

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 120009-EI
FLORIDA POWER & LIGHT COMPANY

APRIL 27, 2012

IN RE: NUCLEAR POWER PLANT COST RECOVERY
FOR THE YEARS ENDING
DECEMBER 2012 AND 2013

TESTIMONY & EXHIBITS OF:

STEVEN D. SCROGGS

COM	<u>5</u>
APA	<u>1</u>
ECR	<u>6</u>
GCL	<u>1</u>
RAD	<u>1</u>
SRC	<u> </u>
ADM	<u> </u>
OPC	<u> </u>
CLK	<u> </u>
G. Reg	<u>1</u>

DOCUMENT NUMBER-DATE

02667 APR 27 12

FPSC-COMMISSION CLERK

1 **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

2 **FLORIDA POWER & LIGHT COMPANY**

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

4 **DOCKET NO. 120009-EI**

5 **APRIL 27, 2012**

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-8, Turkey Point 6 & 7 Site Selection and Preconstruction
20 Nuclear Filing Requirement Schedules (NFRs) consisting of the 2012
21 Actual/Estimated (AE) Schedules, the 2013 Projection (P) Schedules
22 and the 2013 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-9, consisting of summary tables presenting the 2012
4 actual/ estimated and 2013 projected preconstruction costs for the
5 Turkey Point 6 & 7 project.

6 • Exhibit SDS-10, Turkey Point 6 & 7 Project Benefits at a Glance.

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

8 A. The purpose of my testimony is to provide a description of how the Turkey
9 Point 6 & 7 project is being managed and controlled. The project undertakes
10 the steps necessary to license, construct, and operate two Westinghouse
11 designed AP1000 nuclear reactors and associated transmission and ancillary
12 facilities at the Turkey Point site near the existing Turkey Point 3 & 4 nuclear
13 power plants in southern Miami-Dade County. My testimony will provide
14 insight into how project activities are managed given the near term focus on
15 obtaining all licenses, authorizations, and approvals needed and the factors
16 influencing key decisions affecting the nature, cost and pace of that effort. I
17 will also describe the projected expenditures for 2012 and 2013 allowing FPL
18 to support and defend the applications requesting the required licenses and
19 permits. FPL's 2013 cost recovery request, as in past years, includes only
20 amounts that are associated with the licensing and preparation activities
21 currently underway. Notably, the request does not include any construction
22 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 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 provide incentive for this effort. Further, the
12 resilience of the project economics to the current, unprecedented natural gas
13 market and economic downturn (as demonstrated in the annual feasibility
14 analysis) demonstrates that the quantitative benefits of the project are robust.
15 Progress in other nuclear industry milestones (AP1000 Design Certification
16 and Combined Licenses for two AP1000 projects) continues to illustrate a
17 stable economic and regulatory environment for new nuclear plant
18 deployment.

19
20 In 2012 and 2013 the project is scheduled to continue its progress in much the
21 same manner as it has in past years, responding to regulatory requirements as
22 various steps in the application processes are completed. Expenses requested
23 are primarily related to obtaining the licenses and permits, with a portion

1 covering planning and design studies needed to support the project schedule.
2 Delays in the regulatory review process have been accommodated allowing
3 the projected commercial operation dates (CODs) of 2022 for Unit 6 and 2023
4 for Unit 7 to be maintained, however delays are possible. Recognizing that
5 the experience to date is a likely indicator of the remainder of the licensing
6 phase, FPL's stepwise approach continues to provide FPL customers with the
7 best opportunity to make steady progress on the project.

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

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

- 12 • Provide estimated fuel cost savings for FPL's customers of
13 approximately \$892 million (nominal) in the first full year of operation
14 based on a Medium Fuel Cost forecast;
- 15 • Provide estimated fuel cost savings for FPL's customers over the life
16 of the project of approximately \$58 billion (nominal) based on a
17 Medium Fuel Cost forecast;
- 18 • Diversify FPL's fuel sources by decreasing reliance on natural gas by
19 approximately 13% beginning in the first full year of operation;
- 20 • Reduce annual fossil fuel usage by the equivalent of 28 million barrels
21 of oil or 177 million mm BTU of natural gas; and

1 FPL to make progress on obtaining licenses and approvals without taking on
2 the risks of committing to a specific construction schedule and the associated
3 expenditures. For example, through 2013, FPL projects it will have spent
4 (and recovered through this Nuclear Cost Recovery process) a total of \$206
5 million on the Turkey Point 6 & 7 project – approximately 1% of the total
6 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 resolve uncertainty and increase predictability, informing each subsequent
11 step.

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

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

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

6 **Q. How has this project approach specifically been applied to the activities**
7 **planned for the Turkey Point 6 & 7 project in 2012 and 2013?**

8 A. The project approach has proven valuable as unanticipated events external to
9 the project have occurred to affect the overall pace of the project. For
10 example, federal budget issues and the events of Fukushima in March 2011
11 placed a significant unexpected burden on the resources of the Nuclear
12 Regulatory Commission (NRC). By placing the emphasis on obtaining the
13 licenses, permits, and approvals and deciding not to initiate Preparation phase
14 activities until they are absolutely necessary, FPL continues to make progress
15 on the project and minimize costs to FPL customers. This disciplined
16 approach provides the best opportunity to deliver the benefits of the project on
17 the earliest practicable schedule.

18

19 **PROCESS AND RISK MANAGEMENT**

20

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

1 A. The Turkey Point 6 & 7 project requires a wide range of skilled team
2 members with experience in the development, design, construction and
3 licensing of nuclear generation. There is also a significant volume of
4 information generated as issues unique to new nuclear generation deployment
5 are identified and evaluated. The project management structure of the Turkey
6 Point 6 & 7 project provides for dedicated teams with the requisite subject
7 matter expertise to be coordinated at all levels. This is accomplished through
8 a project organization and reporting structure that effectively identifies and
9 applies resources to issues while maintaining transparent and open
10 communications. As described in my March 1, 2012 testimony, the project
11 organization relies on two principal organizations jointly responsible for the
12 integrated execution of the project. William Maher manages the New Nuclear
13 Plant (NNP) organization with responsibility for NRC licensing and project
14 engineering and construction. I lead the Development organization for all
15 other facets of project development, such as state Site Certification, local
16 zoning approvals, public relations, and Commission regulatory issues. Each
17 organization is supported by FPL business units with specific, recent success
18 in the certification, NRC re-licensing, and permitting of multiple power
19 generation units in Florida and is complemented by our national operating
20 experience with renewable, natural gas, and nuclear generation assets.

21

22 FPL also gives careful consideration to how it contracts for support of the
23 many license and permit applications. A combination of competitive bidding

1 and single/sole source procurement is used, in compliance with FPL policies,
2 to manage augmentation of FPL staff with qualified and experienced specialty
3 contractors and service providers.

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

6 A. FPL uses industry accepted project controls, systems, and practices to obtain a
7 high level of control over the expenditures incurred and projected for all
8 projects. The primary means of control are 1) the project budgeting and
9 reporting process, 2) project schedule and activity reporting processes, 3) the
10 contract management process for external service providers, and 4) internal
11 and external oversight processes. These processes were fully described in my
12 direct testimony provided in the March 1, 2012 true-up filing and continue to
13 be utilized in the oversight of the project.

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

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

1 spotlight and trend issues presented by the Turkey Point 6 & 7 licensing
2 project.

3

4 Project Memoranda, describing the background and analysis considered in
5 project decisions, are an example of a tool developed to ensure a higher level
6 of documentation and transparency in the management of the project. These
7 memoranda document decisions made with respect to project features,
8 contracts, cost estimates, and schedules.

9

10 Additionally, a quarterly risk summary tracks the assessment of project risks
11 over time. This summary qualitatively gauges the probability of occurrence
12 and impacts to implementation, cost, and schedule aspects of the project.

13 **Q. What audit and review activities are planned and what are the objectives**
14 **of these audits?**

15 A. FPL employs a suite of audit activities to evaluate and document the conduct
16 of project activities. Standard annual financial audits provide a
17 comprehensive review of project expenditures to support prudence
18 determination in the subsequent years. Annual internal controls reviews and
19 financial audits are conducted to ensure FPL is appropriately applying all
20 project controls and is adopting the appropriate techniques and tools learned
21 from other projects in the industry. Topical audits are developed as necessary
22 to complement specific areas of key interest at each stage of the project.
23 Examples of topical audits include quality control audits focusing on specific

1 processes and training audits to verify personnel are receiving required
2 instruction.

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

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

18

19 **PROCUREMENT**

20

21 **Q. Please summarize the results of the procurement activities supporting**
22 **Turkey Point 6 & 7 project to date.**

1 A. The project activities and expenditures are related to the development of the
2 detailed studies and analyses required to support and defend federal, state, and
3 local licensing and permitting applications for the project. FPL has used
4 competitive bidding for the majority of total project expenditures and used
5 single or sole source procurement when appropriate or where no alternative
6 exists.

7 **Q. What key procurement activities are being addressed by the project in**
8 **2012 and 2013?**

9 A. Procurement activities in 2012 and 2013 continue to focus on the licensing
10 and permitting process. Professional services are required from technical and
11 environmental consultants, legal service firms, and subject matter experts to
12 respond to the inquiries of intervenors and the reviewing agencies during the
13 application review process or subsequent hearings. Additionally, some
14 planning studies and early site preparation design activities are scheduled for
15 2013.

16

17 **ISSUES POTENTIALLY AFFECTING PROJECT**

18

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

21 A. These can be generally grouped into four areas. First, the events surrounding
22 the Japanese nuclear industry in the wake of the March 2011 earthquakes and
23 tsunami are as significant as any faced by the nuclear industry in recent years.

1 The impacts of these events will likely have operational, regulatory, and
2 political ramifications for the U.S. nuclear industry. Second, progress of
3 international and domestic new nuclear projects, specifically in the wake of
4 the Japanese events, will be important inputs to inform management decision-
5 making for the Turkey Point 6 & 7 project. Third, developments in regional
6 and national economy and energy policy have potential to affect the project.
7 Finally, there are several project specific issues that may impact the project.

8 **Q. Has there been some clarity gained over the past year regarding how the**
9 **events of Fukushima may impact new nuclear generation development in**
10 **the United States?**

11 A. Yes. The NRC has taken actions and communicated plans that provide insight
12 into how they plan to respond and therefore how the events may impact new
13 nuclear deployment. In the first several months following the events in Japan
14 the NRC convened a task force that reviewed the circumstances and made
15 recommendations for industry response in the U.S. Further, the NRC has
16 made long range plans for review and rulemaking of additional safety
17 enhancements to existing and new nuclear facilities. Most importantly, the
18 NRC was able to maintain its focus on reviewing the AP1000 Design
19 Certification Document and the Reference Combined Operating License
20 (COL) for the AP1000 design, Southern's Vogtle Units 3 and 4 project. The
21 NRC indicated any future recommendations relevant to new reactor designs
22 and owners/applicants could be capably integrated through existing NRC
23 processes. By continuing to address these critical approvals, the NRC was

1 able to maintain the new nuclear deployment timeline anticipated prior to the
2 Fukushima events.

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

6 A. FPL is monitoring several AP1000 projects to capture issues and challenges
7 and to learn from the experiences of these projects. Internationally, FPL is
8 monitoring progress on the Sanmen 1 & 2 (China, AP1000) and Haiyang 1 &
9 2 (China, AP1000) projects. The Sanmen and Haiyang projects represent the
10 lead units for the AP1000 technology. These projects have completed site
11 preparation, poured their concrete foundations, accepted deliveries of major
12 components and have started module assembly and placement. At present,
13 they are on schedule and within the original cost estimates.

14
15 In the United States, multiple projects are underway. The NRC is currently
16 reviewing several AP1000 projects, including FPL's Turkey Point 6 & 7.
17 Three of these projects (Southern Vogtle, South Carolina Electric & Gas
18 Summer and Progress Levy) are considered the first wave of AP1000 projects.
19 The Vogtle and Summer COLs were issued in early 2012, allowing the
20 projects to begin safety related construction.

21
22 The collective status of international and domestic projects continues to
23 demonstrate substantial and consistent progress is being made on the next

1 generation of nuclear projects. Time will be necessary to gather lessons
2 learned and strategies that best apply to Turkey Point 6 & 7 project. In
3 general, the pace of these projects are positive, but the milestones to be
4 achieved in the next two years affirms FPL's choice to initiate Preparation
5 phase activities as late as possible as a way to control implementation risks
6 and incorporate lessons learned.

7 **Q. What are the specific milestones FPL will monitor on leading U.S.**
8 **projects in 2012 and 2013?**

9 A. On the licensing front, the NRC is expected to hold hearings for the Levy
10 Combined Operating License Application (COLA) in 2012 and 2013.
11 Continued timely processing of license applications that precede the Turkey
12 Point Units 6 & 7 project is an important indicator of the regulatory
13 environment. Additionally, Southern Company should be completing
14 negotiations with DOE on the Loan Guarantee for construction of the Vogtle
15 project. If consummated, the results of this initial loan guarantee are expected
16 to set the standard for any future federal loan guarantees.

17

18 The initiation of safety related construction at Vogtle and Summer will
19 generate important information regarding construction planning logistic, labor
20 and supply chain elements in the U.S. This information will be important to
21 guide the development of the construction execution plan for Turkey Point
22 Units 6 & 7.

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

3 A. FPL continues to monitor developments associated with the DOE Loan
4 Guarantee program and will consider all opportunities that may provide
5 demonstrable benefits to our customers. With the pending Vogtle loan
6 guarantee, more information with respect to costs, benefits, and structure is
7 expected to emerge to allow for a better estimation of the costs and benefits
8 for FPL. The initial program was set at \$18 billion and the Vogtle project is
9 expected to utilize less than 50% of that amount, meaning the balance of the
10 funds may be available through a future solicitation. FPL is in
11 communication with the DOE Loan Guarantee office and will consider all
12 opportunities related to loan guarantees.

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

16 A. The economic downturn affected forward demand and fuel price forecasts.
17 The pace of recovery is expected to be steady but remain below historic
18 growth rates for the near term. Additionally, the significant shift in supply
19 relative to demand in the natural gas industry has created a near term
20 reduction in natural gas prices and has reduced long range forecasts for price
21 levels. FPL Witness Sim addresses the effect of changes in FPL demand
22 forecasts and natural gas price forecasts on the economic feasibility of Turkey

1 Point 6 & 7 and the fact that the project continues to be projected as both
2 economically feasible and beneficial for customers.

3 **Q. What do recent developments related to national and regional energy**
4 **policy indicate with respect to the continued pursuit of the Turkey Point 6**
5 **& 7 project?**

6 A. National energy policy, as proposed by the current administration, is
7 supportive of nuclear energy in general, and new nuclear energy development
8 in specific. The administration has reaffirmed its support for new nuclear
9 power following the events of Fukushima. In general, while cautious,
10 policymakers continue to recognize the long term value of and need for new
11 nuclear generation capacity.

12
13 Regionally, the legislature continues to address questions related to Florida's
14 energy mix, affirming many of the policies implemented in the Florida Energy
15 Act of 2006. Issues cited as important in the Commission's Need Order of
16 April 2008 have not changed. Reliability, cost-effectiveness, fuel diversity,
17 fuel supply reliability, and price stability are still benefits to be delivered by
18 increasing nuclear generation capacity and are still needed by FPL's
19 customers. A future plan not including new nuclear capacity prolongs
20 reliance on fossil fuels, maintains exposure to fuel supply reliability and price
21 volatility, and is not as effective at reducing system emissions, including
22 greenhouse gas emissions, as a plan including new nuclear generation
23 capacity.

1 **Q. What project specific areas does FPL monitor that may affect objectives**
2 **for 2012 and 2013?**

3 A. There are two important areas that may impact the cost, schedule, and ultimate
4 success of the Turkey Point Units 6 & 7 project.

5

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

13

14 During 2012 FPL is scheduled to receive agency reports on the plant and non-
15 linear facilities in the Site Certification Application (SCA) process. In 2013
16 FPL expects to proceed to the SCA hearing and receive the draft NRC Safety
17 Evaluation Report and draft NRC Environmental Impact Statement in the
18 COLA process. These reports will provide critical feedback regarding the
19 impacts or potential impacts of the project and conditions proposed by
20 agencies to address those impacts. Accommodation of these conditions may
21 impact project cost, schedule, and execution risk. Moreover, certain
22 restrictions may place operating constraints on the project that influence the
23 nature of the project construction or operation. The combined effect of these

1 significantly influence how FPL can go about executing the project once
2 approved, and provides another factor that recommends a disciplined step-
3 wise approach.

4 **Q. Does FPL anticipate other potential factors that may result in revisions to**
5 **the NRC COLA Review Schedule for Turkey Point Units 6 & 7?**

6 A. Yes. Following the events at Fukushima FPL received additional Requests for
7 Information (RAIs) from NRC staff in safety-related areas focusing on
8 seismic issues and flooding events. These recent RAIs have generated
9 discussion and will require analysis and modeling to develop the responses.
10 FPL also continues to receive RAIs in connection with NRC's environmental
11 review. FPL is in the process of discussing these RAIs and potential impacts
12 to schedule with the NRC.

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

16 A. The USACE wetland permits are processed in coordination with the
17 development of the Final Environmental Impact Statement (FEIS) in the NRC
18 COLA process (currently scheduled in February 2014). FPL continues to
19 work with the USACE staff to answer their specific questions; however any
20 final action is expected to be linked to the timeline of the NRC FEIS.

21 **Q. Please describe the pace of the state SCA review and factors affecting the**
22 **pace of the review.**

1 A. Considerable interest has been expressed by multiple agencies related to the
2 physical environment surrounding Turkey Point and the complexity of
3 groundwater features in the region. Additionally, the complexity of siting
4 approximately 80 miles of new transmission lines, necessary to interconnect
5 the project to the FPL system in Florida's most populous county is requiring
6 significant review. The result has been a longer than statutorily prescribed
7 process to achieve completeness determinations on the SCA. FPL has made a
8 conscious decision to allow additional time, when warranted, to ensure this
9 important review process is as accessible and participatory as possible. FPL
10 continues to work with all agencies to address the technical issues associated
11 with SCA review to ensure all legitimate issues have been fully addressed
12 prior to proceeding to the SCA Hearing (expected Spring 2013) and
13 subsequent decision by the Power Plant Siting Board (expected Summer
14 2013).

15

16 **KEY DECISIONS AND MILESTONES**

17

18 **Q. What will be the focus of the project in 2012 and 2013?**

19 A. The focus remains on obtaining the licenses, permits, and approvals necessary
20 to construct and operate the Turkey Point Units 6 & 7 project. In 2012 and
21 2013, FPL will continue dialogue with federal, state, and local regulators to
22 fully answer all questions and identify the appropriate conditions that allow
23 the project to meet regulatory requirements and the needs of FPL customers.

1 **Q. What milestones are expected in relation to the NRC licensing process in**
2 **2012 and 2013?**

3 A. In 2012, FPL will work with NRC and USACE staff to complete all RAIs and
4 any other outstanding information needed to support production of the draft
5 safety and environmental reports. Also in 2012, a final decision is expected
6 on whether any outstanding contentions will be allowed to remain in the NRC
7 process. Several rounds of review have occurred in 2011 and 2012 that have
8 resulted in the dismissal of all but one proposed contention. In 2013 the NRC
9 and USACE processes will be driven by reviewing the draft staff reports and
10 providing comments to those reports.

11 **Q. What types of decisions are made in support of the NRC staff reviews?**

12 A. The NRC staff may request additional analyses and studies to augment the
13 initial submittal. These analyses can range from short topical studies to
14 significant field studies and/or modeling. Project management will be making
15 decisions on the necessity, scope, and execution of any additional work scope.
16 Similarly, NRC staff review may highlight opportunities for revisions to the
17 project and commitments the company may be asked to make regarding
18 conditions of licensing. Revisions and commitments may result in additional
19 project cost or schedule impact.

20 **Q. What milestones will be experienced related to the state Site Certification**
21 **process in 2012 and 2013?**

22 A. In late 2012 and 2013 FPL will be in discussions with the Florida Department
23 of Environmental Protection and other agencies as they finalize their agency

1 reports where they comment on FPL's project plans and recommend
2 conditions of certification. When completed, these comments and conditions
3 will be considered by the Administrative Law Judge, who will make a
4 recommendation to the Siting Board for final certification. The project is
5 scheduled to begin hearings in the state process with the Land Use Hearing in
6 2012 followed by the Site Certification Hearing in 2013.

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

10 A. During the review of the SCA, agencies assess the potential impacts and
11 necessary mitigation associated with executing the proposed project. Through
12 the course of that exchange, revisions or conditions of certification are often
13 proposed that minimize impacts or assist project features to more closely
14 conform to current regulatory policy. These revisions and conditions can
15 impact the cost and schedule for project execution. In some instances, the
16 revisions may result in considerable costs or execution risks to the project.
17 FPL will make decisions regarding what level of revisions to make, what
18 conditions can be accepted, and assess the impact of these changes to project
19 cost and schedule. Additionally, the project will be preparing to defend the
20 applications at hearing and making decisions regarding the nature of that
21 defense and the experts needed to support the case.

1 **Q. Will the project decisions regarding the Everglades National Park**
2 **Environmental Impact Statement (EIS) and land exchange be similar to**
3 **those made in the NRC and SCA processes?**

4 A. Yes. The EIS process results in observations and recommendations. The
5 Secretary of the Interior may choose to place conditions on the land exchange
6 as a result of these observations and recommendations. FPL will assess the
7 nature of these conditions and determine the impact to project cost and
8 schedule. It is expected that the draft EIS will be provided for public
9 comment in 2012. Comments are collected on the draft EIS and a final EIS
10 developed in 2013.

11 **Q. What decisions and milestones are being addressed related to the overall**
12 **project schedule?**

13 A. In late October 2011 the NRC provided a revised milestone schedule for
14 review of the Turkey Point 6 & 7 COLA. The revision set new dates for the
15 production of staff reports and clarified the expected timeline following
16 completion of those reports. In summary the revision established June 2014
17 as the expected date for receiving the COL. This compares well to FPL's
18 then-current project schedule (Rev 5A) which targeted November 2014 for
19 receiving the COL, as FPL had anticipated some delays. However, dates for
20 the interim milestones were extended from their original dates. Specifically,
21 the Final Safety Evaluation Report (FSER) was moved from December 2012
22 to November 2013 and the FEIS was moved from October 2012 to February
23 2014. In essence, the estimated date to receive the COL had moved earlier by

1 4 months although the FSER and FEIS internal milestones had been moved
2 later by 11 and 16 months, respectively.

3 **Q. Was there a specific aspect of the NRC schedule revision that was in**
4 **conflict with the Rev 5A schedule?**

5 A. Yes. In order to begin site preparation and construction, both the Site
6 Certification and the USACE wetland permits are required. The USACE
7 permit process is linked to the completion of the FEIS and is expected
8 approximately 4 months after the FEIS. With the revised schedule, the
9 earliest date for the USACE permits, and therefore the first opportunity to
10 initiate site preparation, had moved from May 2013 to June 2014. As a result
11 of this shift, the project conducted a schedule review to determine what
12 impacts the revision presents to the overall project schedule and what
13 mitigating strategies could be employed.

14 **Q. What was the focus of the review, and what resources were consulted?**

15 A. The review focused on the critical path items of early site preparation and
16 civil works; activities that precede the safety-related construction of the main
17 power plant. These Preparation phase activities include design and planning
18 studies, establishing roadways and installing bridges, clearing and de-mucking
19 the site, and installing the backfill that provides the foundation for the power
20 plant site. FPL construction and scheduling professionals collected
21 information from site visits to other projects, industry meetings and FPL
22 experience. The project team also referred to the 2009 study conducted by
23 Black & Veatch/Zachry that identified different options for early stage

1 construction. Finally, Shaw/Stone and Webster was asked to review FPL's
2 plans and share lessons learned from current AP1000 construction projects
3 they are involved with at Vogtle and Summer, as well as other relevant
4 projects.

5
6 The focus of the review was to ensure that the sequence of construction
7 activities for the early site preparation and civil works was complete and to
8 identify constraints and mitigation strategies. The review also examined if the
9 early construction work could be reorganized in a way that maintains the 2022
10 and 2023 commercial operating dates and if not, what dates are recommended.

11 **Q. What were the key observations and results of the review?**

12 A. The review concluded that the current 2022/2023 commercial operation dates
13 could be achieved. This was accomplished by removing an 8 month assumed
14 delay that was built into the Rev 5A schedule and revising the sequence of
15 specific Preparation phase activities. Importantly, the review confirmed that
16 the planning conducted to date had identified the appropriate activities and
17 potential conflicts consistent with the experience in other projects. With this
18 information the project team revisited the project schedule and developed a
19 new project schedule (Revision 6) to capture these revisions and sequences of
20 events.

21 **Q. Are there other NRC review items that could impact the COLA review**
22 **schedule?**

1 A. Yes. The October 27, 2011 COLA schedule revision targeted completion of
2 all safety related RAIs for March 2012. This did not occur. As identified
3 above, additional RAIs have been received or are anticipated in relation to
4 seismic modeling, post Fukushima reviews, and certain environmental
5 analyses. FPL continues to discuss the manner and timing of processing the
6 remaining RAIs with the NRC. These discussions lead to a more specific
7 understanding of the future COLA schedule.

8 **Q. Based on the Revision 6 schedule, what engineering work is anticipated in**
9 **2012 and 2013?**

10 A. The revised schedule assumes that bid and evaluation activities related to
11 early site preparation design and planning begin in late 2012 and continue
12 through 2013. Approximately \$1.25 million has been included for 2013 to
13 undertake targeted planning studies related to early site preparation and
14 logistics.

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

16 A. Yes. The most important near term activity is creating the opportunity by
17 obtaining the licenses and approvals necessary to construct and operate
18 Turkey Point 6 & 7. Once the project is closer to obtaining the approvals,
19 FPL will be able to refine the economic assumptions and incorporate the
20 experience of other new nuclear projects as well as how state and federal
21 energy policies have evolved. The Commission will continue to have the
22 opportunity to review FPL's plans through the Nuclear Cost Recovery Clause
23 (NCRC) process.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23

FPL's decision to carefully manage the risk of inefficient expenditures will allow the project to proceed to a later stage where risks can be better quantified and mitigated. Considering all project specific and industry factors, this is a responsible and prudent course of action to continue progress in creating the opportunity for new nuclear generation for our customers.

Q. Are there other decisions that are expected in 2012 or 2013?

A. Yes. FPL executed a Forging Reservation Agreement with Westinghouse in 2008 to secure manufacturing capacity for ultra-heavy forgings to support the project's original schedule. The agreement has been extended several times to allow FPL and Westinghouse to monitor industry developments and determine the best disposition of the existing reservation agreement. The current extension expires June 1, 2012.

PROJECT COST AND FEASIBILITY

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

A. The overnight capital cost estimate range is \$3,570/kW to \$5,190/kW. When time-related costs such as inflation and carrying costs are included, and FPL's earliest practicable commercial operation dates of 2022 and 2023 are assumed, the total project cost ranges from \$12.8 to \$18.7 billion.

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

1 A. An overnight cost is developed using the most current information available.
2 An overnight cost provides an estimate of the total project costs assuming all
3 costs occur at one point in time (“overnight”) and time-related costs
4 (escalation, interest during construction) are not included. Further,
5 recognizing many things could influence the overnight cost, additional
6 analysis is conducted on each component of the overnight cost to explore how
7 much it could vary, resulting in a cost estimate range. The overnight cost
8 provides an indication of the cost per kilowatt (\$/kW) for the project in a
9 given year reference. The 2011 cost estimate range was \$3,482/kW to
10 \$5,063/kW in 2011 dollars. Updating the cost estimate range to 2012 dollars
11 provides a cost estimate range of \$3,570/kW to \$5,190/kW in 2012 dollars.
12 The cost estimate range has been adjusted to current year dollars by assuming
13 a 2.5% escalation over the years between 2007 and present. While the actual
14 escalation experienced has been lower, retaining this simple assumption is
15 conservative and consistent with past year evaluations.

16
17 A breakeven cost analysis is developed by FPL’s Resource Assessment and
18 Planning department, and is further discussed by FPL Witness Sim. This
19 breakeven cost is provided as an overnight cost and is directly compared to
20 the cost estimate range to assess the economic feasibility of the project.

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

1 A. No. A review was conducted to capture any potential changes and estimate
2 the potential cost impact. No significant changes or developments have
3 occurred in the past year that indicates any revisions are necessary to the
4 project cost estimate range.

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

6 A. Yes. The FPL cost estimate range continues to be reasonable based on the
7 annual review of the Turkey Point 6 & 7 capital cost estimate and a
8 comparison to other U.S. AP1000 project overnight capital cost estimates.

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

11 A. Negotiations on the Engineering, Procurement and Construction contract will
12 provide more information including price, terms and schedules to support an
13 execution plan for project construction. That information will be integrated
14 with continued observations of the progress of preceding U.S. projects.

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

17 A. The primary factors affecting the total project cost will be the actual labor and
18 materials costs experienced during the Preparation and Construction periods.
19 The uncertainty around these costs will be reduced as preceding projects move
20 through the early stages of construction and as FPL negotiates the principal
21 contracts for engineering, procurement, and construction of the project. The
22 pace of expenditures is also a critical factor that will impact total project costs.
23 Escalation of future costs and carrying costs on expended funds are time

1 related factors. This is why it is critical to have a fully vetted project
2 execution plan, including a high level of design completion, before significant
3 expenditures are made so that a higher level of predictability in total project
4 cost can be developed prior to initiating construction.

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

7 A. As described above, there are a number of assumptions made to arrive at this
8 estimate. Under the current 2022/2023 in-service date schedule, and using the
9 2012 overnight cost estimate range, the total project cost range becomes \$12.8
10 billion to \$18.7 billion for the 2,200 MW project.

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

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

16
17 As discussed by FPL Witness Sim, the most current feasibility analysis
18 affirms the projected cost effectiveness and benefits associated with the
19 Turkey Point 6 & 7 project using the same basic analytical approach applied
20 in the Need Determination Proceeding for the project and the three prior
21 NCRC filings. The analysis calculated a projected “break-even” cost for new
22 nuclear; a cost that results in the same life cycle costs (or cumulative present
23 value of revenue requirements) as an alternative plan relying on natural gas

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

13 **Q. Does the implementation of the NCRC provide savings for FPL**
14 **customers?**

15 A. Yes. The NCRC enables customers to avoid paying for compounded interest
16 during the approximately eight year construction period and reduces the
17 overall amount that would be recovered from customers under normal rate
18 base treatment.

19 **Q. In February 2010, FPSC Staff provided a list of factors for consideration**
20 **in the Feasibility Analysis. Have those factors been considered?**

21 A. Yes. FPL Witness Sim discusses the economic factors and I discuss the non-
22 economic factors.

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

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

4
5 Significant federal, state, and local approvals are required to allow for the
6 construction and operation of the project. Due diligence activities and
7 ongoing agency reviews continue to affirm the long-term feasibility of the
8 project. The thorough review process currently underway will result in each
9 agency identifying its perspective on the project and describing conditions
10 upon which the project approvals may be granted. While the review process
11 has taken longer than originally anticipated, the process is proceeding
12 substantively as expected.

13
14 Financing will be determined as the project proceeds through approvals to
15 construction. Activity on other U.S. projects shows a strong interest in the
16 investment community to participate in new nuclear financing. For instance,
17 Municipal Electric Authority of Georgia conducted a successful solicitation in
18 2010 for \$2.7 billion of project bonds for its share of the Vogtle Units 3 & 4
19 AP1000 project. The syndication that provided financing included Goldman
20 Sachs & Co., Citi, Barclays Capital, First Southwest, Morgan Stanley, BMO
21 Capital Markets, J.P. Morgan, Bank of America, Merrill Lynch, and Wells
22 Fargo Securities.

23

1 As discussed earlier in this testimony, state and federal energy policy
2 continues to be supportive of new nuclear generation for a host of reasons.
3 The high reliability, low and stable cost and zero greenhouse gas emission
4 profile of the technology is highly compatible with key energy policy
5 objectives.

6

7

2012 & 2013 PRE-CONSTRUCTION COSTS

8

9 **Q. How are the 2012 actual/estimated costs and the 2013 projected costs**
10 **developed?**

11 A. As described earlier, FPL has a disciplined ground-up process to develop
12 project budgets. This process was used in the initial project budgeting activity
13 and is routinely reviewed and evaluated for adequacy and accuracy as
14 additional information becomes available. The estimates of the 2012
15 actual/estimated and 2013 projected costs were completed in accordance with
16 FPL's budget and accounting guidelines and policies. Where services are
17 contracted, rate sheets are provided by the contractor and reviewed to verify
18 the charged rates are consistent with FPL's experience in the broader industry.
19 The cost estimates were compared to other costs being incurred by the
20 company for similar activities and found to be reasonable.

21 **Q. Please provide a high level summary of the 2012 actual/estimated and the**
22 **2013 projected costs presented in this filing.**

1 A. The costs associated with the Turkey Point Units 6 & 7 project in 2012 and
2 2013 are focused on supporting the licensing and permit application reviews
3 underway. Additional costs are incurred in the Engineering & Design
4 category associated with completing the Underground Injection Control (UIC)
5 Exploratory Well, a necessary step towards approval of that process.

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

7 A. The pace and content of the application reviews may impact the actual costs in
8 2012 and 2013. The NRC COLA process may include an expanded review of
9 seismic and flooding issues, in response to the Fukushima event in Japan in
10 March of 2011. Additionally, the project anticipates several hearings in the
11 state certification process in 2012 and early 2013. The extent to which these
12 hearings are contested and the breadth of issues allowed within the scope of
13 the hearings by the Administrative Law Judge may impact the costs
14 experienced.

15 **Q. Please summarize the costs included in this filing for Turkey Point 6 & 7**
16 **Pre-Construction activities.**

17 A. Schedule AE-6 of SDS-8 presents the 2012 actual/estimated costs in the
18 following categories: 1) Licensing \$27,805,569; 2) Permitting \$1,463,969; 3)
19 Engineering and Design \$5,637,888; 4) Long Lead Procurement advance
20 payments \$0; 5) Power Block Engineering and Procurement \$0; and 6)
21 Transmission Engineering \$0. Schedule P-6 of SDS-8 presents the 2013
22 projected costs in the following categories: 1) Licensing \$26,743,630; 2)
23 Permitting \$1,231,506; 3) Engineering and Design \$1,236,250; 4) Long Lead

1 Procurement \$0; 5) Power Block Engineering and Procurement \$0; and 6)
2 Transmission Engineering \$0. Table 1 of Exhibit SDS-9 provides a summary
3 of the actual/estimated 2012 and projected 2013 Preconstruction costs. The
4 descriptions in Exhibit SDS-9 tables are illustrative and do not provide full
5 line item detail.

6 **Q. What are the major differences and similarities noted for the 2012 and**
7 **2013 project budget when compared to FPL's prior filings?**

8 A. The major differences are primarily based on the specific activities required as
9 the applications proceed from one stage to the next. For instance, in 2012 and
10 2013 increased legal and hearing preparation costs in the state process are
11 scheduled to occur. The major similarities are the nature of the activities and,
12 in many cases, the vendors providing the services.

13 **Q. Please describe the activities included in the Licensing category for the**
14 **2012 actual/estimated costs and the 2013 projected costs.**

15 A. For the period ending December 31, 2012, Licensing costs are projected to be
16 \$27,805,569 as shown on Line 3 of Schedule AE-6 of SDS-8. For the period
17 ending December 31, 2013, Licensing costs are projected to be \$26,743,630
18 as shown on Line 3 of Schedule P-6 of SDS-8. Table 2 of Exhibit SDS-9
19 provides a detailed breakdown of the Licensing subcategory costs.

20
21 Licensing costs consist primarily of FPL employee and contractor labor and
22 specialty consulting services necessary to support the various license and
23 permit applications required by the Turkey Point 6 & 7 project. The majority

1 of the licensing expenditures are a result of the federal COLA process. This
2 value is a combination of NNP team costs and Bechtel COLA team costs.
3 The license and permit applications contain project specific information,
4 assessments and studies requested by various regulatory authorities to support
5 the reviews leading to decisions on the technical, environmental and social
6 acceptability of the project. Other licensing activities include costs associated
7 with the SCA, USACE permits and delegated programs such as Prevention of
8 Significant Deterioration and UIC. In 2012 and 2013 these costs will
9 increasingly be related to preparation activities for hearings that include legal
10 briefs and expert witness testimony. License and permitting costs are
11 developed in accordance with budget and accounting guidelines and policies.
12 Some activities are common between applications, and therefore offer
13 opportunities to coordinate efforts and manage costs. Further, these cost
14 estimates were compared to FPL's extensive experience with the development
15 and permitting of new generation projects in Florida and found to be
16 reasonable.

17 **Q. What are the major differences between the 2012 actual/estimated values**
18 **and those projected in the May 2011 filing for the Licensing category?**

19 A. On balance there was very little difference in the overall amount projected for
20 the Licensing category. However, lower support costs from the COLA/SCA
21 vendor Bechtel are anticipated in 2012 due to the schedule revision provided
22 by the NRC in October 2011.

1 **Q. Please describe the activities in the Permitting category for the 2012**
2 **actual/estimated costs and the 2013 projected costs.**

3 A. For the period ending December 31, 2012, Permitting costs are projected to be
4 \$1,463,969 as shown on Line 4 of Schedule AE-6 of SDS-8. For the period
5 ending December 31, 2013, Permitting costs are projected to be \$1,231,506 as
6 shown on Line 4 of Schedule P-6 of SDS-8. Table 3 of Exhibit SDS-9
7 provides a detailed breakdown of the Permitting subcategory costs, including
8 a description of items included within each category. Permitting costs include
9 costs for the Development team, in-house legal support, and resources from
10 Marketing and Communications to conduct necessary outreach educating
11 stakeholders about the project.

12 **Q. What are the major differences between the 2012 actual/estimated values**
13 **and those projected in the May 2011 filing for the Permitting category?**

14 A. The major difference is a reduction in the contingency carried in this category.
15 Communication and Development costs were reduced; however, these were
16 offset by increased expenditures anticipated in legal areas as preparation for
17 hearings begin in 2012.

18 **Q. Please describe the activities in the Engineering and Design category for**
19 **the 2012 actual/estimated costs and the 2013 projected costs.**

20 A. The Engineering and Design activities performed in 2012 and 2013 are
21 primarily related to supporting the permitting effort for the UIC well system.
22 For the period ending December 31, 2012, Engineering and Design costs are
23 projected to be \$5,637,888 as shown on Line 5 of Schedule AE-6 of SDS-8.

1 For the period ending December 31, 2013, Engineering and Design costs
2 associated with preliminary engineering activities are projected to be
3 \$1,236,250 as shown on Line 5 of Schedule P-6 of SDS-8. Table 4 of Exhibit
4 SDS-9 provides a detailed breakdown of the Engineering and Design
5 subcategory costs, including a description of items included within each
6 category.

7

8 Costs for participation in industry groups include the Electric Power Research
9 Institute Advanced Nuclear Technology working group (with annual fees of
10 \$275,000) and the DCWG (no external charge to participate in this group).
11 The 2011 APOG fee was paid in December 2010, and the 2012 APOG fee of
12 \$1,448,000 was paid in January 2012. These costs are necessary to obtain the
13 benefits of membership described earlier in this testimony.

14 **Q. What are the major differences between the 2012 actual/estimated values**
15 **and those projected in the May 2011 filing for the Engineering and**
16 **Design category?**

17 A. The major difference is a carryover of costs that were not spent in 2011 on the
18 UIC exploratory well. Approximately half of the expected activity costs were
19 carried into 2012 due to a delay in the execution of that work. Timing of
20 group membership fees account for the other variances.

21 **Q. Please describe the activities in the Long Lead Procurement category for**
22 **the 2012 actual/estimated costs and the 2013 projected costs.**

1 A. For the period ending December 31, 2012, Long Lead Procurement costs are
2 projected to be \$0 as shown on Line 6 of Schedule AE-6 of SDS-8. Future
3 Long Lead Procurement costs are anticipated to be included in the Power
4 Block Engineering and Design cost category.

5 **Q. Please describe the activities in the Power Block Engineering and**
6 **Procurement category for the 2012 actual/estimated costs and the 2013**
7 **projected costs.**

8 A. For the period ending December 31, 2012, Power Block Engineering and
9 Procurement costs are projected to be \$0 as shown on Line 7 of Schedule AE-
10 6 of SDS-8. For the period ending December 31, 2013, Power Block
11 Engineering and Procurement costs are projected to be \$0 as shown on Line 7
12 of Schedule P-6 of SDS-8.

13 **Q. Please describe the activities in the Transmission Engineering category**
14 **for the 2012 actual/estimated costs and the 2013 projected costs.**

15 A. For the period ending December 31, 2012, Transmission Engineering
16 expenditures are projected to be \$0 as shown on Line 25 of Schedule AE-6 of
17 SDS-8. For the period ending December 31, 2013, Transmission Engineering
18 expenditures are projected to be \$0 as shown on Line 25 of Schedule P-6 of
19 SDS-8.

20

21 All 2012 and 2013 costs associated with Transmission planning are related to
22 the licensing and permitting activities, and therefore are appropriately
23 included in those categories, described above.

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

2 **A. Yes.**

3

Docket No. 120009-EI
Turkey Point 6 & 7 Site Selection and Pre-Construction NFRs
Exhibit SDS-8, Page 1 of 1

SDS – 8 is in the Nuclear Filing Requirements Book

Table 1. 2012 - 2013 Preconstruction Costs

Category	2012 Actual / Estimated Costs	2013 Projected Costs
Licensing	\$27,805,569	\$26,743,630
Permitting	\$1,463,969	\$1,231,506
Engineering & Design	\$5,637,888	\$1,236,250
Long Lead Procurement	\$0	\$0
Power Block Engineering & Procurement	\$0	\$0
Total Preconstruction Costs	\$34,907,426	\$29,211,386
Transmission	\$0	\$0
Total Preconstruction Costs & Transmission	\$34,907,426	\$29,211,386

Note: Totals may not appear to match to NFR due to rounding

Table 2. 2012 - 2013 Licensing Costs

Category	2012 Actual / Estimated Costs	2013 Projected Costs
NNP Team Costs - NNP FPL payroll and expenses, FPL project team facilities, FPL engineering, FPL licensing	\$4,586,183	\$7,619,030
Application Production - COLA/SCA Contractor, Project A&E, NRC and DCWG Fees	\$8,571,669	\$5,913,144
SCA Oversight	\$224,388	\$0
SCA Subcontractors:		
• Transmission	\$1,060,075	\$720,000
• Environmental	\$1,028,450	\$412,542
• <u>Underground Injection</u>	<u>\$47,000</u>	<u>\$38,000</u>
SCA Total	\$2,359,912	\$1,170,542
Environmental Services - FPL payroll and expenses, external support services	\$4,688,501	\$4,164,965
Power Systems - FPL payroll and expenses, system studies, licensing and permitting support and design activities	\$388,494	\$392,798
Licensing Legal - FPL payroll and expenses, external legal services and expert witnesses	\$3,184,066	\$3,299,513
• Regulatory Affairs	\$511,316	\$500,205
• <u>Regulatory Accounting</u>	<u>\$173,811</u>	<u>\$195,133</u>
Total Regulatory Support	\$685,127	\$695,338
Contingency	\$3,341,616	\$3,488,300
Total Licensing	\$27,805,569	\$26,743,630

Note: Totals may not appear to match to NFR due to rounding

Table 3. 2012 - 2013 Permitting Costs

Category	2012 Actual / Estimated Costs	2013 Projected Costs
Marketing and Communications - FPL payroll and expenses, external media support, surveys and outreach support, graphics and collateral materials	\$277,893	\$209,335
Development - FPL payroll and expenses, various studies	\$469,754	\$588,401
Legal - FPL payroll and expenses, external support for permitting legal specialists	\$539,287	\$273,139
Contingency	\$177,035	\$160,631
Total Permitting	\$1,463,969	\$1,231,506

Note: Totals may not appear to match to NFR due to rounding

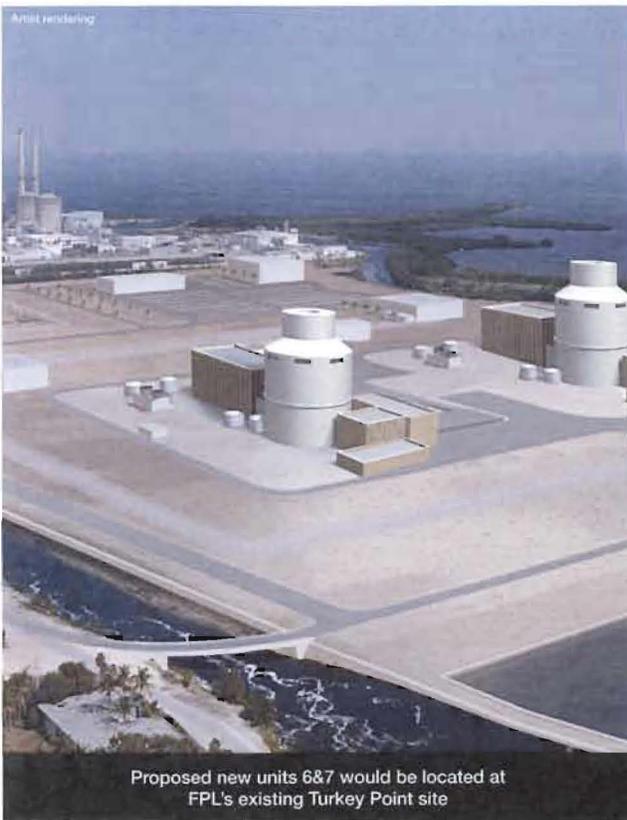
Table 4. 2012 - 2013 Engineering and Design Costs

Category	2012 Actual / Estimated Costs	2013 Projected Costs
Engineering & Construction team	\$0	\$0
Underground injection control wells	\$3,586,256	\$0
APOG membership participation	\$1,448,000	\$600,000
EPRI advanced nuclear technology	\$0	\$275,000
FEMA fees	\$184,012	\$200,000
Contingency	\$419,621	\$161,250
Total Engineering and Design	\$5,637,888	\$1,236,250

Note: Totals may not appear to match to NFR due to rounding



2012 Turkey Point 6&7 Project Project Benefits at a Glance



PROJECTED FIRST-YEAR FOSSIL FUEL
SAVINGS FOR CUSTOMERS

\$892 million

PROJECTED LIFETIME FOSSIL FUEL
SAVINGS FOR CUSTOMERS

\$58 billion

FEWER GREENHOUSE GAS EMISSIONS

**CO₂ reduction of
255 million tons**

**U.S. EPA annual equivalent of removing
more than 45 million cars from the road**

Figures above are based on April 2012 feasibility analysis.