

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

**DOCKET NO. 130009-EI
FLORIDA POWER & LIGHT COMPANY**

MAY 1, 2013

**IN RE: NUCLEAR POWER PLANT COST RECOVERY
FOR THE YEAR ENDING
DECEMBER 2014**

TESTIMONY & EXHIBITS OF:

STEVEN D. SCROGGS

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2 **FLORIDA POWER & LIGHT COMPANY**

3 **DIRECT TESTIMONY OF STEVEN D. SCROGGS**

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5 **May 1, 2013**

6

7 **Q. Please state your name and business address.**

8 A. My name is Steven D. Scroggs. My business address is 700 Universe
9 Boulevard, Juno Beach, Florida 33408.

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

11 A. I am employed by Florida Power & Light Company (FPL or the Company) as
12 Senior Director, Project Development. In this position I have responsibility
13 for the development of power generation projects to meet the needs of FPL's
14 customers.

15 **Q. Have you previously provided testimony in this docket?**

16 A. Yes.

17 **Q. Are you sponsoring or co-sponsoring any exhibits in this case?**

18 A. Yes. I am sponsoring or co-sponsoring the following exhibits:

- 19 • Exhibit SDS-7, Turkey Point 6 & 7 Site Selection and Pre-construction
20 Nuclear Filing Requirement (NFR) Schedules consisting of the 2013
21 Actual/Estimated (AE) Schedules, the 2014 Projection (P) Schedules
22 and the 2014 True-up to Original (TOR) Schedules. The NFR

1 Schedules contain a table of contents listing the schedules sponsored
2 and co-sponsored by FPL Witness Powers and me, respectively.

- 3 • Exhibit SDS-8, consisting of summary tables presenting the 2013
4 actual/estimated and 2014 projected Pre-construction costs for the
5 Turkey Point 6 & 7 project.
- 6 • Exhibit SDS-9, Turkey Point 6 & 7 Project Benefits at a Glance.
- 7 • Exhibit SDS-10, New Nuclear Energy Timeline.

8 **Q. What is the purpose of your testimony?**

9 A. The purpose of my testimony is to provide a description of how the Turkey
10 Point 6 & 7 project is being managed and controlled. The project undertakes
11 the steps necessary to license, construct, and operate two Westinghouse
12 designed AP1000 nuclear reactors (AP1000) and associated transmission and
13 ancillary facilities at the Turkey Point site near the existing Turkey Point
14 3 & 4 nuclear units in southern Miami-Dade County. My testimony will
15 provide insight into how project activities are managed given the near term
16 focus on obtaining all licenses, authorizations, and approvals needed and the
17 factors influencing key decisions affecting the nature, cost, and pace of that
18 effort. I will also describe the projected expenditures for 2013 and 2014
19 allowing FPL to support and defend the applications requesting the required
20 licenses and permits. FPL's 2013 and 2014 cost recovery requests, as in past
21 years, include only amounts that are associated with the licensing activities
22 currently underway. Notably, the request does not include any construction
23 costs for the Turkey Point 6 & 7 project. No such costs are being incurred,

1 and such costs are not permitted to be recovered pursuant to the Nuclear Cost
2 Recovery Rule.

3 **Q. Please summarize your testimony.**

4 A. FPL continues to carefully and methodically create the opportunity for
5 additional reliable, cost-effective and fuel diverse nuclear generation to
6 benefit FPL's customers. The approach applied to the management of the
7 Turkey Point 6 & 7 project provides control of cost risks while maintaining
8 progress towards delivery of new nuclear generation under the earliest
9 practicable deployment schedule. The unique qualitative benefits of fuel
10 diversity, energy security and zero greenhouse gas emissions offered by
11 nuclear generation continue to compliment the persistent quantitative benefits
12 projected for the project. Progress in other nuclear industry milestones
13 (AP1000 international and U.S. construction) continues to provide positive
14 indicators for progress in new nuclear plant deployment.

15
16 In 2013 and 2014 FPL will continue its progress on the project by concluding
17 the state Site Certification Application (SCA) process and moving to the
18 report review stage in the Nuclear Regulatory Commission's (NRC)
19 Combined License Application (COLA) process. Expenses requested are
20 related to obtaining the licenses and permits. Estimates covering planning and
21 design studies needed to support the project schedule have been identified, but
22 are not requested for recovery. Delays in the regulatory review process have
23 been accommodated, maintaining the projected commercial operation dates

1 (CODs) of 2022 for Unit 6 and 2023 for Unit 7, however further delays are
2 possible. Recognizing that the experience to date is a likely indicator of the
3 remainder of the licensing phase, FPL's stepwise approach continues to
4 provide FPL customers with the best opportunity to make steady progress on
5 the project but avoid making premature commitments to engineering and
6 materials costs.

7 **Q. Would you please provide an overview of the expected benefits of the**
8 **Turkey Point 6 & 7 project for FPL customers?**

9 A. Yes. Taking into account the updated project information provided in this
10 testimony, FPL expects the Turkey Point 6 & 7 project will:

- 11 • Provide estimated fuel cost savings for FPL's customers of
12 approximately \$804 million (nominal) in the first full year of operation
13 based on a Medium Fuel Cost forecast;
- 14 • Provide estimated fuel cost savings for FPL's customers over the life
15 of the project of approximately \$78 billion (nominal) based on a
16 Medium Fuel Cost forecast;
- 17 • Diversify FPL's fuel sources by decreasing reliance on natural gas by
18 approximately 18% beginning in the first full year of two unit
19 operation;
- 20 • Reduce annual fossil fuel usage by the equivalent of 28 million barrels
21 of oil or 177 million MMBTU of natural gas; and

1 volatile natural gas prices and supply reliability issues, created concern that
2 insufficient fuel diversity threatened the long term economic stability of the
3 state. These concerns were highlighted by hurricanes Katrina and Rita in
4 2005, which impacted natural gas production in the Gulf of Mexico and
5 threatened FPL's fuel supply reliability. However, the growing reliance on
6 natural gas fueled generation was a result of the difficulty in successfully
7 being able to deploy baseload alternatives; most commonly fossil fuels (coal
8 or oil fueled generation) or nuclear generation. For example, FPL's proposal
9 in 2006 to build a clean coal power plant was denied by the Florida Public
10 Service Commission (FPSC) due to uncertainties surrounding the future cost
11 of carbon emissions. Nuclear Cost Recovery was initiated to directly address
12 some of the challenges associated with deployment of nuclear generation to
13 help improve fuel diversity. The act was subsequently amended to include
14 Integrated Gasification Combined Cycle coal generation. A timeline
15 depicting these events, and FPL's delivery of additional nuclear generation in
16 fulfillment of the legislature's policy, is provided in Exhibit SDS-10.

17 **Q. How did Florida's reliance on natural gas develop?**

18 A. Throughout the last several decades, significant political, economic and
19 technology changes occurred to reshape the state's generation portfolio away
20 from a dependence on foreign oil in the 1970's to other fuel sources. At the
21 same time, the nuclear industry was dealing with significant regulatory, cost
22 and schedule challenges in deploying new units – essentially keeping nuclear
23 from being an option in the 1980s and 1990s. The other traditional baseload

1 alternative, coal, had only been developed in limited amounts in Florida
2 because of the significant logistical challenges and expense in delivering large
3 quantities of coal from supply regions located in the country's interior and
4 concerns and costs related to emissions. These factors opened the door for a
5 new baseload technology. Deregulation of natural gas as a fuel for electric
6 generation and the introduction and continued improvement of large scale
7 combined cycle gas turbine technology combined to provide a cost-effective,
8 efficient and low emissions alternative. As a result, combined cycle gas
9 turbine plants have been the technology of choice for most generation
10 additions in the state from the 1990s to today. While customers have
11 benefited from these choices, recurrence of high and volatile natural gas prices
12 or supply reliability issues would undoubtedly negatively impact customers
13 and the Florida economy.

14 **Q. What recent developments occurred to suggest nuclear generation would**
15 **be a deployable alternative?**

16 A. In the late 1990s, the NRC instituted a refined regulatory framework for the
17 licensing of new nuclear generating units. This revised process front-loads
18 and streamlines the licensing process, avoiding or minimizing many of the
19 issues that created licensing complications for the prior generation of nuclear
20 power plants. During that same period, a new generation of nuclear power
21 plants were developed and poised for U.S. and international development.
22 The federal Energy Policy Act of 2005 provided incentives and assurances
23 that further incentivized renewed interest in nuclear generation in the U.S.

1 Consortiums were formed between potential owners and manufacturers that
2 furthered several key projects to validate that the new designs and licensing
3 processes would deliver the required certainty. By 2006, a host of new
4 nuclear projects had been proposed in the U.S. With the passage of the
5 Florida Energy Act of 2006 and the FPSC's adoption of the Nuclear Cost
6 Recovery rule, deployment of new nuclear capacity in Florida to address fuel
7 diversity concerns became a realistic option.

8 **Q. What specific considerations were included in the Nuclear Cost Recovery**
9 **rule as implemented by the FPSC?**

10 A. A core principle of the Nuclear Cost Recovery rule is that of transparency. In
11 order to satisfy that principle, applicants for cost recovery must satisfy a
12 number of extensive reviews. In order to enter the annual cost recovery
13 process, an applicant must first obtain an affirmative need determination
14 verifying that the proposed generation is required to provide cost-effective and
15 reliable electric generation. Annually, within the cost recovery process, the
16 applicant must provide a full accounting for all factors of the project,
17 including cost, schedule, decisions, and ongoing feasibility. This transparency
18 allows the FPSC to conduct in-depth oversight of the utility's actions in real
19 time – as the project proceeds, rather than in hindsight years after decisions
20 are made and money is spent. The FPSC then makes a “reasonableness”
21 determination as to costs projected for the project (prior to any recovery of
22 those costs), and reviews historical costs for “prudence”.

1 **Q. How does the existence of the Nuclear Cost Recovery process assist FPL**
2 **in bringing forward nuclear generation projects?**

3 A. The statute and associated rule provides a stable and fair playing field for FPL
4 to undertake the complex and challenging task of adding new nuclear capacity
5 to its system. The process allows FPL to take the long-lead steps of licensing
6 and pre-construction and pays off interest costs during construction, reducing
7 costs to FPL's customers. Additionally, it enables FPL to go to the financial
8 markets and obtain competitive financing rates for the large amount of capital
9 required to fund the construction of the project.

10 **Q. Does the implementation of the Nuclear Cost Recovery Clause (NCRC)**
11 **provide savings for FPL customers?**

12 A. Yes. Nuclear Cost Recovery enables customers to avoid paying for
13 compounded interest during the approximately eight year construction period
14 and reduces the overall amount that would be recovered from customers under
15 normal rate base treatment by billions of dollars.

16

17

PROJECT APPROACH

18

19 **Q. What is FPL's overall approach to developing Turkey Point 6 & 7?**

20 A. FPL continues to develop Turkey Point 6 & 7 through a deliberate and careful
21 process navigating through the four phases of project development:
22 Exploratory, Licensing, Preparation, and Construction. The project has
23 completed the Exploratory phase, and is currently focused on the Licensing

1 phase prior to initiating Preparation phase activities. The approach allows
2 FPL to make progress on obtaining licenses and approvals without taking on
3 the risks of committing to a specific construction schedule and the associated
4 expenditures. For example, through 2014, FPL projects it will have spent a
5 total of \$218 million on the Turkey Point 6 & 7 project – approximately 1% of
6 the total estimated project cost.

7
8 FPL's approach has been developed as a step-wise process. Routine
9 monitoring of a wide range of factors and events is accomplished to help
10 increase certainty and predictability, informing each subsequent step.

11 **Q. Please expand on the concept of the step-wise process and how the risks
12 related to the Turkey Point 6 & 7 project are controlled by key decisions.**

13 **A.** The project team monitors a host of issues at local, state, and federal levels
14 and across technical, commercial, economic, and regulatory areas of interest.
15 The impact on cost, schedule, and quality are routinely assessed through a set
16 of tools and reviews. If review indicates the potential for a considerable cost
17 or schedule impact, mitigation actions are identified and are designed to
18 eliminate, reduce, or defer the impact. If the magnitude of the impact
19 materially affects cost or schedule, or changes the feasibility of the project, a
20 decision is made as to whether such impact is acceptable in light of all current
21 information. Annually the FPSC reviews the results of these changes.
22 Alternative courses of action include continuing with a modified budget and
23 schedule along with available mitigation actions, or halting a portion of the

1 project temporarily while the issue is further assessed or resolved. The
2 alternative of slowing or halting a portion of the project in response to
3 significant events or uncertainties offers a high level of risk control for FPL
4 and its customers.

5
6 For example, the events of Fukushima in March 2011 and federal budget
7 issues in 2012 and 2013 have placed a significant unexpected burden on the
8 resources of the NRC. By deferring expense associated with pre-construction
9 activity such as engineering, procurement, and planning, FPL controls the
10 impact of schedule delays that can occur during licensing thereby lowering the
11 project risk profile.

12

13 **PROCESS AND RISK MANAGEMENT**

14

15 **Q. How is the Turkey Point 6 & 7 project management organized to**
16 **maintain an on-going risk management focus?**

17 A. The Turkey Point 6 & 7 project requires a wide range of skilled team
18 members with experience in the development, design, construction and
19 licensing of nuclear generation. There is also a significant volume of
20 information generated as issues unique to new nuclear generation deployment
21 are identified and evaluated. The project management structure of the Turkey
22 Point 6 & 7 project provides for dedicated teams with the requisite subject
23 matter expertise to be coordinated at all levels. This is accomplished through

1 a project organization and reporting structure that effectively identifies and
2 applies resources to issues while maintaining transparent and open
3 communications.

4
5 As described in my March 1, 2013 testimony, the project organization relies
6 on two principal organizations jointly responsible for the integrated execution
7 of the project. William Maher, Director of Licensing, manages the New
8 Nuclear Plant (NNP) organization with responsibility for NRC licensing and
9 project engineering and construction. I lead the Development organization for
10 all other facets of project development, such as state Site Certification, local
11 zoning approvals, public relations, and FPSC regulatory issues. As of April
12 2013, both Development and NNP began reporting to Mano Nazar, Executive
13 Vice President of Nuclear and Chief Nuclear Officer. Each organization is
14 supported by FPL business units with specific, recent success in the
15 certification, NRC re-licensing, and permitting of multiple power generation
16 units in Florida and is complemented by our national operating experience
17 with renewable, natural gas, and nuclear generation assets.

18
19 FPL also gives careful consideration to how it contracts for support of the
20 many license and permit applications. A combination of competitive bidding
21 and single/sole source procurement is used, in compliance with FPL policies,
22 to manage augmentation of FPL staff with qualified and experienced specialty
23 contractors and service providers.

1 **Q. What process and risk management tools does FPL apply to manage cost,**
2 **risk, and schedule objectives?**

3 A. FPL uses industry accepted project controls, systems, and practices to obtain a
4 high level of control over the expenditures incurred and projected for all
5 projects. The primary means of control are 1) the project budgeting and
6 reporting process, 2) project schedule and activity reporting processes, 3) the
7 contract management process for external service providers, and 4) internal
8 and external oversight processes. These processes were fully described in my
9 March 1, 2013 testimony and continue to be utilized in the oversight of the
10 project.

11 **Q. How are these tools reviewed over time and what new tools are being**
12 **employed as a result of these reviews?**

13 A. Effectiveness measures are included within some mechanisms and provided
14 by external review processes. As an example, the Engineering &
15 Construction Division Project Dashboard presents issues and the current
16 trends for those issues. Over time, if a problematic issue continues to trend
17 down or remains neutral, the effectiveness of the project management controls
18 are investigated to determine if changes in approach can create improvement,
19 or if mitigation measures are adequate. This tool is being employed to
20 spotlight and trend issues presented by the Turkey Point 6 & 7 project.

21
22 Project Memoranda, describing the background and analysis considered in
23 project decisions, are an example of a tool developed to ensure a higher level

1 of documentation and transparency in the management of the project. These
2 memoranda document decisions made with respect to project features,
3 contracts, cost estimates, and schedules.

4
5 Additionally, a quarterly risk summary tracks the assessment of project risks
6 over time. This summary qualitatively gauges the probability of occurrence
7 and impacts to implementation, cost, and schedule aspects of the project.

8 **Q. What activities are employed by the project to address industry issues**
9 **affecting the long term success and execution of the project?**

10 A. FPL is involved in a number of areas to address issues relevant to new nuclear
11 deployment. FPL participates in three specific groups comprised of new
12 nuclear industry owners and design vendor(s). These include the Design
13 Centered Working Group (DCWG), the AP1000 Owners Group (APOG), and
14 the Advanced Nuclear Technology group. The collective purpose of these
15 groups is to identify and resolve issues potentially affecting the licensing,
16 design, construction, operation, and maintenance of the AP1000 design.
17 Individually, each group provides a collaborative forum for owners to work
18 with each other, the design vendor and the NRC to achieve standardized
19 solutions to the issues facing all owners. This enables the industry to maintain
20 a high level of standardization from the earliest stages of new nuclear
21 deployment. Standardization of designs and processes provides benefits to
22 FPL customers in terms of efficiency and cost control.

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ISSUES POTENTIALLY AFFECTING THE PROJECT

Q. What are the international, national, and regional indicators being monitored for their effect on the Turkey Point 6 & 7 project?

A. These can be generally grouped into four areas. First, the NRC’s response to the March 2011 Japanese earthquake and tsunami has increased review in certain areas. Second, progress of international and domestic new nuclear projects are important inputs to inform management decision-making for the Turkey Point 6 & 7 project. Third, developments in regional and national economy and energy policy have the potential to affect the feasibility of the project. Finally, there are several project specific issues that may impact the project.

Q. What impact has the NRC’s response to the events of Fukushima had on the nuclear industry in general, and the Turkey Point 6 & 7 project specifically?

A. As described in my March 1, 2013 testimony, the NRC has taken actions and communicated plans that maintain a stable regulatory climate in the U.S. In consideration of the events, the NRC developed near term and long term objectives. Near term objectives focused on existing nuclear reactors, while long term objectives included plants under licensing. Most importantly for the Turkey Point 6 & 7 project, the NRC has approved the AP1000 Design Certification Document and the first two Combined Operating Licenses (COLs) for the AP1000 design – Southern Company’s Vogtle Units 3 and 4

1 project (Vogtle) and the South Carolina Electric & Gas Summer project
2 (Summer). The NRC indicated any future recommendations resulting from
3 the Fukushima initiated reviews that are relevant to new reactor designs and
4 owners/applicants could be capably integrated through existing NRC
5 processes. By continuing to address these critical approvals, the NRC is
6 maintaining the new nuclear deployment timeline anticipated prior to the
7 Fukushima events. Specific to the Turkey Point 6 & 7 project, the NRC has
8 required additional review of seismic, geotechnical and geological
9 information for the site. These additional reviews have been conducted and
10 the information has been provided to the NRC for its continued review.

11 **Q. What do recent developments related to the progress of international and**
12 **domestic new nuclear energy projects indicate with respect to the**
13 **continued pursuit of the Turkey Point 6 & 7 project?**

14 A. FPL is monitoring several AP1000 projects to capture issues and challenges
15 and to learn from the experiences of those projects. Internationally, FPL is
16 monitoring progress on the Sanmen 1 & 2 (China, AP1000) and Haiyang
17 1 & 2 (China, AP1000) projects. The Sanmen and Haiyang projects represent
18 the lead units for the AP1000 technology. These projects have completed site
19 preparation, poured their concrete foundations, accepted deliveries of major
20 components and have started module assembly/placement, and major
21 component installation. Recently the Sanmen project delayed its completion
22 target by 11 months.

23

1 In the United States, multiple projects are underway. NRC resources are now
2 actively engaged in monitoring the nuclear construction at Vogtle and South
3 Summer. Both Vogtle and Summer continue to make good progress on
4 construction, adjusting schedules and cost estimates to accommodate first
5 wave challenges.

6
7 The collective status of international and domestic projects continues to
8 demonstrate substantial and consistent progress is being made on the next
9 generation of nuclear projects. Time will be necessary to gather lessons
10 learned and strategies that best apply to the Turkey Point 6 & 7 project. In
11 general, the pace of these projects is positive, but the milestones to be
12 achieved in the next two years confirms FPL's choice to defer Preparation
13 phase activities until greater certainty can be attained as a way to control
14 implementation risks and incorporate lessons learned.

15 **Q. What are the specific milestones FPL will monitor on leading U.S.**
16 **projects in 2013 and 2014?**

17 A. The pace of COLA reviews that precede Turkey Point (*i.e.*, Duke/Progress
18 Levy, Duke Lee) give an indication of what FPL may experience. Federal
19 budget issues have had some impact to date, and may have more significant
20 impacts throughout 2013. Additionally, Southern Company has indicated that
21 it may be able to complete negotiations with DOE on the Loan Guarantee for
22 construction of the Vogtle project by mid-year. Some issues remain that
23 could impact the cost/benefit of the Loan Guarantee, and therefore whether

1 Southern Company will judge that it is advantageous for its customers. If
2 consummated, the results of this initial loan guarantee are expected to set the
3 standard for any future federal loan guarantees.

4
5 The initiation of safety related construction at Vogtle and Summer is
6 generating important information regarding construction planning logistics,
7 labor, and supply chain elements in the U.S. This information will be
8 important to guide the development of the construction execution plan for
9 Turkey Point Units 6 & 7.

10 **Q. What is the status of FPL's interest in a Department of Energy (DOE)**
11 **Loan Guarantee for the Turkey Point 6 & 7 project?**

12 A. FPL continues to monitor developments associated with the DOE Loan
13 Guarantee program and will consider all opportunities that may provide
14 demonstrable benefits to its customers. Upon execution of a loan guarantee
15 associated with the Vogtle project, more information with respect to costs,
16 benefits, and structure will emerge to allow for a better estimation of the costs
17 and benefits for FPL. The initial program was set at \$18 billion and the
18 Vogtle project is expected to utilize less than 50% of that amount, meaning
19 the balance of the funds may be available through a future solicitation. FPL is
20 in communication with the DOE Loan Guarantee office and will consider all
21 opportunities related to loan guarantees.

1 **Q. What do recent developments related to the national and regional**
2 **economy indicate with respect to the continued pursuit of the Turkey**
3 **Point 6 & 7 project?**

4 A. The economic downturn affected forward demand and fuel price forecasts, but
5 it also reduced the rate of price escalation and the projected costs of materials
6 and labor. The pace of recovery is expected to be steady but remain below
7 historic growth rates for the near term. Additionally, the significant shift in
8 supply relative to demand in the natural gas industry has created a near term
9 reduction in natural gas prices and has reduced long range forecasts for price
10 levels. FPL Witness Sim addresses the effect of changes in FPL demand
11 forecasts and natural gas price forecasts on the economic feasibility of Turkey
12 Point 6 & 7 and why completion of the project continues to be beneficial for
13 customers.

14 **Q. What do recent developments related to national and regional energy**
15 **policy indicate with respect to the continued pursuit of the Turkey Point**
16 **6 & 7 project?**

17 A. National energy policy, as articulated by the current administration, is
18 supportive of nuclear energy in general, and new nuclear energy development
19 in specific. The administration has reaffirmed its support for new nuclear
20 power following the events of Fukushima. In general, while cautious,
21 policymakers continue to recognize the long term value of and need for new
22 nuclear generation capacity.

23

1 A legal challenge to the NRC's Waste Confidence Rule resulted in a
2 requirement for the NRC to conduct an Environmental Impact Statement
3 (EIS) and subsequent rulemaking process. Until a new rule is provided, the
4 NRC has placed a hold on the issuance of any COLs. The process is projected
5 to be completed by September 2014, but is also potentially subject to any
6 delays created by federal budget issues and other resource demands on the
7 NRC.

8
9 Regionally, the legislature continues to address questions related to Florida's
10 energy mix, including a challenge to Nuclear Cost Recovery. However, issues
11 cited as important in the FPSC's Need Order of April 2008 have not changed.
12 Reliability, cost-effectiveness, fuel diversity, fuel supply reliability, and price
13 stability are still benefits to be delivered by increasing nuclear generation
14 capacity and are still needed by FPL's customers. A future plan not including
15 new nuclear capacity increases and prolongs reliance on fossil fuels, increases
16 exposure to fuel supply reliability and price volatility, and is not as effective at
17 reducing system emissions, including greenhouse gas emissions, as a plan
18 including new nuclear generation capacity.

19 **Q. What project-specific areas does FPL monitor that may affect objectives**
20 **for 2013 and 2014?**

21 A. There are two important areas that may impact the cost, schedule, and ultimate
22 success of the Turkey Point 6 & 7 project; the pace of the NRC license review
23 and the pace of the SCA review.

1

2 The pace of license and application reviews is subject to many influences.
3 These include budget constraints and resource allocation of the agencies
4 involved, timely participation and response of agencies and stakeholders, and
5 the political environment surrounding the agencies and governing bodies
6 involved in key aspects of the project. Maintaining the active participation of
7 these various parties over the course of the project is one of the unique
8 challenges of new nuclear deployment.

9

10 In the federal process, the project expects to resolve the remaining outstanding
11 requests from staff in the first part of 2013, revise the review schedule and
12 proceed to public comment on a draft NRC Safety Evaluation Report (SER)
13 and draft NRC EIS by year end.

14

15 In the state SCA process, the project received several key approvals and
16 recommendations in the early part of 2013, clearing the way for the SCA
17 hearing and Siting Board hearing in the latter part of the year. Assuming the
18 current schedule remains on pace, this would effectively complete the state
19 and local permitting activities. Activities in 2014 would include the
20 completion of post-certification design and submittals.

21 **Q. What are the factors that could impact the Turkey Point 6 & 7 COLA**
22 **review schedule in 2013 and 2014?**

1 A. There are several factors that may impact NRC resources, and therefore
2 impact the Turkey Point review schedule. Ongoing federal budget issues may
3 ultimately impact the resources available to conduct the Turkey Point COLA
4 review on a timely schedule. At the same time, the NRC continues to process
5 information generated for existing facilities as a follow up to the Fukushima
6 events in March 2011. The NRC also continues to devote resources to address
7 the Waste Confidence Rule, and have temporarily suspended any new
8 licensing decisions until resolved. While this activity is scheduled to be
9 complete by September 2014, changes to that schedule may impact resources
10 available to process the Turkey Point COLA.

11

12 Specific to the Turkey Point 6 & 7 project, in 2012 and 2013, FPL received
13 and responded to Requests for Additional Information (RAIs) from NRC staff
14 in safety-related areas focusing on seismic issues and flooding events and in
15 environmental areas focused on the characterization of alternative sites.
16 Review of two sub-sections of the COLA related to this information was
17 suspended pending FPL providing that information. The balance of the
18 COLA review continued. Therefore the Turkey Point COLA schedule was
19 placed "under review". Following discussion and several public meetings, the
20 issues have been significantly narrowed and are expected to be fully answered
21 by mid-2013. One additional public meeting remains to be conducted in later
22 this year. Following that meeting, the NRC will have all information
23 necessary to complete its review and provide a revised Turkey Point 6 & 7

1 COLA review schedule. The overall project schedule will be reviewed once a
2 revised COLA review schedule is published.

3

4 Once satisfied, the Advance Final SER will be completed and the draft EIS
5 would be published for comment. The time required to address remaining
6 items and subsequently complete the SER and draft EIS will influence what
7 substantive revisions are made to the COLA review schedule.

8 **Q. What is the status of the U.S. Army Corps of Engineers (USACE) wetland**
9 **permits and how is the pace of review linked to the NRC COLA**
10 **schedule?**

11 A. The USACE wetland permits are processed in coordination with the
12 development of the EIS in the NRC COLA process. FPL continues to work
13 with the USACE staff to answer their specific questions; however, any final
14 action is necessarily linked to the timeline of the NRC EIS.

15

16 **KEY DECISIONS AND MILESTONES**

17

18 **Q. What will be the focus of the project in 2013 and 2014?**

19 A. The focus remains on obtaining the licenses, permits, and approvals necessary
20 to construct and operate the Turkey Point 6 & 7 project. In 2013 the federal
21 focus will be on completing all outstanding items to allow the NRC to revise
22 the Turkey Point 6 & 7 COLA review schedule and publish the SER and draft

1 EIS. If successful, the project would be on track to complete the NRC and
2 USACE processes in 2014.

3

4 Much of the project activity and efforts this year will be devoted to
5 completing the Power Plant Siting process to obtain state Site Certification for
6 the plant, ancillary facilities and associated transmission lines.

7 **Q. What specific milestones are expected in relation to the NRC licensing
8 process in 2013 and 2014?**

9 A. In 2013, FPL will work with NRC and USACE staff to complete all RAIs and
10 any other outstanding information needed to support production of the SER
11 and draft EIS. Once completed, the NRC staff will develop a revised COLA
12 review schedule. Consistent with earlier schedules, the SER could be
13 completed within 10 months, including review by the Advisory Committee on
14 Reactor Safeguards. The final EIS could be completed within 12 months
15 following a period of public comment on the draft EIS. The mandatory NRC
16 hearing that would culminate in the granting of the Combined License could
17 be held within four months of the completion of the final EIS. Completion of
18 the NRC review process could be accomplished in late 2014.

19 **Q. What types of decisions does the project make in support of the NRC
20 staff reviews?**

21 A. The NRC staff may request additional analyses and studies to augment the
22 initial submittal. These analyses can range from short topical studies to
23 significant field studies and/or modeling. Project management will be making

1 decisions on the necessity, scope, and execution of any additional work scope.
2 Similarly, NRC staff review may highlight opportunities for revisions to the
3 project and commitments the Company may be asked to make regarding
4 conditions of licensing. Revisions and commitments may result in additional
5 project cost or schedule impacts.

6 **Q. What specific milestones will be experienced related to the state Site**
7 **Certification process in 2013 and 2014?**

8 A. Considerable progress was made on key SCA milestones leading to the
9 scheduled SCA hearing in July and August of 2013. In January 2013 the
10 Miami-Dade Board of County Commissioners approved additional zoning for
11 the project. Also in January, Miami-Dade submitted an affirmative Land Use
12 consistency determination. Neither the County zoning approval nor the Land
13 Use determination was challenged within the defined appeal periods. These
14 events led to publication of the County's Agency Report and the Florida
15 Department of Environmental Protection's Project Analysis Report, both of
16 which recommend approval with conditions.

17
18 In preparation for the SCA hearing, FPL will continue to work with all
19 agencies to ensure all legitimate issues have been addressed, and will seek to
20 enter into stipulation agreements with willing parties to limit the number of
21 issues that are unresolved in the hearing. The SCA hearing is the penultimate
22 activity during which an Administrative Law Judge hears all evidence
23 supporting the project's compliance with applicable substantive requirements

1 and provides a recommended order regarding approval, denial and any
2 appropriate conditions of certification. The Governor and Cabinet, sitting as
3 the Power Plant Siting Board, review the recommendation and make the
4 ultimate determination, anticipated in December 2013.

5 **Q. Please provide examples of decisions that may be made associated with**
6 **the state Site Certification process, and how those decisions may affect**
7 **the project cost and schedule estimate.**

8 A. During the preparation for and prosecution of the SCA hearing, FPL will be
9 developing and presenting necessary evidence to support its application.
10 Additionally, conditions of certification have been proposed by various
11 agencies. These conditions can impact the cost and schedule for project
12 execution. FPL will engage the sponsoring agencies to modify condition
13 language to reduce potential risks. FPL will make decisions regarding what
14 level of revisions to make, what conditions can be accepted, and assess the
15 impact of these changes to project cost and schedule.

16 **Q. Will the project decisions regarding the Everglades National Park EIS**
17 **and land exchange be similar to those made in the NRC and SCA**
18 **processes?**

19 A. Yes. The EIS process results in observations and recommendations. The
20 Secretary of the Interior may choose to place conditions on the land exchange
21 as a result of these observations and recommendations. FPL will assess the
22 nature of these conditions and determine the impact to project cost and
23 schedule. It is expected that the draft EIS will be provided for public

1 comment in 2013. Comments are collected on the draft EIS and a final EIS
2 will be developed in 2014.

3 **Q. Based on FPL's Turkey Point 6 & 7 project Revision 6 schedule, what**
4 **engineering work is anticipated in 2013 and 2014?**

5 A. The revised schedule assumes that bid and evaluation activities related to
6 early site preparation design and planning begin in late 2013 and continue
7 through 2014. Decisions on whether to undertake those activities per the
8 current project schedule will be made once a new COLA review schedule is
9 published and a full project schedule review can be conducted.

10 **Q. Does FPL intend to pursue completion of the Turkey Point 6 & 7 project?**

11 A. Yes. The most important near term activity is creating the opportunity by
12 obtaining the licenses and approvals necessary to construct and operate
13 Turkey Point 6 & 7. Once the project is closer to obtaining the approvals,
14 FPL will be able to refine the economic assumptions and incorporate the
15 experience of other new nuclear projects as well as how state and federal
16 energy policies have evolved. The FPSC will continue to have the
17 opportunity to review FPL's plans through the NCRC process.

18
19 FPL's step-wise management process will allow the project to proceed to a
20 later stage where risks can be better quantified and mitigated. Considering all
21 project specific and industry factors, this is a responsible and prudent course
22 of action to continue progress in creating the opportunity for new nuclear
23 generation for our customers.

1 **Q. Are there other project decisions that have occurred or are expected in**
2 **2013 or 2014?**

3 A. Yes. FPL executed a Forging Reservation Agreement with Westinghouse in
4 2008 to secure manufacturing capacity for ultra-heavy forgings to support the
5 project's original schedule. The agreement has been extended several times to
6 allow FPL and Westinghouse to monitor industry developments and
7 determine the best disposition of the existing reservation agreement. The
8 current extension expires October 31, 2013.

9

10 **PROJECT COST AND FEASIBILITY**

11

12 **Q. What is the current non-binding cost estimate range for the project?**

13 A. The overnight capital cost estimate range is \$3,659/kW to \$5,320/kW. When
14 time-related costs such as inflation and carrying costs are included, and FPL's
15 earliest practicable commercial operation dates of 2022 and 2023 are
16 assumed, the total project cost ranges from \$12.7 to \$18.5 billion.

17 **Q. Please explain how the overnight cost estimate is constructed and how it**
18 **is used to help evaluate the feasibility of the project each year.**

19 A. An overnight cost is developed using the most current information available.
20 An overnight cost provides an estimate of the total project costs assuming all
21 costs occur at one point in time ("overnight") and time-related costs
22 (escalation, interest during construction) are not included. Further,
23 recognizing many things could influence the overnight cost, additional

1 analysis is conducted on each component of the overnight cost to explore how
2 much it could vary, resulting in a cost estimate range. The overnight cost
3 provides an indication of the cost per kilowatt (\$/kW) for the project in a
4 given year reference. The 2012 cost estimate range was \$3,570/kW to
5 \$5,190/kW in 2012 dollars. Updating the cost estimate range to 2013 dollars
6 provides a cost estimate range of \$3,659/kW to \$5,320/kW in 2013 dollars.
7 The cost estimate range has been adjusted to current year dollars by assuming
8 a 2.5% escalation over the years between 2007 and present. While the actual
9 escalation experienced has been lower, retaining this simple assumption is
10 conservative and consistent with past year evaluations.

11

12 A breakeven cost analysis is developed by FPL's Resource Assessment and
13 Planning department, and is further discussed by FPL Witness Sim. This
14 breakeven cost is provided as an overnight cost and is directly compared to
15 the cost estimate range to assess the economic feasibility of the project.

16 **Q. Have there been any revisions to project features or design or any**
17 **industry-wide developments in the past year that suggest a revision to the**
18 **overnight capital cost estimate range?**

19 A. No. A review was conducted to capture any potential changes and estimate
20 the potential cost impact. No significant changes or developments have
21 occurred in the past year that indicates any revisions are necessary to the
22 project cost estimate range.

23 **Q. Does FPL's cost estimate range continue to be reasonable?**

1 A. Yes. The FPL cost estimate range continues to be reasonable based on the
2 annual review of the Turkey Point 6 & 7 capital cost estimate, a comparison to
3 other U.S. AP1000 project overnight capital cost estimates, and Concentric
4 Energy Advisors' review of U.S. AP1000 project overnight and total
5 estimated costs.

6
7 This is reassuring when one recognizes that the costs being experienced by the
8 lead projects at Vogtle and Summer are informed by committed contracts and
9 include significant equipment and material purchases. Therefore, the total
10 project costs for these projects are more certain.

11 **Q. What future activities are anticipated that will provide information to**
12 **revise the overnight capital cost estimate range?**

13 A. Negotiations on the Engineering, Procurement and Construction contract will
14 provide more information including price, terms and schedules to support an
15 execution plan for project construction. That information will be integrated
16 with continued observations of the progress of preceding U.S. projects to
17 inform and revise the Turkey Point 6 & 7 non-binding cost estimate, as
18 warranted.

19 **Q. What factors may impact the overall project cost estimate, including**
20 **time-related costs such as price escalation and carrying costs?**

21 A. The primary factors affecting the total project cost will be the actual labor and
22 materials costs experienced during the Preparation and Construction periods.
23 The certainty around these costs will increase as preceding projects move

1 through the early stages of construction and as FPL negotiates the principal
2 contracts for engineering, procurement, and construction of the project. The
3 pace of expenditures is also a critical factor that will impact total project costs.
4 Escalation of future costs and carrying costs on expended funds are time
5 related factors.

6 **Q. What is the estimate of the total project costs based on the current**
7 **project schedule?**

8 A. As described above, there are a number of assumptions made to arrive at this
9 estimate. Under the current 2022/2023 in-service date schedule, and using the
10 2013 overnight cost estimate range, the total project cost range becomes \$12.7
11 billion to \$18.5 billion for the 2,200 MW project.

12 **Q. What are the most current Turkey Point 6 & 7 economic feasibility**
13 **analysis results?**

14 A. Through the economic downturn and following a substantial shift in the
15 market supply and prices of natural gas fuel, the overall economic feasibility
16 of new nuclear generation demonstrates noteworthy robustness.

17

18 As discussed by FPL Witness Sim, the most current feasibility analysis
19 affirms the projected cost effectiveness and benefits associated with the
20 Turkey Point 6 & 7 project using the same basic analytical approach applied
21 in the Need Determination proceeding for the project and the four prior NCRC
22 filings. The analysis calculated a projected “break-even” cost for new
23 nuclear; a cost that results in the same life cycle costs (or cumulative present

1 value of revenue requirements) as an alternative plan relying on natural gas
2 combined cycle units. The analysis was conducted for seven scenarios
3 comprised of combinations of three fuel and three emission cost forecasts.
4 The projected break-even costs were higher than FPL's non-binding cost
5 estimate range for its Turkey Point 6 & 7 project in five of seven scenarios,
6 and within range for the other two. These results indicate that the Turkey
7 Point 6 & 7 project is quantitatively and qualitatively superior to the combined
8 cycle gas alternative plan in five scenarios. In the other two scenarios, which
9 assume either continued low environmental costs for 50 years, or continued
10 low costs for both natural gas and environmental compliance for 50 years, the
11 combined cycle alternative showed comparable economics. However, a
12 natural gas fueled alternative would not deliver the qualitative benefits of fuel
13 diversity, energy security and zero greenhouse gas emissions that are offered
14 by new nuclear generation.

15 **Q. In February 2010, FPSC Staff provided a list of factors for consideration**
16 **in the feasibility analysis. Have those factors been considered?**

17 A. Yes. FPL Witness Sim discusses the economic factors and I discuss the non-
18 economic factors.

19 **Q. What non-economic factors affect the projects long term feasibility?**

20 A. Non-economic factors include the feasibility of obtaining all necessary
21 approvals (permits, licenses, etc.), the ability to obtain financing for the
22 project at a reasonable cost, and supportive state and federal energy policy.

23

1 Significant federal, state, and local approvals are required to allow for the
2 construction and operation of the project. During recent months, several key
3 state agency reports were completed recommending approval of the project
4 with conditions, continuing to support the long-term feasibility of the project.
5 While the review process has taken longer than originally anticipated, the
6 process is proceeding substantively as expected.

7
8 Financing will be determined as the project proceeds through approvals to
9 construction. The lead projects, Vogtle and Summer, have successfully
10 obtained financing. FPL will continue its dialogue with the financial
11 community to help maintain FPL's capability to obtain financing upon
12 reasonable terms.

13
14 As discussed earlier in this testimony, state and federal energy policy
15 continues to be generally supportive of new nuclear generation for a host of
16 reasons. Recent legislative activity in Florida sought to revise some aspects of
17 the Nuclear Cost Recovery statute, but preserve the opportunity it provides.
18 The high reliability, low and stable cost and zero greenhouse gas emission
19 profile of nuclear generation technology remains highly compatible with key
20 energy policy objectives.

21

22

23

1 **2013 & 2014 PRE-CONSTRUCTION COSTS**

2

3 **Q. How are the 2013 actual/estimated costs and the 2014 projected costs**
4 **developed?**

5 A. As described earlier, FPL has a disciplined ground-up process to develop
6 project budgets. This process was used in the initial project budgeting activity
7 and is routinely reviewed and evaluated for adequacy and accuracy as
8 additional information becomes available. The estimates of the 2013
9 actual/estimated and 2014 projected costs were completed in accordance with
10 FPL's budget and accounting guidelines and policies. Where services are
11 contracted, rates are provided by the contractor and reviewed to verify the
12 charged rates are consistent with FPL's experience in the broader industry.
13 The cost estimates were compared to other costs being incurred by the
14 company for similar activities and found to be reasonable.

15 **Q. Please provide a high level summary of the 2013 actual/estimated and the**
16 **2014 projected costs presented in this filing.**

17 A. The costs associated with the Turkey Point 6 & 7 project in 2013 and 2014 are
18 focused on supporting the licensing and permit application reviews underway.
19 Additional costs are incurred in the Engineering & Design category associated
20 with completing the Underground Injection Control (UIC) Exploratory Well, a
21 necessary step towards approval of that process.

22 **Q. What changes may occur that could affect these cost projections?**

1 A. The pace and content of the application reviews may impact the actual costs in
2 2013 and 2014. The NRC COLA process may include an expanded review of
3 seismic and flooding issues, in response to the Fukushima event in Japan in
4 March of 2011. Additionally, the project anticipates several hearings in the
5 state certification process in 2013. The extent to which these hearings are
6 contested and the breadth of issues allowed within the scope of the hearings
7 by the Administrative Law Judge may impact the costs experienced.

8 **Q. Please summarize the costs included in this filing for Turkey Point 6 & 7**
9 **Pre-construction activities.**

10 A. Schedule AE-6 of SDS-7 presents the 2013 actual/estimated costs in the
11 following categories: 1) Licensing \$25,526,715; 2) Permitting \$1,030,565;
12 3) Engineering and Design \$2,720,435; 4) Long Lead Procurement advance
13 payments \$0; 5) Power Block Engineering and Procurement \$0; and
14 6) Transmission Engineering \$0. Schedule P-6 of SDS-7 presents the 2014
15 projected costs in the following categories: 1) Licensing \$13,410,866; 2)
16 Permitting \$663,796; 3) Engineering and Design \$3,061,439; 4) Long Lead
17 Procurement \$0; 5) Power Block Engineering and Procurement \$0; and
18 6) Transmission Engineering \$0. Table 1 of Exhibit SDS-8 provides a
19 summary of the actual/estimated 2013 and projected 2014 Pre-construction
20 costs. The descriptions in the Exhibit SDS-8 tables are illustrative and do not
21 provide full line item detail.

22 **Q. Please describe the activities included in the Licensing category for the**
23 **2013 actual/estimated costs and the 2014 projected costs.**

1 A. For the period ending December 31, 2013, Licensing costs are projected to be
2 \$25,526,715 as shown on Line 3 of Schedule AE-6 of SDS-7. For the period
3 ending December 31, 2014, Licensing costs are projected to be \$13,410,866
4 as shown on Line 3 of Schedule P-6 of SDS-7. Table 2 of Exhibit SDS-8
5 provides a detailed breakdown of the Licensing subcategory costs.

6
7 Licensing costs consist primarily of FPL employee and contractor labor and
8 specialty consulting services necessary to support the various license and
9 permit applications required by the Turkey Point 6 & 7 project. The majority
10 of the licensing expenditures are a result of the federal COLA process. This
11 value is a combination of NNP team costs and Bechtel COLA team costs.
12 The license and permit applications contain project specific information,
13 assessments and studies requested by various regulatory authorities to support
14 the reviews leading to decisions on the technical, environmental and social
15 acceptability of the project. Other licensing activities include costs associated
16 with the SCA, USACE permits and delegated programs such as Prevention of
17 Significant Deterioration and UIC. In 2013 and 2014 these costs will
18 increasingly be related to preparation and support for hearings that include
19 legal briefs and expert witness testimony. License and permitting costs are
20 developed in accordance with budget and accounting guidelines and policies.
21 Some activities are common between applications, and therefore offer
22 opportunities to coordinate efforts and manage costs. Further, these cost
23 estimates were compared to FPL's extensive experience with the development

1 and permitting of new generation projects in Florida and found to be
2 reasonable.

3 **Q. What are the major differences between the 2013 actual/estimated values**
4 **and those projected in the April 27, 2012 filing for the Licensing**
5 **category?**

6 A. The actual/estimated values for the Licensing category in 2013 are lower than
7 the amount projected for 2013 in 2012. Primarily, the decrease is based on a
8 reduction of contingency in this category to offset additional costs
9 experienced in the Engineering and Design category.

10 **Q. Please describe the activities in the Permitting category for the 2013**
11 **actual/estimated costs and the 2014 projected costs.**

12 A. For the period ending December 31, 2013, Permitting costs are projected to be
13 \$1,030,565 as shown on Line 4 of Schedule AE-6 of SDS-7. For the period
14 ending December 31, 2014, Permitting costs are projected to be \$663,796 as
15 shown on Line 4 of Schedule P-6 of SDS-7. Table 3 of Exhibit SDS-8
16 provides a detailed breakdown of the Permitting subcategory costs, including
17 a description of items included within each category. Permitting costs include
18 costs for the Development team, in-house legal support, and resources to
19 conduct necessary outreach educating stakeholders about the project.

20 **Q. What are the major differences between the 2013 actual/estimated values**
21 **and those projected in the April 27, 2012 filing for the Permitting**
22 **category?**

1 A. The difference is driven by a reduction in labor costs in this category and a
2 reduction in contingency in this category, which combine to offset additional
3 costs experienced in the Engineering and Design category.

4 **Q. Please describe the activities in the Engineering and Design category for**
5 **the 2013 actual/estimated costs and the 2014 projected costs.**

6 A. The Engineering and Design activities performed in 2013 and 2014 are
7 primarily related to supporting the permitting effort for the UIC well system.
8 For the period ending December 31, 2013, Engineering and Design costs are
9 projected to be \$2,720,435 as shown on Line 5 of Schedule AE-6 of SDS-7.
10 For the period ending December 31, 2014, Engineering and Design costs
11 associated with preliminary engineering activities are projected to be
12 \$3,061,439 as shown on Line 5 of Schedule P-6 of SDS-7. Table 4 of Exhibit
13 SDS-8 provides a detailed breakdown of the Engineering and Design
14 subcategory costs, including a description of items included within each
15 category.

16
17 Costs for participation in industry groups include the Electric Power Research
18 Institute Advanced Nuclear Technology working group (with annual fees of
19 \$275,000) and the DCWG (no external charge to participate in this group).
20 The fee for participation in APOG is expected to be \$1.5 million in 2013 and
21 \$2.0 million in 2014. These costs are necessary to obtain the benefits of
22 membership described earlier in this testimony.

1 **Q. What are the major differences between the 2013 actual/estimated values**
2 **and those projected in the April 27, 2012 filing for the Engineering and**
3 **Design category?**

4 A. The major difference is a carryover of costs that were not incurred in 2012 on
5 the UIC exploratory well. Some completion costs associated with the
6 exploratory well carried into 2013 as the final contract discussions were
7 settled with the vendor. Additionally, an increase in APOG fees of
8 approximately \$900,000 is expected as this group assumes some of the work
9 previously accomplished by NuStart.

10 **Q. Please describe the activities in the Long Lead Procurement category for**
11 **the 2013 actual/estimated costs and the 2014 projected costs.**

12 A. For the period ending December 31, 2013, Long Lead Procurement costs are
13 projected to be \$0 as shown on Line 6 of Schedule AE-6 of SDS-7. Future
14 Long Lead Procurement costs are anticipated to be included in the Power
15 Block Engineering and Procurement cost category.

16 **Q. Please describe the activities in the Power Block Engineering and**
17 **Procurement category for the 2013 actual/estimated costs and the 2014**
18 **projected costs.**

19 A. For the period ending December 31, 2013, Power Block Engineering and
20 Procurement costs are projected to be \$0 as shown on Line 7 of Schedule AE-
21 6 of SDS-7. For the period ending December 31, 2014, Power Block
22 Engineering and Procurement costs are projected to be \$0 as shown on Line 7
23 of Schedule P-6 of SDS-7.

1 **Q. Please describe the activities in the Transmission Engineering category**
2 **for the 2013 actual/estimated costs and the 2014 projected costs.**

3 A. For the period ending December 31, 2013, Transmission Engineering
4 expenditures are projected to be \$0 as shown on Line 25 of Schedule AE-6 of
5 SDS-7. For the period ending December 31, 2014, Transmission Engineering
6 expenditures are projected to be \$0 as shown on Line 25 of Schedule P-6 of
7 SDS-7.

8
9 All 2013 and 2014 costs associated with Transmission planning are related to
10 the licensing and permitting activities, and therefore are appropriately
11 included in those categories, described above.

12 **Q. Are FPL's actual/estimated 2013 and projected 2014 Turkey Point 6 & 7**
13 **costs reasonable?**

14 A. Yes. FPL's 2013 and 2014 expenditures are reasonable and necessary to
15 obtain the licenses and permits which will allow FPL to carefully and
16 methodically create the opportunity for additional reliable, cost-effective and
17 fuel diverse nuclear generation to benefit FPL customers. FPL uses a robust
18 system of project controls, systems, and practices to obtain a high level of
19 control over the expenditures incurred and projected. Together, these support
20 a finding that FPL's actual/estimated 2013 and projected 2014 expenditures
21 are reasonable.

22 **Q. Does this conclude your direct testimony?**

23 A. Yes.

Docket No. 130009-EI
Turkey Point 6 & 7 Site Selection and Pre-construction NFRs
Exhibit SDS-7, Page 1 of 1

SDS-7 is in the Nuclear Filing Requirements Book

Docket No. 130009-EI
Turkey Point 6 & 7 Expenditure Summary Tables
 Exhibit SDS-8, Page 1 of 3

Table 1. 2013 Pre-construction Costs

Category	2013 Actual/ Estimated Costs (\$)	2014 Projected Costs (\$)
Licensing	25,526,715	13,410,866
Permitting	1,030,565	663,796
Engineering & Design	2,720,435	3,061,439
Long Lead Procurement	0	0
Power Block Engineering & Procurement	0	0
Total Pre-construction Costs	29,277,715	17,136,102
Transmission	0	0
Total Pre-construction Costs & Transmission	29,277,715	17,136,102

Note: Totals may not appear to add due to rounding.

Docket No. 130009-EI
Turkey Point 6 & 7 Expenditure Summary Tables
Exhibit SDS-8, Page 2 of 3

Table 2. 2013 Licensing Costs

Category	2013 Actual/ Estimated Costs (\$)	2014 Projected Costs (\$)
NNP Team Costs - NNP FPL Payroll and Expenses, FPL Project Team Facilities, FPL Engineering, FPL Licensing	5,083,680	4,177,597
Application Production - COLA/SCA Contractor, Project Architecture & Engineering, NRC and Design Center Working Group fees	8,420,944	4,710,721
SCA Oversight	211,565	0
SCA Subcontractors:		
• ECT - Transmission	1,057,777	130,000
• Golder - Environmental	674,340	0
• McNabb - Underground Injection	23,332	0
Total SCA	1,967,014	130,000
Environmental Services - FPL Payroll and Expenses, External Support Expenses	4,581,210	1,050,782
Power Systems - FPL Payroll and Expenses, System Studies, Licensing and Permitting Support and Design Activities	352,924	0
Licensing Legal - FPL Payroll and Expenses, External Legal Services, Expert Witnesses	2,791,917	712,158
• Regulatory Affairs	636,154	513,128
• New Nuclear Accounting	243,843	367,237
Total Regulatory Support	879,998	880,365
Licensing Contingency	1,449,029	1,749,243
Total Licensing	25,526,715	13,410,866

Note: Totals may not appear to add due to rounding.

Docket No. 130009-EI
Turkey Point 6 & 7 Expenditure Summary Tables
 Exhibit SDS-8, Page 3 of 3

Table 3. 2013 Permitting Costs

Category	2013 Actual/ Estimated Costs (\$)	2014 Projected Costs (\$)
Project Communication Support	105,942	64,814
Development - FPL Payroll and Expenses, Various Studies	632,081	333,206
Permitting - Legal Specialists Support	234,044	179,194
Permitting Contingency	58,500	86,582
Total Permitting	1,030,565	663,796

Table 4. 2013 Engineering and Design Costs

Category	2013 Actual/ Estimated Costs (\$)	2014 Projected Costs (\$)
Engineering and Construction Team - FPL Payroll and Expenses, Pre-construction Project Management	114,782	287,121
Pre-construction External Engineering - Construction Planning	663,346	0
APOG Membership Participation	1,500,000	2,000,000
EPRI Advanced Nuclear Technology	275,000	275,000
FEMA Fees	12,880	100,000
Engineering and Design Contingency	154,426	399,318
Total Engineering and Design	2,720,435	3,061,439

Table 5. 2013 Power Block Engineering and Procurement

Category	2013 Actual/ Estimated Costs (\$)	2014 Projected Costs (\$)
No costs in 2012	0	0
Total Power Block Engineering and Procurement	0	0

Note: Totals may not appear to add due to rounding.

Turkey Point 6 & 7 Project Benefits at a Glance

Projected first year fossil fuel savings for customers

\$804 million

Projected lifetime fossil fuel savings for customers

\$78 billion



Enough energy to power
1,176,000
customer homes
without burning coal,
natural gas or foreign oil

Fewer greenhouse gas emissions

CO₂ reduction of



U.S. EPA annual equivalent of removing more than



Decreased reliance on natural gas and foreign oil

Annual fossil fuel reduction of the equivalent of
28 million barrels of oil

or
177 million mmBTU of natural gas annually

FPL's reliance on natural gas reduced by

18%

beginning in the first full year of operation, providing an important hedge against volatile natural gas prices

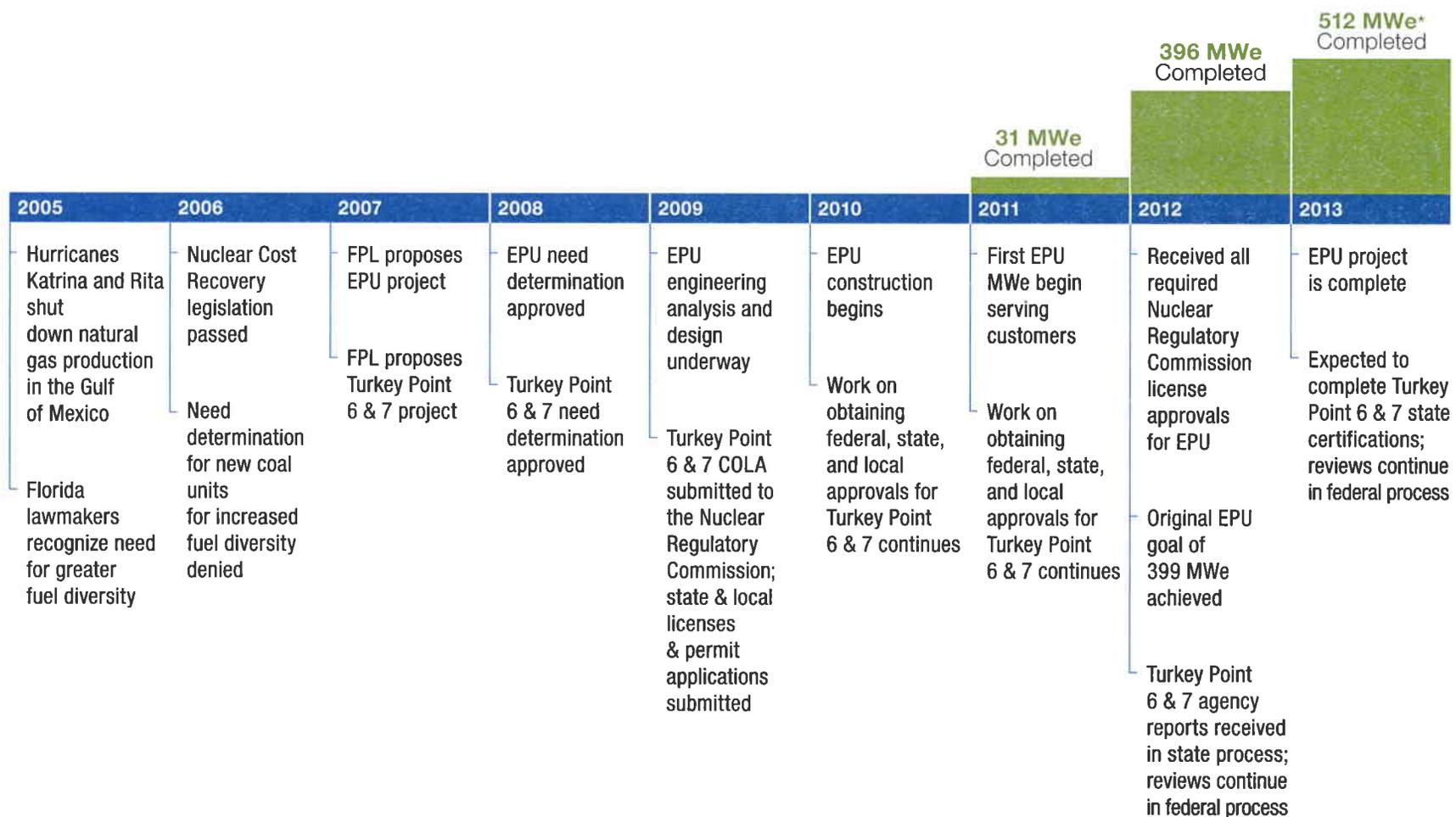
Higher electric grid stability

Turkey Point 6 & 7 project makes more electricity where it is needed



New Nuclear Energy Timeline

In addition to completing the EPU project, FPL is making measurable progress toward obtaining all necessary licenses, permits and approvals for the two new nuclear units at Turkey Point



* At least 512 MWe, pending performance testing

