that the project should be officially closed out by May 31, 2013 with the remaining assets formally transferred to the decommission team. There are still areas of the project that remain open and managed by the decommission team or other areas of the company. An example is the continued negotiations with Long Lead Equipment (LLE) vendors. The company is still negotiating with two vendors to cancel the contracts. Additionally, the EPU

project will continue to support the necessary upkeep costs associated with the storage of equipment until final disposition is complete.

The EPU management team states that after June 1, 2013 the project will not support any full-time DEF staff. Commission audit staff notes that the company's close-out process represents an appropriate approach for closing-out a project under generally accepted project management guidelines. Because the company chose to transfer assets to the decommissioning team for dispositioning, audit staff believes the commission should continue to monitor and assess the actions of the decommission team as it manages and pursues timely resolution of the EPU contacts and equipment. This could help ensure that any refund due to the ratepayers is processed appropriately.

3.2.2 License Amendment Request

The project management team acknowledged that with the shift in the proposed Phase III construction schedule, there was an opportunity to defer the LAR approval until after the repair decision. However, given the nature of the NRC's review process, the company stated that deferring its review process would require DEF to re-enter the NRC's review pool. This could have cause delays when the NRC resumed its review process. The project team believed it was in the best interest of the company to maintain its current timeline with the NRC to ensure timely completion.

The company did not perform specific cost analysis on the decision process to continue or defer the LAR approval process. The project team states that overall, management believed that the uncertainties involving this process was significant enough to support the decision without a full cost estimate. The project team did not want the EPU project to hinder the overall operational timeline—if the repair decision had been the eventual option.

With this decision, the company continued to work with the NRC during 2012 in its pursuit of its License Amendment Request for the CR3 unit. The company continued to meet and have discussion with the NRC during the period concerning the amendment status. Additionally, the company continued to respond to NRC's request for additional information during the period.

In June 2012, the NRC performed an audit of the vendor, AREVA, to review and verify the Safety Analysis for DEF's LAR application. The purpose was to identify areas of improvement to the current LAR process; prior to the full LAR evaluation by the NRC. Overall, the company believes this audit allowed the company to verify that its current application was on task to finalize the approval process.

Commission audit staff notes that the NRC did question the company concerning its desire to continue with the LAR process for the unit, given the uncertainty surrounding its future use. The company provided a response to the NRC in August 2012 that reiterated its desire to complete the EPU project during the containment repair process—if the company chose to pursue that option. The NRC identified no significant findings and observations during this review.

The company responded to 185 Request for Additional Information from the NRC in 2012. The company used two outside consultants to assist with the technical analysis and compensated its contractors for overtime work during the 2012 period. DEF management notes that to complete the RAI requests timely, it was necessary for its vendor to work additional hours to meet the RAI response timeline. Specifically in 2012, $18,275 of the total licensing

expenditures was a result of vendor overtime. The company states that the overtime work directly ties to this vendor's work on engineering change development, reviews, and walk-downs; and work order development and walk-downs including fire protection and environmental qualification reviews.

Commission audit staff notes that the RAI response timeline is driven by the NRC and its workload. Therefore, the need to expend additional resources to meet this timeline existed. Given the company's need to accommodate and meet the NRC requirements, Commission audit staff believes DEF's overtime expenditures in this area were reasonable.

3.2.4 Integrated Project Plan and project costs

The company did not change or update its Integrated Project Plan during 2012. The cost estimates to complete the project (the main driver to update the IPP) remained within the approved IPP range during the period. Had the company made a decision to repair the unit, a project milestone would have then required a new IPP to be presented to senior management for consideration. The company anticipated the overall project cost would increase due to escalation associated with the additional time delays, but no re-estimate was warranted before the repair/retire decision was finalized.

The most recent IPP from April 2012 established a specific limited work scope for the EPU project team. The work authorization included:

- Continue Engineering Activities
- Continue LAR Activities
- Continue Work Order planning
- Continue Procurement Activities for previously contracted long lead equipment
- Re-negotiate Turbine contract for installation timeline
- Initiate AREVA change order to update Technical Basis Documents for the Emergency Operating Procedures.

Commission audit staff reviewed the work scope performed by the project team during 2012 and verified the focus was within the areas outlined in the IPP. Project management stated that it was their intent to limit the work and spending to the areas necessary to meet the Phase III timeline, if the plant returned to service. Areas where the company invested a majority of its efforts were external engineering design finalization and turbine installation preparation. The company chose to defer any in-house engineering work until a final decision was made concerning the repair timeline.

The project team's goal was to complete its engineering design development prior to the end of 2012. The company employed AREVA to complete this process, with support from in-house engineering staff. The project team states that it was necessary to continue progress on the engineering design in order to remain on task with the development of the construction work packages.

While the original goal was to complete 100 percent of the engineering by the end of 2012, the project team stated that a six-month shift in the construction date resulted in the completion of approximately 75 percent of its engineering design. This shift meant that the company no longer needing to meet its original completion target. During 2012, the company completed the following engineering design tasks:

- Atmospheric Dump Valves Rapid RCS Cooldown
- Feedwater Booster Pump & FWV 14/15 Change Out
- Evaluation of Plant Instrumentation for EPU
- FWHE 3A/3B Feedwater Heater Replacement
- PORV Acoustical Monitoring Relocation for ICCMS
- Emergency Feedwater System Upgrades for EPU
- Low Pressure Injection Cross-tie Install for Boron Precipitation
- Main Feedwater Pump

For engineering design, the company's contract allowed AREVA to work additional hours, as necessary, on its design development to meet its end-of-year goal. The company's contract with AREVA is a Time and Material format, allowing the company to bill a specific rate per contract employee for all hours worked. The company's invoice and verification process did not specifically monitor for vendor overtime.

When asked specifically by Commission audit staff about the overall AREVA overtime billing for 2012, the project management team reviewed its billing records to assess the overall billing amount. In the end, the company determined that AREVA--while at times worked additional hours to complete a task—billed no overtime, or accelerated rate hours for the review period.

Commission audit staff reviewed AREVA invoices and verified the company's assertion that while the vendor may have worked additional hours to complete the work, it was not at the higher pay point. Audit staff notes that while this project is now closed, the company should consider a process that ensures that all billing--especially overtime rates—should be monitored and reviewed on a routine basis.

3.2.5 Discharge Cooling Tower Project Suspended

In 2010, the company made the decision to suspend the new cooling tower project for the Crystal River Energy Complex pending the outcome of proposed environmental regulation that could impact the need for the tower. There had been initial CR3-related expenditures associated with this specific endeavor prior to the 2010 suspension. With the retirement of the CR3 unit and other environmental factors, this project has been suspended indefinitely.

3.2 EPU Project Controls and Oversight

3.3.1 Changes to Project Controls, Risk, and Management Oversight During 2012

The company continues to evaluate its processes, policies, and procedures for major project and EPU-specific operations. As a result of the merger between the legacy Progress Energy and Duke Energy corporations, the combined company initiated a revision to many of its corporate policies and procedures. In many cases, entirely new processes were implemented under the new corporate structure. Overall, the company noted that it updated approximately 50 procedures related to project management during 2012. While these procedures were put in place during 2012, the overall impact on the project was not lasting, given the final decision to retire the plant. Example of areas in which the company modified corporate project management-related procedures include:

- Corporate Governance
- Evaluation and Authorization Process
- Economic Evaluation Methodology
- Project Quality
- Planning
- Vendor Programs
- Training

In addition to procedural revisions, the company created eight new procedures that were applicable to the CR3 uprate project. Examples of topic areas include:

- Project Funding Approval
- Change Management
- Evaluation and Business Case Development

After review, Commission audit staff believes the procedures are consistent with the standards of the company and provide additional guidance to the project and further strengthen the internal controls.

Management and Staffing Changes Implemented

The merger between Duke and Progress Energy Florida resulted in middle and senior management changes for the EPU project. Prior to the unit retirement announcement in February 2013, the core EPU onsite project team remained in place. As the merger transition occurred in mid-2012, there were changes to the senior management chain. This was an evolving transition, and took several months to fully align the senior management reporting structure for the different areas of the project team.

The project team maintained a consistent staffing level during the first-half of 2012 (between 88 and 93 full time employees through June). The company believes that this was an appropriate level of staffing necessary to continue the planning and development stage of Phase III work scope. Additionally, during this period, the project team was working under the planning directive to implement construction in mid-2013. With the decision in September 2012 to shift the potential construction date by six-months, the project team reduced its staffing levels to 60 by the end of 2012, and this staffing level remained in place until the decommissioning announcement on February 2013.

After the announcement, the project team reduced its contract engineering workforce by 20 FTEs and its contract operational support by 12 FTEs. This left the company with a remaining staffing level of 28 by mid-February. After staffing reassignments, the company further reduced its staffing level to three FTEs by February 28, 2013. Currently, the company maintains three employees on record to complete the remaining close-out phase workscope.

Commission audit staff believes the project team responded timely in reducing the staffing levels as a result of the decommissioning announcement and as project plans circumstances changed in September 2012. Additionally, audit staff recognized that was necessary to maintain a minimum staff to process and complete the close-out process for the project.

Risk Evaluation Performed

The company's risk evaluation process remained unchanged throughout 2012. Because the project was still in Phase III preparation during 2012, the risk evaluations did not fluctuate extensively during the year. The project team states it continued to identify risks associated with the project activities and adjusted risk mitigation strategies as necessary.

The two moderate risks identified by the team for the majority of 2012 were the potential impact of unknown design issues, and the containment repair decision and construction timeline. Both of these risks, if triggered, would impact the overall cost of the project. As the project team continued to refine its design engineering scope, the overall risk impact was reduced with conformation of design requirements.

Commission audit staff reviewed the company's risk matrices and risk records for the period. The project team maintained a focus on the risk assessment for the period and audit staff verified that the risk assessments were monitored and updated by project management, as prescribed under project management guidelines. Additionally, because the project was in suspension with the pending retire/repair decision, there were fewer ongoing risk opportunities during the review period,

3.3.2 Internal Audits and Quality Assessments Performed in 2012

The company performed no EPU-related internal or Nuclear Oversight audits during the review period. Project management notes that with the delay in the EPU Phase III schedule, the workload did not warrant any specialized review for the project.

3.3 EPU Contract Oversight and Management

3.4.1 Changes and Additions Made to Contracts and Contract Management

During 2012, the company issued four new contracts for Phase III of the EPU project. These were primarily to prepare for the delivery and storage of the new turbines and the finalization of the engineering design. The EPU project team states the contracts were necessary to ensure the project could continue within a reasonable timeframe once the impact to the project schedule was known. **EXHIBIT 11** lists the contracts initiated in 2012 for the final EPU construction phase, the total contract amount, and the dollars spent.

EPU Project Contracts Over $50,000 Initiated in 2012

Vendor	Initiation Date	Work Scope	Contract Price	Total Spent
Badcock and Wilcox Canada 407670-3 Am 8	4/2012-	ROTSG Operating Range Level Indicator	[redacted]	[redacted]
Sarens 616229	4/2012	Heavy Haul Work	[redacted]	[redacted]
SMG 613444	3/2012	Yard Laydown Modification	[redacted]	[redacted]
Presray 589988 & Am 1	11/2011	Watertight Door modification	[redacted]	[redacted]

EXHIBIT 11 *Source: DEF Response to Staff Data Request 1.19 supplemental*

Commission audit staff reviewed each contract issuance process against DEF's policies and procedures. In each case, it appears the company followed appropriate processes. Audit staff verified that each item was included in the required Phase III scope of work.

In addition to the new contracts executed in 2012, the company amended certain existing contracts. **EXHIBIT 12** lists the 2012 amendment and change orders over $50,000 that the company initiated on existing contracts. As in 2011, all the amendments and change orders were initiated with AREVA and the engineering work involving the Phase III scope.

EPU Project Work Authorization and Amendments Initiated during 2012 (Over $50,000)

Amendment	Amendment Price
AREVA 101659-84 Am 13	[redacted]
AREVA 101659-84 Am 14	[redacted]
AREVA 101659-84 Am 15	[redacted]
AREVA 101659-84 Am 16	[redacted]
AREVA Change Order #76	[redacted]
AREVA 101659-93 AM 15	[redacted]
AREVA 101659-93 AM 16	[redacted]
AREVA 101659-93 AM 17	[redacted]
Moretrench 153771-95 Am 4	[redacted]
Siemens 145569-50 Am 10	[redacted]
Townsend 147496-167 Am3-6	[redacted]
Sulzer Pumps 506636 Am 1	[redacted]
Sulzer Pumps 506636 Am 2	[redacted]
WorleyParsons 109486 Am 80	[redacted]
WorleyParsons 109486 Am 81	[redacted]
WorleyParsons 109486 Am 83	[redacted]
WorleyParsons 109486 Am 85	[redacted]
WorleyParsons 109486 Am 91	[redacted]

EXHIBIT 12 *Source: PEF Response to Staff Data Request 1.22*

For each amendment, audit staff reviewed the impact evaluation and Integrated Change Form to confirm the company was in compliance with its project management and procurement procedures. The company requires that management authorize any scope or schedule change identified within the Integrated Change Forms. In each case, audit staff determined that the authorized approval was obtained for each change and that the company initiated these contracts in accordance with its current process and procedures.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Nuclear cost recovery clause.	DOCKET NO. 130009-EI
	DATED: June 20, 2013

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that the original and six copies of the testimony of William Coston and Jerry Hallenstein on behalf of the Florida Public Service Commission was filed with the Office of Commission Clerk, Florida Public Service Commission, and copies were furnished to the following, by U.S. Mail, on this 20th day of June, 2013.

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