

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

**DOCKET NO. 110009-EI
FLORIDA POWER & LIGHT COMPANY**

**IN RE: NUCLEAR POWER PLANT COST RECOVERY AMOUNT
TO BE RECOVERED DURING THE PERIOD
JANUARY - DECEMBER 2012**

REBUTTAL TESTIMONY OF:

JOHN J. REED

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5 **July 25, 2011**

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

7 A. My name is John J. Reed. My business address is 293 Boston Post Road West,
8 Marlborough, Massachusetts 01752.

9 **Q. Have you previously filed direct testimony in this proceeding?**

10 A. Yes, I have.

11 **Q. Please state the purpose of your rebuttal testimony.**

12 A. I have been asked by FPL to respond to portions of the direct testimonies of
13 William Jacobs and Brian D. Smith, submitted on behalf of the Florida Office of
14 the Public Counsel ("OPC"). Specifically, FPL has asked me to assess OPC
15 Witnesses Jacobs's and Smith's critique of the Company's approach to
16 establishing the feasibility of the Extended Power Uprate ("EPU") Project at
17 FPL's Saint Lucie Units 1 & 2 and Turkey Point Units 3 & 4 (the "EPU Project"
18 or the "Project") using a Cumulative Present Value of Revenue Requirements
19 ("CPVRR") analysis, Witness Jacobs's recommendation that the Commission
20 require FPL to perform an alternative assessment of the feasibility of the EPU
21 Project using a "breakeven" approach that incorporates prior-spent (*i.e.*, "sunk")
22 costs, and Witness Jacobs's recommendation that the Commission disallow all
23 EPU Project costs incurred by FPL that are over a hypothetical "breakeven"

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1 amount. In addition, I have been asked to respond to Witness Jacobs's
2 assertions that the Company has acted imprudently by undertaking the EPU
3 Project on an expedited or "fast track" basis.

4 **Q. Please summarize your conclusions regarding the direct testimony of**
5 **OPC witnesses Jacobs and Smith.**

6 A. I believe that (1) Witness Jacobs's and Smith's concerns regarding FPL's CPVRR
7 methodology are unfounded; (2) their recommended treatment of sunk costs is
8 inappropriate for the EPU Project; (3) the OPC witnesses ignore prior prudence
9 findings by the Commission while assuming a finding of imprudence in this
10 proceeding; and (4) that their recommendations and analysis are inconsistent
11 with regulatory policy and corporate finance theory. It is also my opinion that
12 Witness Jacobs's recommendation regarding the disallowance of costs puts the
13 Company in the position in which recovery of costs is not determined by FPL's
14 actions, but rather is determined by factors that are outside of its control. For
15 these reasons, I conclude that the Commission should reject Witnesses Jacobs's
16 and Smith's recommendations regarding their proposed alternative feasibility
17 methodology.

18 **Q. Please describe FPL's approach to assessing the feasibility of the EPU**
19 **Project.**

20 A. As described in the May 2, 2011 direct testimony of FPL Witness Steven R. Sim,
21 FPL performs a feasibility analysis for the EPU Project in which it compares the
22 CPVRR of a generation portfolio that includes the EPU Project to one that does
23 not. This is the same approach that FPL used in its 2007 Determination of Need

1 filings for the EPU Project, in which the Commission determined the need for
2 the EPU Project explicitly based on a CPVRR analysis,¹ as well as in feasibility
3 analyses in 2008, 2009, and 2010.² The costs for the EPU Project that are
4 included in the feasibility analysis are the “going forward” or “to-go” costs,
5 which are simply the remaining costs of a project that is underway. Costs
6 incurred prior to the analysis, also called “sunk costs,” are excluded from the
7 analysis, although the Company provides a total of those costs as part of its
8 filings.

9 **Q. At page 6 of his direct testimony, Witness Jacobs recommends that the**
10 **Commission require FPL to perform an analysis “similar to the ‘break-**
11 **even’ study that it prepares to support the long-term feasibility of its**
12 **proposed new nuclear units,” instead of a CPVRR analysis. How do you**
13 **respond?**

14 **A.** Inasmuch as Witness Jacobs links that recommendation to the inclusion of sunk
15 costs in FPL’s analysis (which I will discuss in more detail below), he is mistaken.
16 As described by FPL Witness Sim,³ previously spent capital costs are excluded
17 from FPL’s feasibility analysis for the new nuclear units. This has been FPL’s
18 consistent practice.

19 In addition, Witness Jacobs appears to misunderstand the similarities and
20 differences between the CPVRR and breakeven analyses. The two analyses are
21 founded on the same approach (*i.e.*, a comparison of competing resource plans –
22 one with the project being considered and one without). The difference between
23 the two approaches is how the results of each analysis are expressed. Specifically,

1 the CPVRR result is expressed in the present value of the difference in revenue
2 requirements of competing resource plans whereas the breakeven result is
3 expressed as the dollars per kilowatt for the capital costs of the proposed
4 resource plan at which it has the same cost as the alternate plan. Decisions as to
5 which resource plan is lower cost, and whether to proceed with a project, are
6 exactly the same under either methodology.

7 **Q. Please review the concept of “to-go” and sunk costs.**

8 A. The “to-go” cost of a project is simply the remaining cost of a project that is
9 underway. It is the incremental cost from a point in time that will be required in
10 order to complete the project. Sunk costs, on the other hand, are essentially the
11 opposite. They are costs that have already been incurred up to a given point in a
12 project. It is important to note that sunk costs represent funds that have been
13 expended to date and cannot be recouped or avoided.

14 **Q. How are to-go and sunk costs relevant to the EPU Project?**

15 A. Large construction projects, including the EPU Project, often take years to
16 complete. Costs are incurred throughout the development process, during the
17 planning, procurement and engineering stages as well as during construction
18 itself. As the project proceeds through initial engineering and construction
19 toward completion, to-go costs gradually fall until the point at which the project
20 enters service. As I mentioned above, the to-go cost of the EPU Project is the
21 total project cost less sunk costs.

1 Q. Why are sunk costs excluded from the CPVRR analysis?

2 A. The irrelevance of sunk costs and the more appropriate consideration of to-go
3 costs for purposes of determining the forward-looking economic feasibility of a
4 project are basic principles of economics and corporate finance.⁴ Due to the fact
5 that a sunk cost cannot be changed or removed based on decision-making today,
6 those costs don't affect the analysis underlying a decision as to whether it is
7 economically advisable to complete a project or not.

8 The Nuclear Cost Recovery Rule specifically requires the company to submit an
9 analysis of the long-term feasibility of *completing* the project, consistent with a
10 forward-looking approach. The Commission also acknowledged a requirement
11 that FPL separately account for sunk costs in its economic and feasibility
12 analyses in Order No. PSC-08-0237-FOF-EI:

13 FPL shall provide a long-term feasibility analysis as part of its
14 annual cost recovery process which, in this case, shall also
15 include updated fuel forecasts, environmental forecasts,
16 break-even costs, and capital cost estimates. In addition, FPL
17 should account for sunk costs. Providing this information on
18 an annual basis will allow us to monitor the feasibility
19 regarding the continued construction of Turkey Point 6 and
20 7.

21 In order to determine the prudent path forward, the Company and the
22 Commission need to evaluate the best information available in the present.
23 Using this information and forecasts that represent appropriately calibrated
24 expectations, FPL must determine the wisdom of proceeding with the EPU
25 Project. Costs that have been incurred to date simply do not apply to this
26 analysis. In evaluating whether to proceed with construction, firms conducting
27 ongoing, capital-intensive projects must determine whether the benefits to be

1 gained from additional investment will exceed the total costs that remain. That
2 alone is the basis upon which sound decisions can be made. Witness Jacobs
3 agrees that this is the conventional approach; however, he argues that an
4 assessment of the feasibility of the EPU Project should include amounts already
5 spent. He offers no explanation or justification for why this violation of a
6 fundamental principle of economics and finance will produce a rational decision.

7 **Q. Do you have a response to Witness Jacobs's concerns?**

8 A. Yes. Including costs that have been incurred in the past in a forward-looking
9 economic feasibility analysis will quite possibly produce incorrect decisions and is
10 tantamount to a hindsight review of decisions that have already been deemed
11 prudent. The questions that need to be answered in each annual Nuclear Cost
12 Recovery Clause (NCRC) filing are: (1) whether past costs have been prudently
13 incurred, and (2) whether the project should be continued or abandoned, based
14 on a forward-looking economic feasibility test. These are two separate tests.
15 Customers remain responsible for past prudently-incurred costs regardless of
16 whether the decision to the second question is to proceed with or to abandon the
17 project. Similarly, FPL does not escape the responsibility for imprudently-
18 incurred costs based on whether the project is continued or abandoned. The
19 decision to continue or abandon the project needs to be made without regard to
20 past costs, because the recovery of and responsibility for those costs isn't
21 affected by the decision to continue with or abandon the project.

1 **Q. Is FPL's use and application of the CPVRR analysis imprudent, as**
2 **Witness Jacobs's asserts?**

3 A. Absolutely not; it is the correct approach for answering the questions that FPL
4 must answer. As stated above, this is the same approach FPL used in its 2007
5 Determination of Need filing, as well as in feasibility analyses in 2008, 2009, and
6 2010. As also stated above, the Commission explicitly relied on the CPVRR
7 approach in determining the need for the EPU Project and has not taken issue
8 with the approach in subsequent NCRC proceedings. In addition, as I noted
9 previously, the Commission has ordered FPL to separately account for sunk
10 costs in its annual filings for two new nuclear generating units at the Turkey
11 Point site. Thus, while Witness Jacobs may disagree with the appropriateness of
12 the approach, there is absolutely no basis for considering the approach
13 imprudent, especially given the repeated history with which the CPVRR analysis
14 has been proffered by the Company and incorporated (whether explicitly or
15 implicitly) in the Commission's orders.

16 **Q. Do you have a response to Witness Jacobs's suggestion that FPL acted**
17 **imprudently while developing the EPU Project?**

18 A. Yes. I believe Witness Jacobs has misapplied the prudence standard as it applies
19 to this proceeding. As described in my Direct Testimony regarding the EPU
20 Project, a reasonable application of the prudence standard involves judging a
21 utility's actions based on what was known or knowable at the time the action was
22 made. This is consistent with the prudence test the Commission has applied in
23 the past. However, Witness Jacobs has used the benefit of hindsight to question

1 FPL's prior actions without considering what was known or reasonably could
2 have been known at the time of the actions. In fact, while the decision to use an
3 expedited approach for the EPU Project was made as early as 2007⁵ (*i.e.*, two
4 years prior to the period of review in this proceeding), Witness Jacobs (or any
5 other OPC witness) made no mention of his views of the prudence or
6 imprudence of that management decision in his direct testimony in prior NCRC
7 proceedings. The Commission has approved the 2007 and 2008 costs of the
8 EPU Project in prior NCRC dockets. Thus, Witness Jacobs is clearly using facts
9 and circumstances known only years after the decision he questions were made.
10 This is an unreasonable and improper application of the prudence standard, and
11 should be rejected by the Commission.

12 **Q. Witness Jacobs recommends that all costs, including sunk costs, above a**
13 **breakeven amount be disallowed due to alleged imprudence. Do you**
14 **agree with this recommendation?**

15 A. No, I do not. Witness Jacobs's recommendation is inconsistent with the Nuclear
16 Cost Recovery Rule, and if it were accepted it could lead to the disallowance of
17 costs that were previously determined to be prudently incurred, and put FPL at
18 risk for factors that are completely out of its control. There are even plausible
19 scenarios under Witness Jacobs's approach in which costs that are disallowed in
20 one year become allowable in the following year. This is clearly unreasonable.

21 **Q. Why do you believe Witness Jacobs's recommendation is inconsistent with**
22 **the Nuclear Cost Recovery Rule?**

1 A. The Nuclear Cost Recovery Rule states that alternative cost recovery
2 mechanisms shall “promote electric utility investment in nuclear or integrated
3 gasification combined cycle power plants and allow for the recovery in rates of
4 all such prudently incurred costs.”⁶ The Nuclear Cost Recovery Rule further
5 states, “[s]uch costs shall not be subject to disallowance or further prudence
6 review.”⁷ However, under Witness Jacobs’s recommendation, the costs that are
7 allowable for recovery in rates would be set not by a Commission determination
8 of prudence, but rather by reference to the constantly changing resource plan
9 that excludes the EPU Project, and is thus in no way affected or connected to
10 the prudence or imprudence of FPL’s management of the EPU Project. In
11 addition, Witness Jacobs’s recommendation regarding the inclusion of sunk costs
12 in a prudence determination essentially calls for a reversion to the highly
13 unsuccessful all-or-nothing “used and useful” regulatory paradigm that prevailed
14 in the 1980s.

15 **Q. Please explain.**

16 A. The regulatory processes applied to the development of nuclear generation in the
17 1980s were characterized by significant cost disallowances, at times owing to
18 results-oriented hindsight reviews that determined whether plants turned out to
19 be economic a decade or more after construction was begun. The standards
20 used by regulators at that time evolved from traditional prudence reviews to
21 include also an “economically used and useful” standard that, based on hindsight,
22 determined what portion of a plant’s prudently incurred cost was “economically”
23 useful in providing service to customers. The recovery of prudently-incurred

1 costs was further narrowed by the adoption of more onerous standards such as
2 an “economic benefits test” and eventually simple “risk sharing,” whereby costs
3 were simply declared unrecoverable on the basis that the total cost was too large
4 for customers alone to bear the burden. By recommending both the setting of a
5 benchmark that is unrelated to FPL’s development of the EPU Project (*i.e.*, a
6 constantly changing resource portfolio excluding the EPU Project) and the
7 disallowance of any costs above that benchmark, regardless of the Commission’s
8 views on the prudence or imprudence of the actions of the utility, Witness Jacobs
9 is essentially calling for a return to the prior paradigm. The Nuclear Cost
10 Recovery Rule, however, strongly suggests that the Florida Legislature and the
11 Florida Public Service Commission (“PSC”) wished to provide a framework
12 within which the Commission has the opportunity to address and avoid many
13 flawed aspects of those past regulatory processes.

14 **Q. Have rating agencies expressed concerns about regulatory uncertainty**
15 **such as that which you have described above?**

16 A. Yes. Rating agencies are concerned that the level of infrastructure investment
17 needed to meet growing demand in an environmentally acceptable manner will
18 create the same “perfect storm” of economic and political pressures that
19 preceded the prudence disallowances and hindsight reviews of the past.

20 For example, Moody’s has noted:

21 Conceivably, the combination of rising costs, higher
22 infrastructure investment needs and larger or more frequent
23 requests for rate relief could create pressure for future
24 incremental rate relief from state regulators, or at a minimum,
25 raise the uncertainty level associated with expected

1 recoveries—thereby directly affecting one of our primary
2 rating drivers. This potential for increased regulatory
3 uncertainty and pressure for rate relief might peak several
4 years from now, at precisely the time when many companies
5 are completing their base-load generation construction
6 projects or other non-discretionary infrastructure investment
7 projects and the potential for rate shock to consumers would
8 be highest...However, none of the issues currently facing the
9 industry are new. In fact, the utility sector has faced an
10 environment with eerily similar uncertainties in the past. The
11 risk, in our opinion, is whether or not the experiences of the
12 past will be repeated in the future. The most significant risk
13 might be future disallowances of investments that were made
14 with an understanding that those investments were prudent
15 and necessary at the time they were made.⁸

16 **Q. How might Witness Jacobs's recommendation lead to the disallowance of**
17 **costs that were previously determined to be prudently incurred?**

18 A. The following example, in which I have assumed for the sake of argument that
19 the Commission adopts Witness Jacobs's recommendation, demonstrates how
20 this could happen. If the forecasted price of natural gas (or any other forecasted
21 input that may affect the resource plan that excludes the EPU Project to a
22 greater extent than the resource plan that includes the EPU Project) drops
23 precipitously in any given year, Witness Jacobs's breakeven amount could
24 theoretically drop below amounts FPL has already spent on the EPU Project that
25 the Commission has determined to have been prudently incurred. This scenario
26 would put the Commission in the position of disallowing previously approved,
27 prudently incurred costs. In addition, the reason for the disallowance would not
28 be any action or inaction on the part of FPL, but rather it would be due to
29 something that is completely out of FPL's control.

1 To extend the example, if, in the following year, the forecasted price of gas rises
2 to such a degree that the breakeven amount now exceeds FPL's costs, those
3 costs would presumably be allowed back into the recoverable balance. This is
4 clearly an unreasonable approach to determining the level of allowed costs in this
5 and future NCRC proceedings.

6 **Q. How would a more reasonable application of the prudence standard work?**

7 A. A proper application of the prudence standard in regards to the allowance or
8 disallowance of costs involves: (a) establishing the prudence or imprudence of
9 management decision making or actions and allowing the recovery of all
10 prudently-incurred costs, and (b) if imprudence is established, determining which
11 costs were higher than they would have been had management acted prudently
12 and disallowing those costs. Under this construct, the decision to continue with
13 the project is simply one of the decisions for which a prudence review is
14 appropriate, based on all of the usual rules for such a review, including a
15 prohibition on the use of hindsight to judge prudence. In my opinion, Witness
16 Jacobs has performed neither of these steps, and therefore his recommendations
17 for disallowances are not consistent with sound regulatory policy or Florida's
18 Nuclear Cost Recovery Rule.

19 **Q. Do you have any additional comments regarding Witness Smith's analysis
20 that he presents in his direct testimony?**

21 A. Yes. In order to perform an analysis that Witness Smith asserts will approximate
22 the economic feasibility of the EPU Project, Witness Smith has taken the net
23 benefit demonstrated in FPL's CPVRR analysis, and subtracts from that FPL's

1 sunk costs, escalated by Witness Smith to 2011 dollars. That analysis results in
2 what Witness Smith concludes is a negative customer impact. I believe this
3 analysis is faulty in that it incorporates FPL's sunk costs, and also incorporates
4 those costs inconsistently.

5 **Q. Please explain.**

6 A. My disagreement with Witnesses Jacobs and Smith regarding the treatment of
7 sunk costs is described above. In addition, even if one were to accept that an
8 analysis with sunk costs is appropriate for assessing the feasibility of the EPU
9 Project (which I do not), Witness Smith has used a one-sided approach to
10 incorporating sunk costs that assumes that all of FPL's prior costs have been
11 deemed imprudent by the Commission. This is clearly counterfactual, in that the
12 Commission made prudence determinations regarding FPL's 2007 and 2008
13 costs, making no disallowances, and has yet to make a determination regarding
14 2009 and 2010 costs.

15 **Q. What would be the proper treatment of prudently incurred sunk costs?**

16 A. If costs are determined by the Commission to have been incurred prudently,
17 then those costs should either be excluded altogether, as the Company does, or
18 included in both the generation portfolio that includes the EPU Project and the
19 portfolio that excludes the EPU Project (and thus would net to \$0). The reason
20 for this is that FPL has a right to recover prudently incurred costs, and is entitled
21 to recover all prior prudently incurred costs regardless of whether the EPU
22 Project goes forward. In that regard, Witness Smith and I are in agreement.
23 Specifically, in his direct testimony, Witness Smith states, "[i]f previous costs

1 were prudently incurred and are allowed to be included in rate base, then
2 excluding them in the current and future feasibility analyses is appropriate.”⁹
3 Witness Smith’s analysis, however, ignores this point.

4 **Q. Does this conclude your testimony?**

5 **A. Yes it does.**

Endnotes:

¹ FL PSC Order No. PSC-08-0021-FOF-EI, at 4.

² Testimony & Exhibits of Steven R. Sim, May 2, 2011, at 10.

³ *Ibid.*, at 21.

⁴ *See, e.g.*, Ross, Stephen A., Westerfield, Randolph W., and Jordan, Bradford, Jordan D., Fundamentals of Corporate Finance, 4th ed., at 280.

⁵ *See*, Exhibit WRJ-11, line 12, at 5 of 30.

⁶ Nuclear Power Plant Cost Recovery Rule, Section 25-6.0423, F.A.C.

⁷ *Ibid.*

⁸ Moody's Investors Service, Global Credit Research, "Storm Clouds Gathering on the Horizon for the North American Electric Utility Sector," August 2007, at 1, 15.

⁹ Direct Testimony of Brian Smith, at 4.