

**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

**DOCKET NO. 100009-EI  
FLORIDA POWER & LIGHT COMPANY**

**IN RE: NUCLEAR POWER PLANT COST RECOVERY AMOUNT  
TO BE RECOVERED DURING THE PERIOD  
JANUARY - DECEMBER 2011**

**REBUTTAL TESTIMONY OF:**

**STEVEN D. SCROGGS**

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5                   **AUGUST 3, 2010**

6  
7           **Q.     Please state your name and business address.**

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

10          **Q.     Have you previously submitted direct testimony in this proceeding?**

11          A.     Yes.

12          **Q.     Are you sponsoring any rebuttal exhibits in this case?**

13          A.     Yes. I am sponsoring the following exhibits that are attached to my rebuttal  
14                   testimony:

15                   Exhibit SDS-17:     Assessment of Risk Categories, and

16                   Exhibit SDS-18:     Facts

17          **Q.     What is the purpose of your rebuttal testimony?**

18          A.     The purpose of my rebuttal testimony is to discuss and respond to a number of  
19                   statements and observations made by SACE Witnesses Gundersen and  
20                   Cooper, who have filed testimony in this docket.

21          **Q.     Please summarize your rebuttal testimony regarding Witnesses**  
22                   **Gundersen and Cooper.**

23          A.     The SACE witnesses have provided testimony that demonstrates a superficial  
24                   review of the Turkey Point 6 & 7 project and the history of the Nuclear Cost  
25                   Recovery process in the state of Florida. The testimony contains significant  
26                   mischaracterizations, errors and unsupported assertions and is lacking

1 substantive independent analysis, such that the testimony of Witnesses  
2 Gundersen and Cooper should be rejected and not relied upon for decision-  
3 making purposes by the Commission.  
4

5 It is important to review these testimonies recognizing that FPL has chosen a  
6 deliberate approach to manage many of the risks identified by the SACE  
7 witnesses. Primarily, by limiting the requested expenditures for 2010 and  
8 2011 to those that are needed during those years to support creating the option  
9 for new nuclear generation, risk is reduced while maintaining progress toward  
10 realizing the major fuel cost savings, fuel diversification, fossil fuel usage  
11 reduction, environmental and other benefits of the project for FPL's customers  
12 that were discussed in FPL's direct testimony in this proceeding and  
13 summarized in Exhibit SRS-1 to Dr. Steven Sim's direct testimony.

14 **Q. Please provide an overview of your rebuttal testimony.**

15 A. I have organized my comments regarding Witnesses Gundersen's and  
16 Cooper's testimony into the following categories for discussion:

- 17 I. Common elements shared by the SACE witnesses;
- 18 II. Specific elements of Witness Gundersen's testimony;
- 19 III. Specific elements of Witness Cooper's testimony; and
- 20 IV. Conclusion.

21  
22

1 **I. Common Elements**

2 **Q. Before addressing the specific issues discussed by the Witnesses, do you**  
3 **have any observations regarding how the SACE testimony is being**  
4 **presented?**

5 A. Yes. It is apparent after reading these testimonies that both Witness  
6 Gundersen and Witness Cooper share the same narrow perspective with  
7 respect to new nuclear power. To accept this perspective is to accept a world  
8 in which uncertainty is one-sided. When discussing uncertain outcomes,  
9 Witnesses Gundersen and Cooper focus on selected singular scenarios that  
10 support their conclusion that new nuclear projects should be terminated.

11  
12 For example, Witness Gundersen identifies numerous events that could result  
13 in schedule delay or additional costs, but is silent in respect to the potential for  
14 positive market developments (as seen in recent reductions in construction  
15 material costs) and potential efficiencies associated with learning from earlier  
16 projects that could result in lower unit costs for second wave units.

17  
18 Similarly Witness Cooper is quite willing to predict years of low demand  
19 growth, low natural gas prices, slow developing carbon policy and rapidly  
20 evolving renewable and efficiency technology; all without acknowledging  
21 historic trends that indicate it is quite prudent for the Commission to rely on  
22 the long range planning processes that robustly assess a wide range of  
23 potential outcomes - not just one SACE-preferred outcome - for these major  
24 drivers of energy policy decisions, through which Commission processes have

1 maintained reliable generation in Florida, and provided FPL customers with  
2 the lowest retail rate of all utilities in the state.

3 Throughout their testimonies, Witnesses Gundersen and Cooper provide  
4 selective, erroneous, unsupported and myopic conclusions whose sole purpose  
5 is to cast doubt on a complex undertaking, not provide the Commission with a  
6 reliable analytical framework or a robust objective basis for decision-making.

7 **Q. Is the SACE approach consistent with the analytical approaches, analyses**  
8 **and testimony that the Florida Public Service Commission has relied**  
9 **upon to make decisions on large capital projects in the past?**

10 A. No. The approach historically taken by the Commission is to weigh all the  
11 facts and potential outcomes recognizing costs, benefits, risks and customer  
12 value. The Commission has commonly recognized that inaction also presents  
13 risks as well as the potential for future cost increases or reliability challenges.

14 **Q. Do Witnesses Gundersen and Cooper provide an accurate account of**  
15 **FPL's past testimony or project management decision making over the**  
16 **past year?**

17 A. They do not. The testimonies are replete with mischaracterizations designed  
18 to portray recent FPL management decisions as reactionary "changes" and  
19 improperly claim that uncertainties are neither recognized nor addressed.  
20 Quite to the contrary, from the beginning of this project FPL has clearly  
21 described the unique and complex set of issues and uncertainties that must be  
22 monitored while carefully creating the option for new nuclear. FPL  
23 recognizes that management in the face of uncertainty requires a careful and  
24 flexible approach, and has long discussed the need and application of "off-  
25 ramps" under certain situations to control the pace of the project and the risks

1 to customers (Scroggs, Docket No. 080009-EI, page 8, lines 15-23 and page 9,  
2 lines 1-6). Further, in the Need Determination Docket No. 070650-EI, I  
3 provided the following testimony regarding the decision before the  
4 Commission and the management approach FPL intended to employ (Scroggs,  
5 Docket No. 070650-EI, page 9, lines 14-22):

6 ...a determination of need simply represents the first, crucial  
7 step in a process that is economically equivalent to purchasing  
8 an option to maintain the possibility of new nuclear capacity  
9 joining the FPL generating fleet by 2018. FPL will have  
10 substantial flexibility to adjust the actual development and  
11 construction path in light of additional information likely to be  
12 learned in future years; and the Commission will have the  
13 ability to review and evaluate future decisions  
14 contemporaneously, thus ensuring that the final result is  
15 prudent and in customers' long-term best interests.  
16

17 In its Need Order, the Commission acknowledged the concept that the  
18 schedule may require revision, but that "all reasonable steps" should be taken  
19 to maintain schedule (Order No. PSC-08-0237-FOF-EI, page 30):

20 Nuclear power plant construction is an essential component of  
21 meeting the state's long term electric reliability requirements,  
22 as reflected in Section 366.93, F.S. FPL should take all  
23 reasonable steps to meet the proposed in-service dates. We  
24 agree with FPL and OPC that careful scheduling of the  
25 construction of the components of a nuclear power plant is  
26 essential in order to maximize the potential for achieving the  
27 proposed in-service dates of the units.  
28

29 **Q. Are these the only mischaracterizations put forth by the SACE witnesses?**

30 **A.** No. The witnesses further attempt to misrepresent the legislative intent found  
31 in the Florida Energy Act of 2006 as it applies to new nuclear projects, the  
32 regulatory direction provided within the Nuclear Cost Recovery Rule itself,  
33 and the history of Commission decisions associated with the Turkey Point  
34 6&7 project.

1 For example, Witness Gundersen characterizes FPL's deliberate, stepwise  
2 management of the project as "Site Banking", while Witness Cooper  
3 complains that FPL is "Line Sitting". Through these characterizations each  
4 seems to imply that the legislative intent and regulatory direction related to  
5 new nuclear has been one that requires utilities to commit to a specific  
6 construction schedule for the projects without regard for the potential that  
7 changing circumstances may warrant schedule changes or even cancellation of  
8 the projects. Certainly this is not the case, as the Nuclear Cost Recovery Rule  
9 (the Rule) clearly requires that a review of project decisions, including utility  
10 decisions to proceed with each stage of project development, shall be made  
11 annually within this docket following application of the time-tested analysis  
12 that has served FPL customers well.

13 **Q. Do the SACE witnesses offer any substantive analysis to support their**  
14 **claim that the FPL annual feasibility analysis should not be accepted by**  
15 **the Commission in this docket?**

16 A. No. Throughout their testimony, Witnesses Gundersen and Cooper provide  
17 their opinions on various issues from project management to market  
18 economics and the direction of future global energy policy. However, they do  
19 not provide substantive evidence or an independent economic analysis that  
20 illustrates FPL's cost estimate is incorrect or that its analytical approach,  
21 (supported by the Ten Year Power Plant Site Planning Process, the Turkey  
22 Point 6&7 Need Order and two prior Cost Recovery Orders for this project) is  
23 improper.

24  
25





1 A. Schedule and cost changes are potential future outcomes, as my testimony has  
2 continually identified. Recognition of this uncertainty is the basis for the  
3 annual reviews required by the Rule, a range of capital, fuel and emissions  
4 cost in the feasibility analysis and FPL's careful stepwise management of the  
5 project. What Witness Gundersen overlooks is that the process required by  
6 the Rule and the management approach employed by FPL provides the checks  
7 and balances necessary to move forward into uncertain areas. Each year the  
8 Commission staff and independent evaluators conduct detailed reviews of the  
9 project. Extensive discovery is provided within the docket to allow a  
10 transparent and clear review of FPL's actions. Similarly, the project  
11 economics are annually tested against the most competitive alternative and  
12 continue to demonstrate cost effectiveness in a wide range of potential capital  
13 cost, fuel and emission compliance scenarios. So, while the project may  
14 indeed experience delays and additional costs, the fact is that these factors are  
15 and will be routinely reviewed in-depth and as appropriate, acted upon to  
16 ensure that the project continues to make sense in light of the most current  
17 information.

18 **Q. Witness Gundersen uses the term "Site Banking" and states that this will**  
19 **"impose additional costs upon the ratepayers". What is your assessment**  
20 **of his comments in this regard?**

21 A. Witness Gundersen is incorrect in his assertion that FPL is engaged in "Site  
22 Banking" for the reasons explained in detail in the rebuttal testimony filed in  
23 this proceeding on behalf of FPL by Dr. Nils Diaz, former Chairman of the  
24 NRC. Moreover, FPL's costs to date have been prudently incurred and its

1 forecasts are reasonable for the reasons explained in FPL's testimony in this  
2 proceeding.

3 **Q. Do all of FPL's activities related to Turkey Point Units 6 & 7 for which**  
4 **NCRC cost recovery is sought qualify as "siting, design, licensing, and**  
5 **construction" of a nuclear power plant as contemplated by Section**  
6 **366.93, F.S.?**

7 A. Yes. FPL is conducting activities and incurring necessary expenses in the  
8 course of actively pursuing the license, permits and approvals necessary to  
9 create the option for new nuclear generation as envisioned by the Florida  
10 Energy Act of 2006 and consistent with the purpose of the Nuclear Cost  
11 Recovery Rule, which is "to promote electric utility investment in nuclear ...  
12 power plants and allow for the recovery in rates of all such prudently incurred  
13 costs" (F.A.C. 25-6.0423). These actions are undertaken by FPL to create an  
14 option that retains value for FPL customers.

15 **Q. Is FPL's decision to continue pursuing a Combined Operating License**  
16 **from the NRC for Turkey Point Units 6 & 7 reasonable?**

17 A. Yes. Much as our existing plants have served as options for additional  
18 generation to the benefit of our customers, the licenses and approvals for the  
19 Turkey Point 6&7 project will create an option that can be used to benefit our  
20 customers. With this option in hand, the economic, environmental, fuel  
21 diversity and reliability benefits of new nuclear generation will be able to be  
22 delivered at the right timing and under the right economic circumstances. If  
23 the option is not pursued now, the ability to take advantage of the right time  
24 and economic circumstances will be, at a minimum, delayed by the licensing

1 timeline of over four years. That fact has the real potential to postpone  
2 economic benefits and increase costs of the Turkey Point 6&7 project.

3 **Q. Would you expand on what you mean by the value of the option created**  
4 **by obtaining the licenses and approvals to construct and operate a new**  
5 **nuclear facility at Turkey Point?**

6 A. Yes. A financial option is a term used to describe a vehicle by which one can  
7 purchase the right to buy a certain commodity in the future at a certain “strike  
8 price”. The cost of that option is based upon the volatility in the price of the  
9 underlying commodity and the target “strike price”, two components used to  
10 estimate the value of the option in the future. In practice, decisions made by  
11 companies to invest in research or development are “real options”, with  
12 characteristics similar to financial options. A real option can be characterized  
13 by the cost to obtain the option and the value of the option in the future, much  
14 like financial options. In the case of Turkey Point 6&7, FPL is incurring  
15 expenditures to create the value of having the option to construct a new  
16 nuclear plant. FPL’s current estimate to complete licensing the facility, or to  
17 create the option to construct, is \$251 million by 2013 in nominal dollars. The  
18 feasibility analysis tells us that the facilities would offset approximately \$95  
19 billion in fuel costs over the first 40 years of operation, or \$12.7 billion in  
20 present value (2013\$). If that figure is used as a conservative estimate of the  
21 benefits of the project (not accounting for environmental compliance savings,  
22 fuel diversity, supply reliability and energy security components of value) one  
23 would estimate that the option costs FPL customers less than 2 percent of the  
24 expected benefits. The value of the option far exceeds the estimated cost, and

1 demonstrates the rationale for proceeding with a stepwise and controlled  
2 pursuit to create this valuable option for the benefit of FPL's customers.

3  
4 **III. Specific Elements of Witness Cooper's Testimony**

5  
6 **Q. What are Witness Cooper's fundamental observations regarding the**  
7 **Turkey Point 6&7 project?**

8 **A.** Witness Cooper, draws incorrect conclusions on a wide range of issues. For  
9 example, he concludes that FPL has changed its approach to the project, failed  
10 to conduct a suitable feasibility analysis, is wasting customer monies and  
11 maintains sole discretion over the long term pursuit of the project. None of  
12 these conclusions are correct and all have been addressed in previously filed  
13 testimony in this docket.

14  
15 The absence of any specific consideration or assessment of FPL's actual  
16 decision making processes, which has been thoroughly outlined in FPL's  
17 direct testimony, makes it clear that Witness Cooper's approach is no more  
18 than a poorly disguised attempt to cast doubt on the project by putting forth a  
19 list of unsubstantiated statements and patently biased conclusions about what  
20 he believes should happen in the future, not what is likely to happen in the  
21 future or what represents a range of potential future outcomes. Reasonable  
22 managers, in contrast to the approach taken in Witness Cooper's testimony, do  
23 not presuppose what will happen in the future or ignore the range of potential  
24 future outcomes of decisions.

25

1 In several instances, apparently for expedience, Witness Cooper levels his  
2 assertions at the Progress and FPL projects without distinction. For example,  
3 he identifies risks associated with Progress's schedule change in his Exhibit  
4 MNC-3. He then states "These are the same factors that have led FPL ..."  
5 (Cooper, page 8, lines 11-12). Certainly, an exhibit based on the testimony of  
6 a Progress executive does not speak for FPL and he offers no support for his  
7 assertion. It should be recognized that these projects are at different  
8 developmental stages and the Commission should be hesitant to accept  
9 sweeping statements covering both projects and both companies.

10 **Q. In Exhibit MNC-1, Witness Cooper lists six categories of risk related to**  
11 **new nuclear projects. Does FPL agree with his categorization and how**  
12 **does the FPL approach to the Turkey Point 6 & 7 project address these**  
13 **risks?**

14 **A.** The categories of risk discussed by Witness Cooper can be used to generally  
15 discuss the new nuclear projects, although FPL does not agree with his  
16 characterization of the key issues within each category. In Exhibit SDS-17 a  
17 discussion table organized in a similar manner is provided. The table  
18 identifies FPL's perspective on the key issues within each category, how  
19 customer exposure associated with each risk category is mitigated by FPL's  
20 management approach, and references to prior FPL testimony where these  
21 issues have been discussed in the past.

22  
23 As I discussed earlier in this testimony, FPL is cognizant of risks and is  
24 actively managing the process to move forward creating the option while  
25 minimizing exposure to risks. Witness Cooper continues to only see the

1 downside, and ignore the opportunities. It is demonstrative that the source for  
2 Exhibit MNC-1 is an article written by Witness Cooper entitled “All Risk, No  
3 Reward”. Fundamentally FPL asserts, and the Legislature and Commission  
4 have affirmed, that new nuclear generation does offer potential benefits  
5 (rewards) that are worthy of proceeding forward to create options for our  
6 customers.

7 **Q. In Exhibit MNC-2, Witness Cooper discusses “early assumptions made**  
8 **generally to justify nuclear reactor construction” and implies that FPL**  
9 **made these same assumptions to justify its pursuit of new nuclear**  
10 **generation. What is your response to this assertion?**

11 **A.** This is another example of Witness Cooper’s attempt to cast doubt on the  
12 Turkey Point 6 & 7 project by repeating broad, industry oriented accusations  
13 (not even restricted to Progress and FPL) without providing any specific tie to  
14 the FPL Turkey Point 6 & 7 project. In Exhibit SDS-18, the general  
15 accusation of unrealistic assumptions is addressed by providing the facts as  
16 they relate to the Turkey Point 6 & 7 project. Most notably, the fact is that  
17 FPL considers a wider range of reasonable assumptions as they may impact  
18 the project, compared to Witness Cooper who selects singular negative  
19 scenarios to which he assigns a high amount of certainty.

20  
21 The bottom line remains that FPL has carefully and realistically considered all  
22 risks identified by Witness Cooper. Many of those risks can be mitigated by  
23 controlling the pace of the project until the uncertainty is reduced. Other risks  
24 can be bracketed by assuming a range of potential future scenarios. The Need

1 Determination and subsequent Nuclear Cost Recovery proceedings are full of  
2 information that addresses these risks.

3 **Q. What other concerns do you have following a review of Witness Cooper's**  
4 **testimony?**

5 A. Witness Cooper's mischaracterizations can be placed into three categories: 1)  
6 outright misrepresentations of FPL actions; 2) unsupported conclusions that  
7 should not be relied upon as fact; and 3) myopic or short-sighted assumptions  
8 that are inappropriately applied to the decisions relating to new nuclear  
9 generation.

10 **Q. Would you provide an example of where you believe Witness Cooper is**  
11 **misrepresenting FPL actions?**

12 A. Yes. In Exhibit MNC-4, Witness Cooper cites an online article from  
13 NukeFree.org in 2008. The article correctly reports the information provided  
14 by FPL in its Need Determination filing: "the company said the cost for  
15 building the two units ranges from \$12.1 billion to \$17.8 billion for  
16 Westinghouse's AP1000, and \$16.5 billion to \$24.3 billion for General  
17 Electric's ESBWR." ([www.nukefree.org/node/154](http://www.nukefree.org/node/154))

18  
19 However, as translated by Witness Cooper, we are to understand that "Florida  
20 Power and Light revises cost estimates for Turkey Point reactors from around  
21 \$8 billion to \$24 billion." (Cooper, MNC-4)

22  
23 In this one statement, Witness Cooper confuses the two technology specific  
24 ranges and adds a new lower end of the range, whose origin is unknown. The  
25 result is a mischaracterization that is indicative of the type of errors in his

1 testimony. It further illustrates why Witness Cooper's testimony cannot be  
2 relied upon for decision-making purposes, and should be rejected by the  
3 Commission.

4 **Q. Would you provide an example of where you believe Witness Cooper is**  
5 **presenting unsupported or baseless conclusions as fact?**

6 A. Yes. On pages 22 through 26 of his testimony, Witness Cooper discusses  
7 current policy areas related to energy and draws conclusions that would have  
8 the Commission suspend all current planning waiting for a hypothetical  
9 federal policy consensus that would magically elevate renewable energy  
10 alternatives and efficiency initiatives, obviating the need for new baseload  
11 generation. To predict such sweeping and one-sided legislation is one thing,  
12 but to advocate that the Commission and utilities suspend decisions that have  
13 long lead times in the "hope" that Congress will someday enact legislation  
14 that suits Witness Cooper is unreasonable and contrary to what a reasonably  
15 well-qualified and informed manager would do.

16 **Q. Would you provide an example of where you believe Witness Cooper is**  
17 **inappropriately applying myopic or short-sighted assumptions?**

18 A. Yes. On pages 20 through 22 of his testimony, Witness Cooper is willing to  
19 latch on to demand growth and natural gas price trends of the last two years  
20 and put these forth as the new norm, while at the same time discounting the  
21 observed behavior of the past decade as an aberration. Once again Witness  
22 Cooper shows his willingness to place weight on a single assumed particular  
23 scenario that is beneficial to his argument rather than recognize the historic  
24 market behavior and fundamental drivers that form the basis of FPL's Ten



1 Year Site Plan and its economic feasibility analysis of the Turkey Point 6&7  
2 project.

3 **Q. Does Witness Cooper provide any conclusions that support FPL's project**  
4 **management decisions?**

5 A. Yes. Witness Cooper recognizes that delaying the build/no-build decision,  
6 essentially what FPL has chosen to do in pursuing the licensing and approvals  
7 for the project but deferring construction costs, is valuable in an uncertain  
8 regulatory environment (Cooper, page 26, lines 5-12). Further on, he  
9 acknowledges that "[l]ater plants will benefit from a smoother certification  
10 process." (Cooper, page 28, lines 2-3). This is an illustration of the  
11 fundamental concept that FPL is employing in its stepwise management  
12 approach.

13  
14 **IV. Conclusion**

15  
16 **Q. Would you please summarize your review of the testimony of Witnesses**  
17 **Gundersen and Cooper?**

18 A. Yes. Throughout their testimony, Witnesses Gundersen and Cooper employ  
19 an approach that attempts to redefine the intent and purpose of legislation  
20 promoting new nuclear generation and the Nuclear Cost Recovery Rule that  
21 guides decisions in this docket. The uncertainties and risks that they identify  
22 have long been recognized by the FPL approach and are mitigated or managed  
23 by the stepwise decision making process used to guide the Turkey Point 6 & 7  
24 project. The scenarios they site as likely are selective and do not recognize  
25 the full range of potential outcomes. Further, the SACE witnesses do not

1 provide specific analysis or substantive evidence to cast legitimate doubt on  
2 FPL's conclusions regarding the Turkey Point 6 & 7 project feasibility. Their  
3 testimonies contain mischaracterizations, errors and unsupported assertions.  
4 For all of these reasons, the testimonies of Witnesses Gundersen and Cooper  
5 are not consistent with the analysis or recommendations that would be arrived  
6 at by a reasonably competent manager, should not be relied upon by the  
7 Commission for decision-making purposes, and should be rejected.

8 **Q. Does this conclude your rebuttal testimony?**

9 **A. Yes.**

**ASSESSMENT OF RISK CATEGORIES**

<b>RISK CATEGORIES FROM MNC-1</b>	<b>FPL MITIGATION APPROACH</b>	<b>FPL RELEVANT TESTIMONY</b>
<p><b>Technology Risk</b> – AP 1000 design, based on Pressurized Water Reactors similar to existing units. FPL’s cost estimate range has been maintained and verified as consistent with current cost estimates.</p>	<p>Intentionally allowing resolution of Design Certification and Reference COLA prior to construction expense.</p>	<p>First, the continued progress of the Design Certification (DC) Amendment for the AP-1000 design is critical to project success. In 2010, the DC Amendment is scheduled to complete technical reviews and move to rulemaking in 2011. The completion of rulemaking is necessary before COLAs based on the DC can be fully reviewed. The second track involves the progress of the Southern Vogtle COLA. This is the reference COLA for the AP-1000 and any general amendments or modifications will be adopted in FPL’s COLA. Lastly, the Progress Levy COLA includes many geologic and seismologic similarities to the Turkey Point COLA, and will provide significant feedback to inform the support of FPL’s COLA. <b>Scroggs, May 2010 Testimony, Docket No. 100009-EI, page 22 line 14- page 23 line 2.</b></p>
	<p>Decoupling earlier plan to overlap Licensing and Preparation phase activities.</p>	<p>FPL has therefore determined to continue to pursue Licensing phase activities (supporting applications for needed approvals) and defer Preparation phase activities (detailed engineering, long lead procurement, and construction planning) and associated expenditures. This pacing decision allows for additional information to develop while positively and actively managing risk exposure related to non-licensing related expenses. <b>Scroggs, May 2010 Testimony, Docket No. 100009-EI, page 8 lines 11-16.</b></p>

RISK CATEGORIES FROM MNC-1	FPL MITIGATION APPROACH	FPL RELEVANT TESTIMONY
<p><b>Policy Risk</b> – federal policy continues to evolve, and will impact new nuclear economics through Loan Guarantees, Carbon pricing, and spent fuel actions. State policy will impact project based on ROE impact on access to and cost of capital.</p>	<p>Pursuit of licenses and approvals needed to create the option, allowing for exercise of option at right time.</p>	<p>FPL’s resulting plan for 2010 and 2011 is, therefore focusing all activities and associated expenditures on supporting and advancing the review of federal, state and local license and permit applications. The stepwise approach directs that the best course of action in the next two years is to continue progress on obtaining all approvals to create the option for new nuclear generation. <b>Scroggs, May 2010 Testimony, Docket No. 100009-EI, page 9 lines 7-11.</b></p>
		<p>This newly revised approach allows the deployment process for new nuclear to proceed in a deliberate stepwise fashion, equivalent to purchasing a series of options for future nuclear generation, with periodic feasibility reviews to ascertain the continued viability of the project. <b>Scroggs, Need Determination testimony, Docket No. 070650-EI, page 4 lines 3-7.</b></p>
		<p>Obtaining the appropriate state and federal approvals will take several years, but once obtained will provide the option to construct the facility for some considerable time following approval. <b>Scroggs, Need Determination testimony, Docket No. 070650-EI, page 5 lines 19-21.</b></p>
		<p>...the initiative to deploy new nuclear generation will be a lengthy process that will require continuous cooperation between industry and government, and strong and constant support from all levels of government." <b>Scroggs, Need Determination testimony, Docket No. 070650-EI, page 6 lines 12-15.</b></p>
	<p>Maintain dialogue with federal, state and local government officials and regulators to ensure complete communication.</p>	

RISK CATEGORIES FROM MNC-1	FPL MITIGATION APPROACH	FPL RELEVANT TESTIMONY
<p><b>Regulatory Risk</b> – risks presented by the timely review and resolution of design certifications, reference license application, State Site Certification and local government zoning and land use approvals.</p>	<p>Decoupling earlier plan to overlap Licensing and Preparation phase activities.</p>	<p>FPL has therefore determined to continue to pursue Licensing phase activities (supporting applications for needed approvals) and defer Preparation phase activities (detailed engineering, long lead procurement, and construction planning) and associated expenditures. This pacing decision allows for additional information to develop while positively and actively managing risk exposure related to non-licensing related expenses. <b>Scroggs, May 2010 Testimony, Docket No. 100009-EI, page 8 lines 11-16.</b></p>
	<p>Intentionally allow resolution of all licensing and permitting issues prior to construction expense.</p>	<p>First, the continued progress of the Design Certification (DC) Amendment for the AP-1000 design is critical to project success. In 2010, the DC Amendment is scheduled to complete technical reviews and move to rulemaking in 2011. The completion of rulemaking is necessary before COLAs based on the DC can be fully reviewed. The second track involves the progress of the Southern Vogtle COLA. This is the reference COLA for the AP-1000 and any general amendments or modifications will be adopted in FPL's COLA. Lastly, the Progress Levy COLA includes many geologic and seismologic similarities to the Turkey Point COLA, and will provide significant feedback to inform the support of FPL's COLA. <b>Scroggs, May 2010 Testimony, Docket No. 100009-EI, page 22 line 14- page 23 line 2.</b></p>

RISK CATEGORIES FROM MNC-1	FPL MITIGATION APPROACH	FPL RELEVANT TESTIMONY
<p><b>Execution Risk</b> – construction of projects of this scale are rare, and US experience in new nuclear construction has been limited to uprates and completion of deferred projects in the last 20 years.</p>	<p>Careful approach to EP/EPC contract commitment, exploring alternative arrangements.</p>	<p>It is FPL’s determination that the decision favorably limits cost risk by not signing a contract under undesirable or unacceptable terms at a time when firm schedules for the regulatory review processes have not been established. Deferring the decision is expected to allow FPL’s customers to benefit from lessons learned in other AP-1000 projects in China and the US, and enter into a more favorable and certain agreement at a later time. <b>Scroggs, March 2010 Testimony, Docket No. 100009-EI, page 31 lines 21-23 &amp; page 32 lines 1-4.</b></p>
	<p>Monitoring of AP-1000 units in China (Sanmen and Haiyang) by 2020, and key US projects at Vogtle, Summer and Levy.</p>	<p>The primary difference is related to FPL’s decision to defer expenditures associated with an EP contract. In light of the key issues and uncertainties described earlier in this testimony, FPL has chosen not to engage in a committed price contract for major equipment and design activities. <b>Scroggs, May 2009 Testimony, Docket No. 090009-EI, page 31 lines 10-13.</b></p>
		<p>FPL is monitoring progress on the Olkiluoto 3 (Finland; EPR), Sanmen 1 &amp; 2 (China, AP-1000) and Haiyang 1 &amp; 2 (China, AP-1000) projects. The Olkiluoto project is the first of the new Generation III+ EPR projects under construction. The project schedule has been extended by 36 months, mostly due to deficient construction planning and activities, and the corresponding regulatory compliance reviews. Costs have increased by approximately fifty percent from the estimate at the beginning of construction. The Sanmen and Haiyang projects represent the lead AP-1000 technology plants and have completed site preparation and the initial concrete pour for unit foundations. At present, they appear to be on schedule and within the original cost estimate. <b>Scroggs, May 2010 Testimony, Docket No. 100009-EI, page 21 lines 3-13.</b></p> <p>The NRC is currently reviewing seven AP-1000 projects, including FPL’s Turkey Point 6 &amp; 7. Three of these projects (Southern Vogtle, South Carolina Electric &amp; Gas Summer and Progress Levy) are well into the review process and are considered the first wave of AP-1000 projects. Scheduled delivery has not changed from inception for the Vogtle and Summer projects, but has moved back two years for the Progress Levy project. <b>Scroggs, May 2010 Testimony, Docket No. 100009-EI, page 21 lines 15-21.</b></p>

RISK CATEGORIES FROM MNC-1	FPL MITIGATION APPROACH	FPL RELEVANT TESTIMONY
	Industry involvement in workforce development and best practices.	<p>The project will require a labor force with specific training and skills, both in the professional and craft classifications. The resources needed to supply and construct the facility are part of the global economy and FPL and its construction team will be competing with other national and international infrastructure projects for these resources. FPL and its selected team of design vendor, engineer and constructor will coordinate from the early stages through project completion to mitigate these risks. <b>Scroggs, Need Determination testimony, Docket No. 070650-EI, Page 37 Line 22 - Page 38 Line 5</b></p> <p>A cadre of skilled labor crafts will be required to support the design and construction of the proposed facility. Industry and government groups are working on programs today to develop the staff to meet production schedules as those schedules become more certain. <b>Scroggs, Need Determination testimony, Docket No. 070650-EI, Page 39 Lines 6-9.</b></p>

RISK CATEGORIES FROM MNC-1	FPL MITIGATION APPROACH	FPL RELEVANT TESTIMONY
<p><b>Marketplace Risk</b> – demand and demand growth experiences variation year-to-year, consistent with Florida history. Intermittent renewable resources and DSM programs will continue to be developed, but will not eliminate need. Exposure to volatile natural gas markets and fuel supply remain risk to customers.</p>	<p>Long term growth projections are vetted through Ten Year Power Plant Site Planning (TYSP) process. DSM Goals and TYSP process ensure maximum contribution from alternatives.</p> <p>Addition of new nuclear addresses fuel diversity, fuel supply reliability and cost stability of baseload generation while reducing exposure to carbon cost regulation.</p>	<p>The large addition of new nuclear baseload capacity provided by Turkey Point 6 &amp; 7 is needed to maintain system reliability and provide fuel diversity at a reasonable cost for its customers. Specifically, this addition is needed to preserve a balanced, fuel diverse generation portfolio for FPL customers, as well as to maintain an adequate level of generation reserve margin through 2020. The addition of new baseload nuclear generation, as a component of FPL’s fuel mix, is even more important given the high likelihood of significant GHG regulation in the near future, including the potential for either federal or state targeted or mandated reductions in emissions being imposed for the relevant planning horizon. The construction of new nuclear generation is necessarily a critical component of any plan to reduce system GHG, including CO2, emissions. <b>Silva, Need Determination testimony, Docket No. 070650-EI, page 10, Lines 11-22.</b></p> <p>New nuclear generation, in combination with conservation, renewables and other forms of clean energy, can be a key contributor to reducing emissions, enhancing fuel diversity, increasing system reliability and energy independence. But action is required now to create that option. <b>Scroggs, Need Determination testimony, Docket No. 070650-EI, Page 4 Lines 9-12.</b></p>
	<p><b>Financial Risk</b> – national and state energy policy actions will impact magnitude of risk financial institutions assign to projects and the resulting cost of capital needed to execute construction.</p>	<p>Monitoring of DOE Loan Guarantee program for application when appropriate.</p>
<p>Continued support of FPSC in providing for fair return to ensure FPL has access to capital at reasonable rates.</p>		<p>The downturn has also had an affect on the cost and availability of capital, particularly in the consumer and small business markets. These observations lead FPL to conclude no fundamental economic shift has occurred affecting FPL’s near term pursuit of the Turkey Point 6 &amp; 7 project. However, this is an area requiring continuous monitoring to determine the availability and cost of capital to fund the project at the point when considerable spending is initiated associated with the Preparation and Construction phases of the project. Additionally, the recession will have potential affects on the financial health of contractors, vendors and other firms FPL will rely upon to execute the Preparation and Construction phases of the project and will be a factor in constructing the project execution team. <b>Scroggs, May 2010 Testimony, page 18 lines 1-11.</b></p>



**Comparison of the Facts to Cooper’s Alleged Industry Assumption and Cooper’s “Reality” cited in Exhibit MNC-2**

Category	Cooper’s Alleged Industry Assumption & Cooper’s “Reality” in MNC-2	Facts
Technology	Assumption: Underestimated cost, ignored alternatives	<ul style="list-style-type: none"> <li>• FPL is still using its original cost estimate range, one that validates well against other current US projects (Reed, Docket No. 100009-EI)</li> <li>• FPL’s planning process includes significant renewable and DSM capacity, but it is insufficient to displace the need for additional baseload capacity</li> </ul>
	Cooper’s “Reality”: Costs higher than originally claimed, growing confidence in cost and availability of alternatives	<ul style="list-style-type: none"> <li>• FPL’s original cost estimate stands</li> <li>• FPL is a prime contributor to the continued development of alternative sources in Florida</li> </ul>
Policy	Assumption: There will be a high price on carbon, alternatives will not be promoted	<ul style="list-style-type: none"> <li>• FPL assumes a range of carbon costs in its feasibility analysis</li> <li>• FPL assumes and is advocating the promotion of alternatives</li> </ul>
	Cooper’s “Reality”: Efficiency/renewable standards are coming, a range of tools will lower the cost of carbon	<ul style="list-style-type: none"> <li>• Renewable standards are welcome, but their intermittent nature will not alleviate the need for additional baseload generation</li> <li>• Many forces will influence the cost of carbon, multiple scenarios should be considered in planning</li> </ul>

**Comparison of FPL Facts to “assumptions” and “reality” cited in Exhibit MNC-2**

Category	Cooper’s Alleged Industry Assumption & Cooper’s “Reality” in MNC-2	Facts
Regulatory	Assumption: Standardized designs lead to rapid approval, Loan guarantees flow	<ul style="list-style-type: none"> <li>• Standardized designs will allow process to proceed as quickly as possible, particularly for subsequent COLA’s</li> <li>• FPL has not relied on Loan Guarantees in its feasibility analysis but will continue to monitor for any benefits to our customers</li> </ul>
	Cooper’s “Reality”: Standard designs are not standard because of revisions, site specific contentions are not standardized	<ul style="list-style-type: none"> <li>• The final design, with its revisions, will be <u>the</u> standard design</li> <li>• Site specific contentions are not intended to be a component of the standard design</li> </ul>
Execution	Assumption: Utilities would quickly move to the construction phase, low cost estimates would lead to rapid regulatory approval	<ul style="list-style-type: none"> <li>• FPL specifically set up a stepwise and deliberate process, that does not rely on rapid approvals or artificially low costs</li> </ul>
	Cooper’s “Reality”: projects haven’t moved quickly, there are construction and operating risks	<ul style="list-style-type: none"> <li>• FPL has managed the expense of creating the option by deferring spending</li> <li>• FPL’s position as a subsequent project will allow for minimization of construction and operating risks</li> </ul>

**Comparison of FPL Facts to “assumptions” and “reality” cited in Exhibit MNC-2**

Category	Cooper’s Alleged Industry Assumption & Cooper’s “Reality” in MNC-2	Facts
Marketplace	Assumption: Demand growth and commodity prices for fossil fuels would remain high	<ul style="list-style-type: none"> <li>• FPL assumes that long term trends (40+ years) remain a prudent basis for planning</li> <li>• FPL assumes a range of fossil fuel costs in its feasibility analysis</li> </ul>
	Cooper’s “Reality”: Recession reduces need for new generation, falling natural gas prices make it more attractive, costs for alternatives are more attractive	<ul style="list-style-type: none"> <li>• FPL refuses to be drawn into myopic and short-sighted planning assumptions and employs time tested analysis for planning</li> <li>• The need for fuel diversity, price stability and fuel supply reliability is as important as ever to FPL customers</li> <li>• FPL has not seen, nor does it project, significant improvement in alternative costs that would affect its analysis</li> </ul>
Finance	Assumption: Financing would be readily available	<ul style="list-style-type: none"> <li>• FPL specifically set up a stepwise and deliberate process, that does not rely on rapid approvals or artificially low costs</li> </ul>
	Cooper’s “Reality”: Tight markets make financing more difficult, size of project may make it impossible to finance	<ul style="list-style-type: none"> <li>• Finance markets are cyclical, furthering the need to create the option so that it can be exercised rapidly at the right time</li> <li>• FPL recognizes relative size of project, however recent MEAG syndication experience on bonds for Vogtle participation showed strong interest at competitive rates</li> </ul>