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July 21, 2011

**VIA HAND DELIVERY**

Ms. Ann Cole  
Division of the Commission Clerk and  
Administrative Services  
Florida Public Service Commission  
Betty Easley Conference Center  
2540 Shumard Oak Boulevard, Room 110  
Tallahassee, FL 32399-0850

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COMMISSION  
CLERK

Re: Docket No. 110009-EI; Nuclear Power Plant Cost Recovery Clause

Dear Ms. Cole:

Enclosed for filing on behalf of Florida Power & Light Company ("FPL") is an original and seven (7) copies of FPL's Motion To Strike Office Of Public Counsel's Testimony Collaterally Challenging the Commission's Need Determination, Requesting Implementation of a Risk Sharing Mechanism, and Proposed Issues 3, 4, 5a and 5b, along with Exhibits A and B. Also enclosed is a copy of FPL's motion (without exhibits) in Microsoft Word 2003 format on a compact disc.

Exhibit A contains a non-confidential version of Dr. Jacobs's testimony that is subject to the motion to strike. All confidential information has been redacted from Exhibit A. (Highlighting does not indicate confidentiality.)

Exhibit B contains Mr. Smith's testimony that is subject to the motion to strike. This testimony contains no confidential information. (Highlighting does not indicate confidentiality.)

*It contains motion.*  
Please contact me if you or your Staff has any questions regarding this filing.

Sincerely,

*Bryan S. Anderson*  
for Bryan S. Anderson

- COM 5
- APA \_\_\_\_\_
- ECR ITC
- GCL \_\_\_\_\_
- RAD \_\_\_\_\_
- SSC \_\_\_\_\_
- ADM \_\_\_\_\_
- OPC \_\_\_\_\_
- CLK CF.RPR

Enclosures  
cc: Parties of Record

DOCUMENT NUMBER-DATE

05057 JUL 21 =

FPSC-COMMISSION CLERK

**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

In re: Nuclear Power Plant Recovery  
Clause.

Docket No. 110009-EI  
FILED: July 21, 2011

**FLORIDA POWER & LIGHT COMPANY'S MOTION TO STRIKE  
OFFICE OF PUBLIC COUNSEL'S TESTIMONY COLLATERALLY  
CHALLENGING THE COMMISSION'S NUCLEAR UPRATES NEED  
DETERMINATION, REQUESTING IMPLEMENTATION OF A  
RISK SHARING MECHANISM, AND PROPOSED ISSUES 3, 4, 5a AND 5b**

Florida Power & Light Company ("FPL"), pursuant to Rule 28-106.204, Florida Administrative Code, hereby moves to strike the testimony of Office of Public Counsel's ("OPC") witnesses William Jacobs and Brian Smith that collaterally attack this Commission's 2008 order determining need for the Extended Power Uprate project, as well as OPC's proposed issues 3, 4 and 5a to the extent adopted by the Prehearing Officer. FPL also moves to strike OPC's request for relief contained in proposed Issue 5b which seeks to implement a risk sharing mechanism, as well as testimony addressing that relief. OPC's request violates the Nuclear Cost Recovery Rule and is a collateral attack on a 2010 Commission Order finding that risk sharing is inconsistent with Florida Law.<sup>1</sup> In support thereof FPL states as follows:

**I. INTRODUCTION**

In 2007, FPL filed a Petition, substantial testimony, and documents in support of its request to increase the generating capacity of four nuclear units at the Turkey Point and St. Lucie power plants (the "EPU project"). FPL advised the Commission that the EPU project would add more than 400 MWe of clean, baseload nuclear generation which would result in substantial fuel cost savings for FPL's customers. The 2007 filing made it clear that if FPL were permitted to

<sup>1</sup> The subject testimony is offered in support of OPC's proposed issues 3, 4 5a and 5b which have not yet been approved by the Commission. A hearing will be held on August 1, 2011 to approve the issues list for this docket. As more fully explained herein, these proposed issues violate Florida law for the same reasons as the testimony. Therefore, FPL also moves to exclude those issues.

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undertake the EPU project to meet the projected need for electric power and required reserves, the work must proceed on an expedited track to meet projected resource needs. Neither OPC nor any other party objected to FPL's plan to undertake the EPU project or to do so on an expedited basis in order to meet 2012 and 2013 resource needs. No party suggested that Turkey Point and St. Lucie should be considered separately.

On January 7, 2008, the Commission granted FPL's Petition, finding that the additional generation was necessary to meet FPL's 2012 and 2013 resource needs.<sup>2</sup> The Commission also noted that this additional nuclear capacity from Turkey Point and St. Lucie would improve fuel diversity, decrease reliance on natural gas, and result in enhanced system reliability and cost savings for customers. These findings by the Commission are entirely consistent with the Nuclear Cost Recovery Statute, which directs the Commission to enact rules designed to promote utility investment in nuclear power and to allow for the annual recovery of all prudently incurred costs associated with the nuclear construction. Section 366.93, Florida Statutes.

FPL proceeded with the planning and construction of the EPU project in reliance on the Commission Order. Each year, in compliance with the Commission's Nuclear Cost Recovery Rule (or "Rule"), FPL made filings with the Commission detailing its past and projected expenditures and explaining the reasons for the expenditures. The Company also filed annual studies demonstrating the continued feasibility of the Project. Through this process, the Commission has annually reviewed the prudence of FPL's decisions and expenditures and has approved costs as prudently incurred, as provided for by both the Nuclear Cost Recovery Statute, and Rule 25-6.0423, F.A.C., the corresponding Nuclear Cost Recovery Rule.

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<sup>2</sup> *In Re: Petition for Determination of Need for Expansion of Turkey Point and St. Lucie Nuclear Power Plants*, Docket No. 070602-EI, Order No. PSC-08-0021-FOF-EI (F.P.S.C. Jan. 7, 2008) (hereinafter "EPU Need Determination Order").

OPC now seeks to undo the Commission's EPU Need Determination Order. For the first time, more than three years after the Commission approved FPL's expedited EPU project, OPC, through witness William Jacobs's July 8, 2011 prefiled testimony, proposes a theory that FPL acted imprudently in proceeding forward with the EPU project on an expedited basis. OPC also contends that the Commission should not have considered the Turkey Point and St. Lucie uprates jointly. OPC's position is an improper direct collateral attack on the 2008 Commission Order that FPL has properly and responsibly relied upon in pursuing the EPU project. Using hindsight and Monday morning quarterbacking, OPC has taken a position that is clearly barred by law.

While generally claiming that the expedited approach to constructing the EPU project is imprudent – an argument OPC did not make in 2007 – OPC has failed to meet the requirements of the Nuclear Cost Recovery Rule by failing to specify even a single dollar of costs it claims were imprudently incurred. In short, OPC provides no evidence to support the disallowance of any of the costs FPL affirms have been prudently incurred. Instead, OPC suggests a risk sharing mechanism premised on a suggested “breakeven” analysis that contravenes the Nuclear Cost Recovery Statute and Rule. Again ignoring the unambiguous law, OPC's suggested risk sharing mechanism disallows costs not yet incurred or even projected, regardless of whether those future costs will be prudently incurred. OPC also wholly ignores the fact that such proposed risk sharing was litigated just last year and that, as recently as May 2011, this Commission found that such mechanism violates Florida law.

This Commission should seize this opportunity to ensure that utilities, utility customers and the investment community that closely watches the Florida regulatory environment and makes decisions that affect the borrowing costs of utilities and their customers understand that:

- (1) regulatory stability and predictability are foremost in the eyes of the Florida Public Service

Commission; and (2) Commission decisions can be relied upon by utilities in moving forward with making decisions, investments and expenses, and that this Commission will not tolerate “changing the rules” mid-stream and “Monday morning quarterbacking” utility decisions predicated on prior Commission orders. The Commission will do so by upholding its prior orders and not allowing OPC to needlessly waste the Commission’s time and cause the parties to incur unnecessary expense in relitigating issues that have already been decided.

Because OPC is barred from relitigating the expedited EPU project schedule, the combined feasibility study for Turkey Point and St. Lucie and proposed risk sharing mechanism (now couched by OPC as a “breakeven” analysis), any and all testimony by Witnesses Jacobs and Smith on those points should be stricken from the record and should not be considered by the Commission.<sup>3</sup> For the same reasons, the Commission should bar OPC from litigating proposed Issues 3, 4, 5a and 5b challenging the prudence of FPL’s construction of the EPU project on an expedited basis in the absence of separate feasibility and “breakeven” analyses for each plant.<sup>4</sup>

## **II. OPC’S CHALLENGE TO FPL’S EPU PROJECT IS AN IMPROPER COLLATERAL ATTACK ON THE COMMISSION’S NEED DETERMINATION ORDER**

Nuclear construction is a complex undertaking under any measure. Prior to 2006, utilities in Florida had no incentive to invest in nuclear generation. To the contrary, the industry was discouraged from undertaking such projects because utilities were subject ad hoc to severe hindsight judgments regarding their investment in nuclear generation. This hindered any opportunity for fair cost recovery and, in turn, strongly dissuaded shareholder investment. As

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<sup>3</sup> The Commission should also exclude any exhibit to the witnesses’ testimony to the extent the exhibit is used to support improper testimony as described herein.

<sup>4</sup> Attached as Exhibit “A” and Exhibit “B” are non-confidential copies of the prefiled testimony of OPC witnesses Jacobs and Smith, respectively, which indicate in green colored highlighting the testimony that FPL moves to strike.

evidence of this, no new nuclear projects were initiated in Florida after 1983, when FPL's St. Lucie Unit 2 was placed in commercial operation almost 30 years ago. In 2006, the Florida legislature enacted Section 366.93, Florida Statutes, to reduce the overall financial risk associated with building nuclear generation. *See Re Nuclear Cost Recovery Clause*, Docket No. 100009-EI, Order No. 11-0095-FOF-EI, 2011 WL 365049, \*2 (F.P.S.C. Feb. 2, 2011). Section 366.93 created an alternative cost recovery mechanism designed to encourage utility investment in nuclear electric generation in Florida. *Id.*; § 366.93(2), Fla. Stat. (directing Commission to establish an alternate cost recovery mechanism "designed to promote utility investment in nuclear . . . power plants and allow for the recovery in rates of all prudently incurred costs").

FPL followed all applicable statutory and regulatory requirements to obtain this Commission's approval to complete its EPU project at Turkey Point and St. Lucie on an expedited basis. More than three years after the Commission issued its need determination order, OPC now argues that FPL should not have undertaken the project on an expedited or "fast track" schedule and that FPL should have performed separate "breakeven" analyses to assess the cost-effectiveness of the uprates for each plant. In other words, OPC argues that the Commission's 2008 need determination was wrong. OPC's collateral attack of this Commission's need determination is barred as a matter of law and cannot be raised in this docket. Moreover, the statutes and rules governing nuclear cost recovery proceedings confine the litigation to issues of prudence of decisions made and costs FPL incurred during the prior year and the reasonableness of the costs incurred in the current year and projected to be incurred in the next year.

**A. Florida's Nuclear Need Determination and Cost Recovery Framework**

Section 403.519, Florida Statutes, Section 366.93, Florida Statutes, and Rule 25-6.0423, Florida Administrative Code establish the legal and regulatory framework for the recovery of costs incurred in the development of nuclear generation in Florida.

Section 403.519(4) applies to the determination of need for new nuclear-fueled generation and codifies the Florida Legislature's desire to encourage nuclear construction and thereby improve fuel diversity, reduce dependence on fuel oil and natural gas, reduce air emission compliance costs, and contribute to the long-term stability and reliability of the electric grid in Florida. The Nuclear Cost Recovery Rule establishes a comprehensive process for project approval and recovery for attendant costs. Furthermore, Section 403.519(4)(e) provides that "[p]roceeding with the construction of the nuclear . . . power plant following an order by the commission approving the need for the nuclear . . . power plant under this act shall not constitute or be evidence of imprudence."

A utility seeking to undertake a nuclear project must first obtain a need determination from the Commission. During the need determination proceeding, the Commission considers whether the proposed power plant will, among other things, (i) provide needed base-load capacity, (ii) enhance the reliability of Florida's electric power production by improving the balance of fuel diversity, (iii) reduce Florida's dependence on fuel oil and natural gas, and (iv) reduce air emission compliance costs. Once obtained, the need determination order provides the regulatory approval needed for a utility to proceed forward with the planning and construction of nuclear generation. Reliance on the finality of such a Commission ruling provides the regulatory stability that must exist for a company to undertake the complex and capital intensive task of constructing nuclear generation.

Under Section 366.93, the Florida legislature expressly directed the Commission to enact, by rule, alternative cost recovery mechanisms for the recovery of costs incurred in the siting, design, licensing, and construction of a nuclear power plant. § 366.93(2). The statutory

directive required that the Commission “promote utility investment in nuclear . . . power plants and allow for the recovery in rates of all prudently incurred costs.” *Id.*

Thus, the Commission enacted Rule 25-6.0423, which provides that, following the need determination, the utility is entitled to an annual hearing in which the Commission determines whether the utility’s costs for the prior year’s activities were prudently incurred, and whether the projected costs for the current and following year are reasonable. If so, the utility must be permitted to recover all of those costs. No other review is permitted or contemplated under the Nuclear Cost Recovery Rule. *See* § 366.93(2); *also* Rule 25-6.0523(5)(c)(e) (“prior year actual costs associated with power plant construction subject to the annual proceeding shall not be subject to disallowance or further prudence review”).

1. *FPL’s Petition for Need Determination for the EPU Project*

On September 17, 2007, pursuant to Section 403.519, FPL filed a petition for a determination of need for the proposed uprate of the electric generating capacity of its existing Turkey Point and St. Lucie nuclear power plants. As proposed in 2007, the EPU project would increase the power output of four units in the combined amount of 414 megawatts (MW). Pursuant to statutory requirements, FPL and the Commission each published notice of the proceeding.

FPL’s petition included all of the information required by the Commission’s Nuclear Cost Recovery Rule and was supported by hundreds of pages of evidence, including the testimony of eight witnesses, answers to numerous sets of interrogatories, and document production. *See* Docket index for Docket No. 070602-EI. FPL’s filing made it clear that “[a]bsent the increased regulatory certainty and cost recovery provisions that have been provided by the Florida Legislature and Commission, FPL would not be encouraged to undertake such

capital-intensive nuclear uprates *on such an expedited basis.*” Petition filed in Docket No. 070602-EI on September 17, 2007 (“Petition”) at ¶ 10 (emphasis added).

Indeed, the expedited schedule was a key component of the proposed project because FPL projected future resource needs of 490 MW of incremental capacity in 2012. Petition at ¶¶ 4, 24. FPL also required this new capacity in order to meet its summer reserve criterion of 20% through 2013. Petition at ¶¶ 4, 24. FPL proposed to complete the uprates of all four units during separate outages ending in 2012. Petition at ¶¶ 3, 34.

## 2. *The Commission granted FPL’s Petition*

FPL’s petition, including the expedited schedule of the EPU project, went unchallenged. On January 7, 2008, the Commission granted FPL’s petition. *EPU Need Determination Order*, at p. 2. The Commission found that the proposed EPU project was necessary to fulfill FPL’s 2012 and 2013 resource needs and to keep pace with Florida’s increasing demand for reliable power. *Id.* at pp. 3, 4. The Commission also found that the nuclear uprates would improve and maintain FPL’s fuel diversity and decrease reliance on natural gas as a fuel for electric generation. *Id.* at pp. 3-4. The diversification, in turn, would result in enhanced system reliability. *Id.* at p. 4. Additionally, the Commission found that the EPU project would provide a net benefit to customers based on fuel savings and reduced capacity cost because the uprates would defer the timing of additional units in the 2014-2017 time period. *Id.* Thus, FPL would need to expedite the EPU project in order to meet the forecasted need and realize the net benefit.

The Commission also evaluated whether the EPU project provided the most cost-effective source of power. *Id.* at 5. To assess the system impact, FPL compared a long-term resource plan that included the uprates against an alternate resource plan not including the nuclear uprates but rather combined cycle units (the “CPVRR analysis”). *Id.*; Petition at ¶¶ 5, 43-

44. The resource plan with the lower revenue requirement represented the more cost efficient option. Petition at ¶ 5. FPL's CVPRR analysis showed that in eight of nine economic scenarios comparing the generating technology choices, the plan with nuclear uprates was the most cost effective option. *EPU Need Determination Order*, at p.5. Based on FPL's CPVRR analysis, the Commission found that the uprates would provide the most cost-effective source of the power that FPL needed by 2012. *Id.*

3. *OPC now challenges the very project approved by the Commission.*

OPC did not challenge the Commission's need determination order when it was issued. Now, more than three years later, OPC raises for the first time an objection to FPL's use of an expedited schedule for the EPU project. Through the testimony of Jacobs and proposed issue 5, OPC challenges FPL's decision to expedite the EPU project and FPL's use of the CPVRR analysis for both plants to calculate the cost-effectiveness of the proposed uprates. Although OPC attempts to frame these issues in terms of prudence, these challenges constitute a collateral attack of the Commission's EPU Need Determination Order which expressly considered and ruled upon these very issues.

The Commission's 2008 need determination stated that FPL proposed "to increase the power output at Turkey Point, units 3 and 4, from approximately 700 megawatts (MW) to 804 MW per unit, for a two-unit total of about 208 MW. At St. Lucie, units 1 and 2, net electrical generation per unit was expected to increase from approximately 840 MW to 943 MW, for a two-unit total of 206 MW. FPL proposed to complete the uprate to all four nuclear units during separate outages beginning in 2011 and ending in 2012." *EPU Need Determination Order*, at p. 2.

OPC seeks to introduce issues in this year's docket that the Commission already decided in the need determination proceeding. For example, OPC seeks to interpose the following issues:

- “Should the Commission accept the quantitative methodology that FPL employed to assess the long-term feasibility of the EPU project?” (proposed OPC-FPL Issue 3)
- “Should the Commission accept FPL’s practice of consolidating the Turkey Point and St. Lucie uprate activities into a single long-term feasibility analysis?” (proposed OPC-FPL Issue 4)
- “Was it prudent for FPL to proceed with the EPU projects at Turkey Point and St. Lucie on a “fast track” basis and in the absence of a break-even calculation?” (proposed OPC-FPL Issue 5a)

Jacobs’s testimony sponsored in support of these improper issues repeatedly challenges the Commission’s need determination order, as noted in the examples below:

- “In my testimony . . . I will describe [the] . . . imprudence on FPL’s part in the areas of selecting a ‘fast track’ approach for the EPU project” (W. Jacobs 7/8/11 testimony at 5:8-17)
- FPL’s uprate projects are “uniquely unsuitable for the fast track approach” and “FPL exacerbated the situation by failing to quantify the ‘breakeven’ point” (W. Jacobs 7/8/11 testimony at 7:1-12)
- “Q: Is fast tracking appropriate for projects such as the FPL EPU projects?  
A: In my opinion, it is not. (W. Jacobs 7/8/11 testimony 17:7-9).”
- “I conclude that that the decision to fast track these projects and to pursue them without performing a breakeven analysis was an imprudent decision on the part of FPL management. . . . This fast track decision will likely result in costs that will significantly exceed the cost of the studied alternative.” (W. Jacobs 7/8/11 testimony 24:14-22)

In sum, OPC contends FPL was imprudent by proceeding with the very project approved by the Commission. *Contra* Section 403.519(4)(e) (“[p]roceeding with the construction of the nuclear . . . power plant following an order by the commission approving the need for the nuclear . . . power plant under this act shall not constitute or be evidence of imprudence.”).

## **B. OPC's challenge violates the doctrine of administrative finality**

### *1. The doctrine of administrative finality*

In the field of administrative law, the counterpart to *res judicata* is administrative finality. See *Florida Power Corp. v. Garcia*, 780 So. 2d 34, 44 (Fla.2001). Administrative orders must eventually pass out of the agency's control and, absent exceptions not applicable here, become final and no longer subject to change or modification. *Austin Tupler Trucking v. Hawkins*, 377 So. 2d 679, 681 (Fla. 1979); *Peoples Gas Sys., Inc. v. Mason*, 187 So. 2d 335 (Fla. 1966). There must be a "terminal point in every proceeding both administrative and judicial, at which the parties and the public may rely on a decision as being final and dispositive of the rights and issues involved therein." *Florida Power Corp.*, 780 So. 2d at 44-45 (quoting *Austin Tupler*, 377 So. 2d at 681); *Reedy Creek Utils. v. Florida Public Service Commission*, 418 So. 2d 24 (1982) ("[a]n underlying purpose of the doctrine of finality is to protect those who rely on a judgment or ruling.").

*Garcia*, for example, involved a dispute over the Commission's jurisdiction. Florida Power Corporation ("FPC") had entered into a cogeneration contract and petitioned the Commission to declare that a certain term which would permit a price increase was consistent with the Florida Administrative Code. The Commission dismissed the petition, concluding that FPC was actually asking it to adjudicate a contract dispute, a matter over which the Commission lacked jurisdiction. That order was not appealed. Three years later, following a settlement with the counterparty that was approved by the Commission, FPC again sought a declaration explaining its duties under the Commission-approved settlement. The Commission denied the petition on the grounds of administrative finality, noting that it had already ruled on the pricing dispute in the prior order and "the resolution must stand." *Id.* at 41.

The Supreme Court of Florida affirmed. The Court held that the Commission's first unappealed ruling regarding jurisdiction barred subsequent determination of the jurisdiction over the same claim. *Id.* at 42. Moreover, even if the same jurisdictional issue was not actually decided in the first petition, it *could have been* resolved at that time. *Id.* at 43. The Court emphasized that the two petitions were substantively the same, despite semantic differences. *Id.* The first petition asked "what the contract terms mean," while the second asked "what the contract terms meant to the Commission when it approved the contract." *Id.* at 44. Thus, the doctrine of finality applied and barred consideration of the issue.

As applied to this case, Section 403.519, Florida Statutes, expresses the Florida legislature's heightened concern with both the finality of nuclear need determinations and recovery of costs prudently incurred after the need determination. Section 403.519 provides that the Commission's determination of need for a nuclear power plant constitutes final agency action, and any petition for reconsideration of that order "shall be filed within 5 days after the date of such order." § 403.519(4)(d). The Commission's final order, including any order on reconsideration, is directly appealable to the Florida Supreme Court where the Court must give such action precedence over other matters and must proceed to hear and determine the action as expeditiously as practicable. *Id.* The statute underscores the concern that delay in the determination of need will delay siting of nuclear generation or diminish the opportunity for savings to customers. *Id.* The statute goes on to clearly state that "costs associated with the siting, design, licensing, or construction of the (nuclear) plant, shall not be subject to challenge unless and only to the extent the commission finds (after a hearing and based on a preponderance of the evidence) that certain costs were imprudently incurred." § 403.519 (4) (e).

OPC's testimony does not allege any imprudent costs in particular. It simply asks the Commission to presume that costs were incurred imprudently based on a mechanism that is no contemplated under state law, and a decision that was in a 2008 Commission Order. Any of these contentions, if accepted, would constitute a reversal of the EPU Need Determination Order.

2. *OPC attempts to relitigate the Commission's need determination order*

OPC's collateral attack on the Commission's need determination order violates the doctrine of administrative finality. As explained above, OPC seeks to litigate in this proceeding (i) whether FPL should have expedited the EPU project, (ii) whether FPL should have utilized a "breakeven" quantitative analysis to calculate cost-effectiveness, and (iii) whether FPL should have separately analyzed the feasibility of the Turkey Point and St. Lucie uprates. The Commission addressed these issues more than three years ago in the need determination proceeding. The Commission not only approved FPL's decision to pursue the EPU project on an expedited basis, but recognized that the expedited schedule was critical due to forecasted resource needs commencing in 2012 and reserve deficiencies that would otherwise crop up in 2013. The Commission also considered FPL's methodology for assessing whether the EPU project was cost effective and found that it was, in fact, cost effective. Significantly, FPL's feasibility analysis presented in that docket reflected the combined costs and benefits of uprating Turkey Point and St. Lucie. OPC cannot now deconstruct the generation combination that the Commission deemed suitable to satisfy the needs of FPL's customers.

Even if the precise issue had not been addressed by the Commission's EPU Need Determination Order, *Garcia* dictates that the doctrine of finality still applies because OPC *could* have raised these issues at the time of the need determination. *Id.* at 44. As in *Garcia*, there is an identity of essential facts and issues between OPC's present challenge and the original need

determination proceeding. FPL's original petition made it abundantly clear that it required expedited engineering and construction for the EPU project and the cost-effectiveness calculation was not based on a "breakeven" analysis. The petition also unambiguously described the project as a combined uprate of Turkey Point and St. Lucie, and the Commission found a need for both sites. *Garcia* also dictates that OPC's attempt to rephrase the issue in terms of a "prudence determination" should be ignored because the issue is substantively the same, i.e., whether the Commission should permit FPL to proceed with the EPU project on an expedited schedule. OPC could have pursued its theory in 2007 but failed to do so, and it is barred from pursuing it now.

The doctrine of administrative finality contemplates that FPL will be able to rely on decisions rendered by the Commission, and that principle is particularly applicable here where, for the past three years, FPL has proceeded with engineering, procurement, and construction to execute the EPU project on an expedited schedule based on the time table reflected in the Commission's order. Indeed, Section 403.519 reflects the legislature's expectation that a utility will begin the project as soon as possible after the need determination becomes final. As OPC witness Jacobs recognizes, FPL has already expended approximately \$900 Million on the uprates. It is therefore fundamentally unfair to FPL and its shareholders and contrary to Florida law for OPC to ask the Commission to revise its prior decision. This is precisely the prejudice and injustice that the doctrine of administrative finality is designed to prevent. FPL must be able to rely upon the Order of this Commission, particularly moving forward with very large projects such as the EPU project.

**C. Florida Statutes and the Nuclear Cost Recovery Rule prohibit review of the Commission's 2008 need determination in this docket**

Rule 25-6.0423 sets forth in detail the items to be considered during a nuclear cost recovery hearing. The rule provides that the Commission's review shall consist of (1) the utility's actual pre-construction or construction expenditures for the prior year, (2) the utility's actual and estimates of expenditures for work performed and to be performed during the current year, and (3) the utility's projected expenditures for the following year. Rule 25-6.0423(4)(c)(1)(a)-(c).

Thus, the 2011 nuclear cost recovery docket will address FPL's projected and actual expenditures for 2010, 2011, and 2012. Because the parties' stipulated to deferral of the issues presented in 2010, the Commission will also consider the prudence of 2009 expenditures in this docket. There is no legal authority, however, that allows OPC to utilize this proceeding to second-guess a decision by the Commission in 2008. That decision is beyond the purview of the nuclear cost recovery hearing.

Beyond the temporal scope, Section 403.519 and Rule 25-6.0423 also plainly dictate the nature and limits of the challenges that may be presented at a nuclear cost recovery hearing. Section 403.519(4)(e) provides that "[a]fter a petition for determination of need for a nuclear . . . power plant has been granted, the right of a utility to recover any costs incurred prior to commercial operation . . . shall not be subject to challenge unless and only to the extent the commission finds, based on a preponderance of the evidence adduced at a hearing before the commission under s. 120.57, that certain costs were *imprudently incurred*." § 403.519(4)(e). Similarly, Rule 25-6.0423 provides that the Commission shall conduct an annual hearing to determine the reasonableness of projected expenditures and prudence of actual expenditures, and the associated carrying costs. Rule 25-6.0423(4)(c)(2).

Thus, in tandem, the governing statute and regulation limit the scope of cost recovery hearings such as this to determinations of whether FPL's decisions and expenditures during the prior year were prudent and whether FPL's projected expenditures for this year and next year are reasonable. OPC is precluded from litigating in this docket whether FPL should have adopted an expedited project approach or used separate "breakeven" quantitative analyses in 2007 to establish cost-effectiveness for each uprate site. The Commission properly addressed those questions during the need determination proceeding. Section 403.519 and Rule 25-6.0423 proscribe OPC from raising such challenges in this docket.

**D. The legal prudence standard prohibits hindsight review**

OPC attempts to avoid the doctrine of administrative finality by arguing that costs may be imprudently incurred now or in the future as a result of FPL management's 2007 decision to expedite the EPU project. This hindsight analysis is improper under well-established Florida law governing Commission prudence determinations.

The prudence of decision making should be viewed from the perspective of the decision maker at the time of the decision. *In Re: Investigation into Extended Outage of Florida Power and Light Co.'s St. Lucie Unit No. 1*, 85 FPSC 12:284 (F.P.S.C. Dec. 23, 1985) The legal prudence determination standard excludes hindsight review, which is the application of facts that are known today to decisions made in the past. *Id.* (citing *Florida Power Corp. v. Cresce*, 413 So. 2d 1187 (Fla. 1982); *Florida Power Corp. v. Public Service Commission*, 424 So. 2d 745, 747 (Fla. 1982) (Court noting that "[h]indsight should not serve as the basis for liability") and *Florida Power Corp. v. Public Service Commission*, 456 So. 2d 451 (Fla. 1984)). Thus, in considering whether FPL acted prudently, the Commission must determine whether FPL acted

reasonably based on information it knew or should have known at the time it made the decision. *See id.*

Here, OPC seeks to judge the prudence of FPL's 2007 decision to expedite the EPU project by looking at facts that are known today. This is precisely the Monday morning quarterbacking that the legal prudence standard prohibits. Even if OPC's collateral attack were not barred by administrative finality, OPC's challenge to the expedited schedule would be limited, as a matter of law, to what FPL knew at the time it made the decision.

In sum, OPC cannot raise in this proceeding objections to FPL's decision to expedite the EPU project and its feasibility analysis. First, OPC's proposed issues and testimony constitute a collateral attack on the Commission's need determination order and cannot be relitigated under the doctrine of administrative finality. Second, nuclear cost recovery hearings are statutorily limited determinations regarding whether the utility prudently incurred costs in the prior year or projected reasonable expenses in the current and following next year. No other challenges are permitted. Finally, even if not barred by administrative finality, FPL's decision to expedite the EPU project schedule must be judged based on what the Company knew at the time of the decision, not a hindsight review of costs that resulted years later.

### **III. OPC'S REQUEST FOR RELIEF VIOLATES THE NUCLEAR COST RECOVERY STATUTE**

OPC requests that the Commission disallow all costs greater than the breakeven cost from the amount that FPL seeks to collect through the NCRC. (OPC-FPL Issue 5b; W. Jacobs testimony, July 8, 2011 at 8:1-4, 28:1-13, 28:23-25; B. Smith testimony, July 8, 2011 at 9:1-3, 9:7-8, 9:15-19. OPC's request for implementation of a "breakeven mechanism" is not legally cognizable. First, the proposed "breakeven" mechanism violates the nuclear cost recovery statute mandate that utilities be permitted to recover all prudently incurred costs. Second, OPC's

request for a “breakeven” mechanism is an attempt to re-litigate the risk-sharing mechanism that was firmly rejected by this Commission earlier this year. Third, OPC fails to present evidence or even identify a single specific category of imprudently incurred costs, as expressly required by statute.

**A. FPL is statutorily entitled to recover all prudently incurred costs**

Under the Nuclear Cost Recovery Clause, FPL is entitled to recover all prudently incurred costs. The recovery limitations proposed by OPC violate are contrary to law.

Section 366.93 creates an alternative cost recovery mechanism in order to encourage utility investment in nuclear electric generation in Florida. Section 366.93 authorizes the Commission to allow investor-owned electric utilities to recover certain construction costs in a manner that reduces the overall financial risk associated with building a nuclear power plant. The statute expressly provides that a utility shall be allowed to recover all prudently incurred costs. In fact, the statute provides that nuclear plant related costs should be disallowed only if imprudence is proven by a preponderance of the evidence. This Commission has further found that “the only statutory requirement is that the utility prove that its costs in new nuclear power plant capacity were prudently incurred.” *Re Nuclear Cost Recovery Clause*, Docket No. 100009-EI, Order No. 11-0095-FOF-EI, 2011 WL 365049, \*3 (F.P.S.C. Feb. 2, 2011). There is no requirement that the utility prove its costs “breakeven” with those costs associated with an alternate generation plan.

Similarly, Rule 25-6.0423, adopted by the Commission pursuant to the legislature’s directive, also provides for recovery of *all* prudently incurred costs resulting from the siting, design, licensing, and construction of a nuclear power plant. Indeed, a rule that provided for a different mechanism would be contrary to the enabling statute. The rule establishes annual prudence review process for each of the prior year’s costs. Although costs are initially recovered

on a projected basis, ultimately, a utility may be required to refund costs if the Commission determines certain costs were imprudently incurred. In sum, the Rule's only requisite to recovery is that the utility's costs be prudently incurred. *Id.* at \*3-4.

Thus, the Commission may disallow certain costs it deems imprudently incurred but cannot, based on the unambiguous language of Section 366.93, implement or approve a mechanism that would preclude a utility from recovery of all prudently incurred costs. *Id.* at \*4 (Commission finding that Section 366.93 restricts authority to implement risk sharing mechanism). This Commission has held that restricting recovery to anything less than "all prudently incurred costs" would "limit the scope and effect of a specific statute, and an agency may not modify, limit, or enlarge the authority it derives from the statute." *Id.* at \*5.

**B. OPC's request for a "breakeven" mechanism is an attempt to re-litigate the risk-sharing mechanism already rejected by this Commission**

As part of the 2010 Nuclear Cost Recovery docket, OPC and other intervenors introduced the concept of a "risk sharing" mechanism for the first time in the nuclear cost recovery process.

The issue in that docket was:

Does the Commission have the authority to require a "risk sharing" mechanism that would provide an incentive for a utility to complete a project within an appropriate, established cost threshold? If so, what action, if any, should the Commission take?

*In re Nuclear Cost Recovery Clause*, Docket No. 100009-EI, Order No. 11-0224-FOF-EI, 2011 WL 1924075 (F.P.S.C. May 16, 2011). The exact operation of such a mechanism was unclear, but it suggested that costs incurred in the development of a nuclear power plant that exceed some "appropriate, established cost threshold" may not be recovered by the utility developing the nuclear power plant, regardless of whether those costs were prudently incurred.

FPL argued that such a mechanism is contrary to the clear language of the Florida statutes governing nuclear cost recovery, and the Commission agreed. *Id.* at \*4-5. One of the

intervenor moved for reconsideration of the issue, and the Commission, in a well-reasoned opinion, steadfastly maintained that Section 366.93 prohibits any recovery mechanism “that would prevent a utility from recovering prudently incurred costs.” *Id.*

This year, OPC has introduced a “breakeven” recovery mechanism. Although tagged with a different name, “breakeven” is substantively the same as “risk sharing.” And it is subject to the same statutory prohibitions. Under the proposed “breakeven” method, FPL’s recovery would be capped at a certain amount, even if the costs incurred above that amount were prudently incurred. That was the very proposal rejected by the Commission earlier this year. *See id.* The law remains that Section 399.93 bars implementation of any mechanism that precludes a utility from recovering all prudently incurred costs. Moreover, OPC’s predicate for employing a “breakeven” mechanism is the exclusion of sunk costs. (W. Jacobs 7/11/2011 testimony at p. 9, 12-13). This theory, too, contravenes Commission precedent. *In re: Nuclear cost recovery clause*, Docket No. 090009-EI, Order No. PSC-09-0783-FOF-EI, at p. 14-15 (F.P.S.C. Nov. 19, 2009).

In short, OPC’s introduction of a “breakeven” recovery mechanism is nothing more than a thinly-veiled attempt to relitigate adjudicated issues and overturn the Commission’s recent pronouncement denying this type of mechanism. OPC’s request for disallowance thus fails again for the same reasons previously articulated in recent Commission orders.

**C. OPC’s Proposed Recovery Mechanism Violates The Statutory Disallowance Standard**

As set forth above, a utility’s right to recover costs incurred in connection with a new nuclear plant “shall not be subject to challenge unless and only to the extent the commission finds, **based on a preponderance of the evidence** adduced at a hearing before the commission . . . **that certain costs were imprudently incurred.**” Section 403.519(4)(e) (emphases added).

Under the plain language of the statute, no costs may be disallowed in the absence of evidence that particular costs were imprudently incurred.

Here, OPC contends generally that the Commission should disallow any costs that exceed the “breakeven” amount. OPC’s proposed issue 5b asks:

- Does the Commission have jurisdiction to require FPL to collect the costs of the EPU subject to refund, pending a determination of whether the imprudence of proceeding on a “fast track” basis caused FPL to spend more on the uprates than it would have spent on an alternative generation portfolio?

Jacobs provides his opinion on that issue:

- “I recommend that the Commission should **disallow all costs greater than the breakeven cost** from the amount that FPL seeks to collect through the NCRC.” (W. Jacobs 7/8/11 testimony at 8:3-4) (emphasis added)
- “The Company should be allowed to collect future amounts **up to the breakeven costs**. Amounts for 2009, 2010, 2011 and 2012 could be collected as long as the breakeven values have not been exceeded.” (W. Jacobs 7/8/11 testimony 28:6-13) (emphasis added).

Smith also provides his opinion on that issue:

- “[T]he Commission should adopt a method of viewing the project that will enable it to **identify and disallow costs that exceed the maximum amount that would be cost-effective for customers**.” (B. Smith 7/8/11 testimony 9:1-3) (emphasis added)

OPC does not point to a single specific cost item that it claims was imprudently incurred, either in its issues list or through the testimony of Jacobs. Indeed, OPC fails to identify any dollar amount whatsoever. Contrary to Rule 25-6.0423, OPC fails to identify the year in which the costs were supposedly imprudently incurred or what type of cost within each year should be disallowed. Indeed, OPC asks the Commission to disallow costs that have not even been incurred or projected and for which FPL has sought neither recovery nor a reasonableness determination with absolutely no regard to whether the costs will be prudently incurred.

Simply put, OPC has presented no evidence and has wholly ignored its statutory obligation to prove “by a preponderance of the evidence” that “certain costs” incurred by FPL were imprudent. For this reason, in addition to the others, OPC’s request for implementation of a “breakeven” mechanism must be denied as a matter of law.

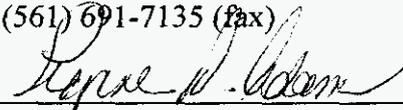
WHEREFORE, for the reasons outlined above, FPL respectfully requests that the full Commission consider this Motion and strike OPC’s proposed issues 3, 4, 5a and 5b, exclude those portions of Jacobs’s opinion regarding FPL’s decision to expedite the EPU project and all testimony in support of that opinion, and exclude Jacobs’s opinions and Smith’s opinions regarding disallowance of all costs greater than a “breakeven” amount as well as all testimony in support of that opinion reflected in the highlighted portions of Exhibit A and Exhibit B attached hereto.

**CERTIFICATE OF CONFERRAL**

Pursuant to Rule 28-10.204(3), FPL conferred with OPC and counsel for Southern Alliance for Clean Energy and Florida Industrial Power Users Group. Counsel for each of those parties objects to the relief sought in the foregoing motion. FPL has consulted with counsel for PCS Phosphate and Progress Energy Florida who represent that their clients have no position on this motion. FPL has attempted to contact counsel for AFCESA/ULFSC regarding their position on the motion, but as of the time of filing this motion has not received a response from this party.

Respectfully submitted,

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**CERTIFICATE OF SERVICE  
DOCKET NO. 110009-EI**

I HEREBY CERTIFY that a true and correct copy of this Notice was served via hand delivery(\*) or by overnight Mail this 21st day of July 2011, to the following:

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By   
Bryan S. Anderson

# Exhibit A

**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

In Re: Nuclear Cost Recovery     )  
Clause                                 )  
\_\_\_\_\_                                 )

Docket No. 110009-EI

FILED: July 8, 2011

**DIRECT TESTIMONY**

**OF**

**WILLIAM R. JACOBS, JR., Ph.D.**

**ON BEHALF OF THE CITIZENS OF**

**THE STATE OF FLORIDA**

**REVIEW OF FLORIDA POWER AND LIGHT COMPANY'S**

**NUCLEAR COST RECOVERY RULE FILING**

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## EXHIBITS

Resume Of William R. Jacobs, Jr. ....	WRJ-1
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FPL Response to OPC Interrogatory No. 85 .....	WRJ-3
FPL October 2010 Graph, with Jacobs' Addition .....	WRJ-4
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FPL Response to OPC Interrogatory No. 19 ..... WRJ-12

FPL Response to OPC Interrogatory No. 82 ..... WRJ-13



1 development of the Outage Management Evaluation Program. Since joining GDS  
2 Associates, Inc. in 1986, I have participated in rate case and litigation support  
3 activities related to power plant construction, operation and decommissioning. I have  
4 evaluated nuclear power plant outages at numerous nuclear plants throughout the  
5 United States. I am currently on the management committee of Plum Point Unit 1, a  
6 650 MWe coal fired power plant under construction near Osceola, Arkansas. As a  
7 member of the management committee, I assist in providing oversight of the EPC  
8 contractor for this project. I am currently the Georgia Public Service Commission's  
9 (GPSC) Independent Construction Monitor for Georgia Power Vogtle 3 and 4 nuclear  
10 project. As the Independent Construction Monitor I assist the GPSC Commissioners  
11 and Staff in providing regulatory oversight of the project. My monitoring activities  
12 include regular meetings with project management personnel and regular visits to the  
13 Vogtle plant site to monitor construction activities and assess the project schedule and  
14 budget. My resume is included as Exhibit WRJ-1.

15  
16 **Q. WERE YOU ASSISTED BY OTHER GDS PERSONNEL IN THIS EFFORT?**

17 A. Yes, I was. In addition to myself, the GDS team involved in the review and  
18 evaluation of the requests for authorization to recover costs consisted of Mr. James P.  
19 McGaughy, Jr., a former nuclear utility executive with over 37 years of experience,  
20 and Mr. Brian Smith, an expert in production cost modeling and feasibility analyses.  
21 Mr. Smith is sponsoring testimony on an aspect of our review. His qualifications are  
22 contained in his prefiled testimony. The resume of Mr. McGaughy is attached to this  
23 testimony as Exhibit WRJ-2. I have reviewed the work of Mr. McGaughy, and have  
24 incorporated and adopted it as my own in this testimony.

25

1 **Q. WHAT IS THE NATURE OF YOUR BUSINESS?**

2 A. GDS Associates, Inc. ("GDS") is an engineering and consulting firm with offices in  
3 Marietta, Georgia; Austin, Texas; Manchester, New Hampshire; Madison, Wisconsin;  
4 and Auburn, Alabama. GDS provides a variety of services to the electric utility  
5 industry including power supply planning, generation support services, rates and  
6 regulatory consulting, financial analysis, load forecasting and statistical services.  
7 Generation support services provided by GDS include fossil and nuclear plant  
8 monitoring, plant ownership feasibility studies, plant management audits, production  
9 cost modeling and expert testimony on matters relating to plant management,  
10 construction, licensing and performance issues in technical litigation and regulatory  
11 proceedings.

12

13 **Q. WHOM ARE YOU REPRESENTING IN THIS PROCEEDING?**

14 A. I am appearing on behalf of the Florida Office of Public Counsel ("OPC"), who  
15 represents the ratepayers of Florida Power & Light Company.

16

17 **Q. WHAT WAS YOUR ASSIGNMENT IN THIS PROCEEDING?**

18 A. I was asked to assist the Florida Office of Public Counsel to conduct a review and  
19 evaluation of requests by Florida Power and Light Company (FPL) for authority to  
20 collect historical and projected costs associated with extended power uprate ("EPU")  
21 projects being pursued at the Turkey Point 3 and 4 and St. Lucie 1 and 2 nuclear  
22 plants, and historical and projected costs associated with FPL's Turkey Point 6 and 7  
23 new nuclear project through the capacity cost recovery clause.

24

25 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?**

1 A. Yes. I testified on behalf of the Florida Office of Public Counsel in the previous  
2 NCRC proceedings in Dockets No. 080009-EI, 090009-EI and 100009-EI.

3 **Q. PLEASE PROVIDE A BRIEF OVERVIEW OF THE NATURE AND STATUS**  
4 **OF FPL'S NUCLEAR PROJECTS.**

5 A. FPL currently has two major nuclear projects under way. The most active project at  
6 this time is the project to increase the generating capacity of FPL's existing nuclear  
7 units, Turkey Point 3 and 4 and St. Lucie 1 and 2, by a total of 450 megawatts. This  
8 project is referred to as the extended power uprate or EPU project. It is currently  
9 scheduled to be completed in 2013. FPL has spent approximately \$700 million of an  
10 estimated total cost of \$2.48 billion on the EPU project. The second project is the  
11 development of Turkey Point 6 and 7, a new nuclear plant consisting of two  
12 Westinghouse AP1000 reactors. This project is in the licensing stage. It is projected  
13 to provide 2,200 megawatts of capacity with on line dates of 2022 and 2023. At this  
14 time FPL has spent \$129 million of an estimated "overnight cost" (that excludes  
15 carrying costs and escalation) of \$11.1 billion.

16  
17 **Q. PLEASE SUMMARIZE FPL'S REQUEST FOR COST RECOVERY IN THIS**  
18 **DOCKET UNDER THE NUCLEAR COST RECOVERY CLAUSE.**

19 A. FPL is requesting authority to include \$196,004,292 of nuclear cost items in the 2012  
20 Capacity Cost Recovery factor.

21

## 22 **II.METHODOLOGY**

23 **Q. PLEASE DESCRIBE THE METHODOLOGY THAT YOU USED TO**  
24 **REVIEW AND EVALUATE THE REQUESTS FOR AUTHORIZATION TO**  
25 **COLLECT COSTS SUBMITTED BY FPL UNDER THE NUCLEAR COST**  
26 **RECOVERY CLAUSE.**

1 A. I first reviewed the Company's filings in this docket and assisted in the issuance of  
2 numerous interrogatories and requests for production of documents. To evaluate the  
3 issues related to project schedule, cost and risk management, I reviewed many  
4 internal documents, status reports and correspondence with regulatory authorities. I  
5 reviewed responses to discovery requests and issued additional discovery requests as  
6 needed. I assisted OPC attorneys with the depositions of FPL witnesses.

7

8 **Q.WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

9 A. In my testimony, I will address three subjects. The first subject is the inappropriate  
10 methodology that FPL employs to assess the long-term feasibility of its EPU uprate  
11 project. Next, I will describe how the deficient feasibility methodology and  
12 imprudence on FPL's part in the areas of selecting a "fast track" approach for the  
13 EPU project, estimating the overall costs of the uprate projects and managing risk  
14 during the project have potentially placed the utility in the position of incurring  
15 unreasonable costs that are in excess of those associated with an alternative  
16 generation plan and so should be disallowed from the amounts that FPL is authorized  
17 to collect from customers. Finally, I will address the issue relating to the estimate of  
18 the capital costs of its EPU project that FPL submitted in prefiled testimony dated  
19 May 1, 2009, and that it decided not to update either prior to or during the September  
20 2009 hearing in Docket No. 090009-EI.

21 **III.SUMMARY OF TESTIMONY**

22 **Q. PLEASE SUMMARIZE YOUR CONCLUSIONS WITH RESPECT TO THE**  
23 **METHODOLOGY THAT FPL USES TO PERFORM ITS FEASIBILITY**  
24 **ANALYSES OF THE UPRATE PROJECTS.**

1 A. I conclude that FPL's comparison of the cumulative present value of revenue  
2 requirements of two resource plans--one incorporating the nuclear uprate projects and  
3 another without the nuclear uprates-- in which FPL excludes amounts already spent  
4 from the capital costs of the "with uprate" scenario, is ill-suited to the circumstance of  
5 FPL's EPU uprate project. This is because FPL had little grasp of what the capital  
6 costs would be at the beginning of the project, and FPL's estimates of the cost of  
7 completing the projects ("to-go costs") have increased dramatically from the outset.  
8 Excluding "sunk costs" is an accepted way of performing a feasibility study when the  
9 overall project cost is known, stable and well defined. However, if the project costs  
10 are largely unknown and estimates are understated at the outset, and if as a result the  
11 "to go" costs increase nearly as much as the annual "past spent" amount that is  
12 excluded from the comparison over time, the exercise can cause misleading results.  
13 based only on "to go" costs, the analysis will likely continue to show feasibility, but  
14 when all costs are considered, the project may be uneconomical for customers. If  
15 there was ever a valid basis for using the comparison of revenue requirements as the  
16 means of evaluating the feasibility of the uprate projects, it has eroded in light of  
17 FPL's experience with estimating the costs of the project. My GDS colleague, Brian  
18 Smith, will illustrate the problem and propose a means of compensating for the  
19 distortion produced by FPL's inappropriate methodology pending the adoption of a  
20 replacement methodology. In that regard, for future feasibility studies I recommend  
21 that the Commission direct FPL to perform a "break-even" analysis for the uprate  
22 projects similar to the "break-even" study that it prepares to support the long-term  
23 feasibility of its proposed new nuclear units, and to calculate separate such  
24 "breakeven" thresholds for the St. Lucie and Turkey Point sites.

1 Q. PLEASE SUMMARIZE YOUR TESTIMONY CONCERNING  
2 MANAGEMENT IMPRUDENCE AND YOUR RECOMMENDATION THAT  
3 THE COMMISSION DISALLOW COSTS FOR THE EPU PROJECT THAT  
4 ARE GREATER THAN THE BREAKEVEN COSTS.

5 A. FPL's uprate projects began with what FPL styles an initial "scoping" study, followed  
6 by an "indicative" bid from Bechtel, its EPC contractor. As FPL's witness Jones  
7 acknowledges, an uprate to an existing nuclear unit is a hugely complex undertaking.  
8 At the beginning, it is imbued with enormous uncertainties. This type of project is  
9 uniquely unsuitable for the fast track approach, in which an organization commits to a  
10 project and spends large sums before it has any idea of the ultimate cost. Not only  
11 did FPL not have a reasonable idea of the final cost of the project, FPL exacerbated  
12 the situation by failing to quantify the "breakeven" point (that is, the maximum cost  
13 per installed kW of uprate capacity that would be as cost-effective or more cost-  
14 effective than the alternative to the uprate). Such a "breakeven" analysis is better  
15 suited to a project that is characterized by substantial uncertainty than is the  
16 comparison of revenue requirements that FPL adopted as its long term feasibility  
17 methodology for its uprate projects. Even today, FPL does not have a good handle on  
18 the ultimate cost of the uprates, and it does not incorporate a contingency factor that  
19 is adequate for the circumstances. Further, FPL was slow to recognize and take into  
20 account early indications that its initial estimates were inadequate. These missteps  
21 constitute imprudence that has exposed customers to the real likelihood that costs of a  
22 plan with the uprate projects will be higher than corresponding costs of a resource  
23 plan that does not include the projects. In fact, OPC witness and fellow GDS  
24 consultant Brian Smith will demonstrate that, at this stage of the projects, FPL's own  
25 data indicate that customers will see net costs, not net benefits, from the uprate

1 projects. This is the case even though the biggest expenditures are yet to come. To  
2 protect the customers from having to bear unreasonable costs occasioned by FPL's  
3 imprudence, I recommend that the Commission should disallow all costs greater than  
4 the breakeven cost from the amount that FPL seeks to collect through the NCRC.  
5 Because estimated capital costs and years of operations remaining prior to the  
6 expiration of operating licenses differ materially between the St. Lucie and Turkey  
7 Point uprate activities, I further recommend that the Commission direct FPL to  
8 perform a breakeven analysis for each EPU project, so that the economic feasibility  
9 and the justification for the continuation of the extended uprate project at each plant  
10 site can be evaluated individually rather than being lumped together.

11  
12 **Q. PLEASE SUMMARIZE YOUR CONCLUSIONS AND**  
13 **RECOMMENDATIONS WITH RESPECT TO THE ISSUE OF WHETHER**  
14 **FPL SHOULD HAVE AMENDED ITS TESTIMONY CONCERNING ITS**  
15 **ESTIMATE OF CAPITAL COSTS ASSOCIATED WITH THE UPRATE**  
16 **PROJECTS DURING THE SEPTEMBER, 2009 EVIDENTIARY HEARING.**

17 A. Based on my review of information provided in discovery, I conclude the information  
18 regarding the cost of the EPU projects that FPL included in prefiled testimony in May  
19 2009 was not the most current view of the utility, as the estimate in the May prefiled  
20 testimony had been effectively superseded by revised estimates as of the Executive  
21 Steering Committee meeting of July 25, 2009. At that time, managers of the uprate  
22 projects increased the estimate contained in May 2009 prefiled testimony by some  
23 \$300 million, representing a 21% increase above the estimate contained in the  
24 prefiled testimony. FPL's uprate managers adjusted their estimates of capital costs  
25 again in August 2009, when they increased estimated capital costs by another \$144.5

1 million, or a total of \$443.6 million more than the amount FPL had been using as its  
2 estimate since 2007. FPL should have apprised the Commission of these  
3 developments no later than the time when its witness testified in the evidentiary  
4 hearing conducted on September 8, 2009. Further, because the capital cost estimate is  
5 a key component of the utility's long-term feasibility study which the Commission's  
6 rule requires FPL to present annually, FPL also should have revised its feasibility  
7 calculations to reflect the increased capital cost estimate and the correspondingly  
8 lower benefits associated with the increase during the same hearing. I am informed  
9 by OPC's counsel that OPC regards these failures as a violation of the rule governing  
10 the nuclear cost recovery clause.

11 **IV. FPL'S INAPPROPRIATE METHODOLOGY FOR MEASURING**  
12 **LONG TERM FEASIBILITY OF UPRATES**

13 **Q. PLEASE SUMMARIZE THE METHODOLOGY THAT FPL EMPLOYS IN**  
14 **ITS ANALYSIS OF THE LONG TERM FEASIBILITY OF THE UPRATE**  
15 **PROJECTS.**

16 **A.** FPL uses a methodology called the Current Present Value of Revenue Requirements  
17 (CPVRR). Using this methodology, the Company compares the revenue  
18 requirements flowing from a generation portfolio containing the EPU projects to a  
19 generation portfolio without the EPU projects for the entire life of the projects. The  
20 revenue requirements include fuel costs, capital costs, operating costs and all other  
21 costs related to operation of the plants. FPL calculates the present value of these  
22 costs and compares the sum of the revenue requirements for each generation  
23 portfolio. The generation portfolio with the lower CPVRR is considered to be the  
24 more economical portfolio. FPL excludes expenditures incurred prior to the analysis,

1 and includes only the remaining costs to complete the unit as capital costs, on the  
2 basis that the expenses incurred in prior periods are “sunk costs.”

3  
4 **Q. DID YOU ADDRESS THIS CHOICE OF METHODOLOGIES IN THE**  
5 **TESTIMONY THAT YOU SUBMITTED IN DOCKET NO. 100009, PRIOR**  
6 **TO THE DECISION TO DEFER FPL-RELATED ISSUES TO THIS**  
7 **HEARING CYCLE?**

8 A. Yes, I discussed my view of the shortcomings of the methodology as it is applied to  
9 the EPU uprate projects in the prefiled testimony that I presented in Docket No.  
10 100009-EI. The comments that I made in that testimony remain valid.

11  
12 **Q. PLEASE TELL THE COMMISSIONERS WHY YOU BELIEVED THEN,**  
13 **AND CONTINUE TO BELIEVE NOW, THAT FPL’S METHODOLOGY, AS**  
14 **IT IS APPLIED TO THE EPU UPRATE PROJECTS, IS DEFICIENT.**

15 A. The CPVRR method utilizing only cost to complete is appropriate for evaluating a  
16 project with known and stable cost. As I explained in my testimony in Docket No.  
17 100009-EI, this method is not appropriate for evaluating the economics of a project  
18 for which the final estimated cost is rapidly increasing. If the estimated total cost is  
19 increasing at a rate that approximates the expenditures on the project, the cost to  
20 complete will be unchanged while the total project cost is rapidly increasing. This  
21 masks the true picture of whether the project is economically feasible.

22  
23 **Q. ARE THERE INDICATIONS THAT THE SHORTCOMING THAT YOU**  
24 **DESCRIBE IS AFFECTING THE VALIDITY OF THE RESULTS OF THE**  
25 **ANNUAL ANALYSIS THAT FPL CONDUCTS?**

1 A. Yes. As discussed further in the testimony of OPC witness Brian Smith, it appears  
2 that the EPU projects provide net costs, not net benefits, to customers when total costs  
3 of the project are considered and compared to the alternative generation portfolio.  
4 Yet, FPL's feasibility analyses, which ignore past expenditures, continue to show that  
5 the EPU projects have economic benefit.

6

7 **Q. HOW DOES THE METHODOLOGY THAT FPL EMPLOYS TO MEASURE**  
8 **LONG TERM FEASIBILITY OF ITS EPU UPRATE PROJECTS COMPARE**  
9 **TO THAT WHICH IT USES TO ASSESS THE FEASIBILITY OF ITS**  
10 **PROPOSED NEW TURKEY POINT NUCLEAR UNITS?**

11 A. FPL uses a "breakeven" methodology to assess the feasibility of the new Turkey  
12 Point 6 and 7 units. In the breakeven methodology, FPL calculates the total capital  
13 cost at which the CPVRR of a generation portfolio including the new nuclear units  
14 equals the CPVRR of the alternate generation portfolio. If the cost of the new nuclear  
15 units exceeds the breakeven cost, the units are not economically feasible. If the cost  
16 is less than the breakeven cost, they are economically feasible.

17

18 **Q. WHAT INFORMATION DOES A BREAKEVEN ANALYSIS PROVIDE, AND**  
19 **IN WHAT CIRCUMSTANCES IS THIS INFORMATION USEFUL?**

20 A. A breakeven analysis provides the project total cost that the project must come in at  
21 or below for the project to be beneficial to ratepayers. This information is very useful  
22 for project managers to monitor the ultimate feasibility of the project as the project  
23 proceeds. If project cost estimates are rapidly increasing, the breakeven analysis  
24 provides an early warning to project managers that the project may no longer be  
25 feasible.

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**Q. HAS FPL CONDUCTED A BREAKEVEN ANALYSIS FOR ITS UPRATE PROJECTS THAT IS SIMILAR TO THE ONE IT PERFORMS FOR ITS PROPOSED NEW NUCLEAR UNITS?**

A. No. In response to OPC Interrogatory No. 85 (included as Exhibit WRJ-3), which asks FPL to explain why a breakeven cost analysis was conducted for Turkey Point 6 and 7 but not for the EPU project, FPL states:

It is not necessary to perform a breakeven cost analysis in order to evaluate a potential generating unit option.

This response further states:

In its need filing for the Turkey Point 6 and 7 project, FPL chose to introduce a new breakeven cost calculation approach for that specific project. This approach was developed and utilized because of the more numerous areas of uncertainty that would affect the analysis of a much longer-term project.

In testimony (Sim May 2, 2011 page 10, lines 12 – 17), FPL asserts that the comparison of the cumulative net present value of revenue requirements is the appropriate method to use for the uprate projects. FPL offers no explanation for this position.

**Q.DO YOU AGREE WITH FPL ON THIS POINT?**

A. No. I believe the breakeven analysis is more appropriate than the CPVRR methodology for the uprate projects, just as it is the methodology of choice for the proposed new units.

**Q. IN RESPONSE TO OPC INTERROGATORY 85 FPL DISCUSSES ITS USE OF A CPVRR ANALYSIS TO EVALUATE THE WEST COUNTY ENERGY**

1           **CENTER UNITS. DO YOU AGREE THAT THIS IS AN APPROPRIATE**  
2           **ANALOGY?**

3    A.    No, I do not. The use of a CPVRR evaluation is appropriate for the West County  
4           Energy Center Units. These are gas fired, combined cycle units of which hundreds  
5           have been constructed around the country. FPL has extensive experience, including  
6           recent experience, in constructing this type of unit. For a unit with high cost  
7           certainty, such as a combined cycle unit, a CPVRR evaluation is appropriate. This is  
8           clearly not the case for the EPU projects.

9  
10   **Q.    WHAT SIMILARITIES EXIST BETWEEN THE PROJECT TO BUILD NEW**  
11           **UNITS AND THE UPRATE PROJECTS THAT LEAD YOU TO STATE THE**  
12           **SAME TYPE OF FEASIBILITY ASSESSMENT SHOULD BE PERFORMED**  
13           **FOR EACH?**

14   A.    Because of the complexity of the project and FPL's decision to "fast track" its  
15           construction prior to the completion of the engineering design activities that are  
16           necessary to quantify costs, the costs of the EPU uprate projects are as highly  
17           uncertain, if not more so, than the costs of the new Turkey Point units. (I will  
18           develop the level of uncertainty that supports this observation more fully in a later  
19           section of my testimony.) Accordingly, everything that FPL said about the suitability  
20           of the breakeven analysis to the proposed new nuclear units is fully applicable to the  
21           EPU uprate projects. As the uprate projects progress, it is important for project  
22           managers to recognize when the project cost forecast is approaching the point at  
23           which the project is not economically feasible. Reliance on only a CPVRR  
24           methodology can result in the continuation of a project when it is no longer  
25           economically feasible and when it is too late to make necessary changes.

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**Q. WHAT ACTION DO YOU RECOMMEND TO THE COMMISSION ON THIS SUBJECT?**

A. I recommend that the Commission find the long term feasibility methodology that FPL applies to its uprate projects is inappropriate and should not be accepted. I recommend that the Commission find that the results of the feasibility analysis sponsored by FPL in this case are misleading, in that they mask what can be described a “shortfall in cost-effectiveness” of the uprate projects that I attribute to management imprudence. Finally, FPL should be directed to perform a breakeven analysis for its uprate projects similar to that which it prepares annually for its proposed new units.

**V. IMPRUDENCE OF FPL’S MANAGEMENT OF THE EPU PROJECTS**

**Q. HOW IS FPL APPROACHING THE PLANNING AND CONSTRUCTION OF THE EPU UPRATE PROJECTS?**

A. FPL is employing what is called a “fast track” approach.

**Q. WHAT IS A “FAST TRACK” METHOD OF CONSTRUCTING A PROJECT, AND HOW DOES THAT DIFFER FROM A NORMAL APPROACH?**

A. FPL witness Jones, in his May 2, 2011 testimony, at page 17, quotes the Project Management Institute’s “A Guide to the Project Management Body of Knowledge”, third edition. I will quote from the same book, page 146:

Fast Tracking. A schedule compression technique in which phases or activities that normally would be done in sequence are performed in parallel. An example would be to construct the foundation for a building before all the architecture drawings are complete. Fast tracking can result in rework and increased risk. This approach can require work to be performed without

1 complete detailed information, such as engineering drawings. It results in  
2 trading cost for time, and increases the risk of achieving the shortened project  
3 schedule - (emphasis added)  
4

5 **Q. WHAT ARE THE ARCHITECTURE AND ENGINEERING DRAWINGS,**  
6 **AND WHY WOULD PROCEEDING WITHOUT COMPLETE DRAWINGS**  
7 **RESULT IN INCREASE COST FOR THE PROJECT?**

8 A. The architecture and engineering drawings provide the final engineering design of the  
9 project. “Final engineering design” refers to the full specifications (size, materials,  
10 configuration, etc.) of the physical components to be installed. Proceeding without  
11 complete drawings and engineering can result in increased project costs in several  
12 ways. First, as described above, rework may be required if the final design is  
13 different from a preliminary design that is implemented on the project. In addition,  
14 until the final design is complete, the true scope of the project is not known and the  
15 final cost is impossible to estimate with any degree of accuracy. Thus, the actual  
16 final cost may be significantly more than the original estimate because the scope of  
17 work included in the original estimate was incomplete. Finally, an engineering and  
18 construction contractor will not be able to provide a firm bid on a project based only  
19 on preliminary engineering. Since the scope is not known, the risk is too great.  
20 Therefore, to protect itself, an engineering and construction contractor will only  
21 provide a bid on a “time and materials” basis. This results in a high likelihood of  
22 increased costs.

23 **Q. DOES FPL PLAN TO PERFORM WORK WITHOUT COMPLETE DESIGN**  
24 **DRAWINGS?**

25 A. Apparently, FPL is considering this option. The pace of the completion of design  
26 engineering drawings has been far slower than that which would be needed to support  
27 FPL’s implementation schedule. I will develop this point in greater detail later in my

1 testimony. For my immediate purposes, I have attached as Exhibit WRJ-4 a graph  
2 that FPL uprate managers presented to FPL's Executive Steering Committee for the  
3 meeting of October 27, 2010. The graph depicts the actual amount of design  
4 engineering for the St. Lucie uprate project that has been completed over time, and  
5 shows the status (as of the October 2010 meeting) of the design engineering work  
6 relative to the stated target date of July 2011 for 90% completion of the work. To  
7 gain an appreciation for the degree to which the rate of completed design engineering  
8 would have to accelerate in order for FPL to achieve its current schedule for  
9 accomplishing design work, I have added a data point reflecting the status of  
10 engineering as of April 2011 -- the most recent date for which I have FPL data -- and  
11 then drawn a dotted line to connect that date to the target date. The steep dashed line  
12 shows that for FPL to adhere to its schedule for placing the additional megawatts of  
13 capacity associated with the uprate projects into service, either the speed with which  
14 FPL and Bechtel are performing design engineering would have to increase  
15 dramatically—at a rate which experience to date suggests would be highly unlikely—  
16 or FPL would have to perform construction without having completed design work,  
17 which would mean the ultimate costs would be even more uncertain. Of course, the  
18 alternative would be to slip the schedule. However, that would also have  
19 consequences in the form of increased costs and a smaller amount of time within  
20 which to generate fuel savings sufficient to offset the capital costs of the uprate  
21 additions before the nuclear units' operating licenses expire—all of which has  
22 implications for the projects' economic feasibility. To date, FPL's position has been  
23 that it intends to adhere to the existing schedule, notwithstanding the large amount of  
24 design engineering that remains to be done. That plan necessarily entails the type of  
25 cost risk to which the publication refers. FPL witness Jones, in his deposition, stated

1 that if portions of the design engineering are not ready in time to support the  
2 implementation schedule, it would be possible to undertake construction “at risk” in  
3 advance of the completion of design work (Jones deposition transcript, June 22, 2011,  
4 at pages 23 – 24). This, as his term “at risk” implies, is very risky from a cost,  
5 schedule and NRC point of view.

6  
7 **Q. IS FAST TRACKING APPROPRIATE FOR PROJECTS SUCH AS THE FPL**  
8 **EPU PROJECTS?**

9 **A.** In my opinion, it is not. I agree wholeheartedly with FPL witness Jones when he says  
10 “The EPU project is of extraordinary managerial and technical difficulty. FPL’s EPU  
11 project represents one of the largest and most complex nuclear design, engineering  
12 and construction projects undertaken in the nuclear industry since the construction of  
13 the last generation of U.S. nuclear plants.” (Jones May 2, 2011 testimony, page 4,  
14 lines 16 – 19) However, this has been true of the projects from the outset. These  
15 projects represent a combined 450MWe of nuclear capacity, which is larger than  
16 some existing nuclear plants. Practically all of the last generation of nuclear projects  
17 to which Mr. Jones refers were built with variations of fast track, time-and-material  
18 contracts with disastrous results from a cost and scheduling standpoint. The utility  
19 industry said “never again.” For the current generation of new nuclear units, utilities  
20 have chosen to negotiate contracts that have fixed scope and fixed price features to  
21 control cost and provide some degree of cost certainty to ratepayers, stockholders  
22 and regulators. This is the approach wisely taken by FPL and PEF in approaching the  
23 Turkey Point 6&7 and Levy 1&2 projects. Nevertheless, FPL has chosen to approach  
24 the EPU projects in the same, high risk manner in which the last generation of nuclear  
25 units were built.

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**Q. DOES FPL ACKNOWLEDGE THAT THE FAST-TRACK PROCESS HAS CAUSED PROBLEMS?**

A. Yes. On July 25, 2009, the EPU project management gave a presentation to the Executive Steering Committee (ESC) revealing significant project cost increases. Part of the presentation consisted of project management executives discussing the "lessons learned" so far in the project. Concerning the fast-track process, the following bullets were included:

- o Underestimated the risk and costs associated with the fast track project concept (Turkey Point 7/25/2009 update page 39-Bates 000094)
- o Fast Track Modification Control(Turkey Point 7/25/2009 update page 40-Bates 000095)
  - o Looked at the project only from a high level risk assessment
  - o Should have don(e) a more detailed risk assessment when establishing the budget
  - o Did not assess the quality of original site staffing due to fast tracking

These comments are from the Turkey Point presentation. Those from the St. Lucie presentation are essentially the same. (Bates number 000474 and 000475)

**Q. DID THE PROJECTS START OUT AS FAST TRACK PROJECTS?**

A. No. Based on information that OPC acquired from FPL's former Vice President - Upates during discovery, it is my understanding that FPL contemplated proceeding with the uprate activities using FPL's normal project management process before senior management directed project managers to use the "fast track" approach to

1 attempt to place the additional megawatts on line by 2012. See Exhibit WRJ-11.

2 Pages TR-25-28.

3

4 **Q. IS THE STATUS OF PROJECT DESIGN COMPLETION AN**

5 **IMPORTANT FACTOR IN THE SUCCESS OF A PROJECT?**

6 A. In my opinion, it is extremely important. Completing the design is the key to

7 knowing the cost and schedule. Prior to the design reaching a relatively high state

8 of completion a significant amount of uncertainty exists in the key drivers of

9 project cost and schedule including:

10 • Number of modifications to be installed;

11 • Estimated craft manhours;

12 • Estimated engineering costs;

13 • Estimated equipment costs;

14 • Estimated material costs;

15 • Licensing requirements;

16 • Project critical path.

17 As a result, cost and schedule estimates for a fast track project are highly

18 uncertain. Actual projects costs are likely to exceed initial estimates as the design

19 of the project is completed and the scope of the project is identified. Initiating a

20 very large and complex project with a high level of cost and schedule uncertainty

21 can lead to an unsuccessful project that does not provide the hoped for benefits.

22

23 **Q. DOES COST CERTAINTY INCREASE AS DESIGN ENGINEERING**

24 **ADVANCES TOWARD COMPLETION?**

1 A. Yes, and FPL agrees. Page 10 of the September 9, 2009 presentation to the FPL  
2 Executive Steering Committee (ESC) states:

3 Engineering and Design will complete in December 2010  
4 improving cost certainty.  
5

6 (As of April 18, 2011, only 31% of the engineering design projects, called  
7 modifications or “mods,” have been completed.)

8 Page 7 of the March 8, 2010 presentation (a little over a year ago) to the ESC states:  
9

10 The project is at the very early stages of design. Cost  
11 certainty will improve as design is completed.  
12

13  
14 **Q. THESE QUOTATIONS ABOVE REFER TO THE “DESIGN”. WHAT IS  
15 MEANT BY THAT?**

16 A. These statements are referring to design engineering. The project record is full of  
17 references to cost uncertainty usually associated with the status of the design  
18 engineering of project modifications. Design engineering on this project is divided  
19 into discrete packages that are associated with a particular project or modification.  
20 Examples are Turkey Point Unit 3 Main Feed Pump Replacement, Condensate Pump  
21 and Motor Replacement and Containment Cooling Modifications. The total EPU  
22 projects currently consist of 209 Mods, including 95 at St. Lucie and 114 at Turkey  
23 Point. Over the past year, the projects have grown from 191 to 209 Mods, and there  
24 likely will be more.  
25

26 **Q. WHAT IS THE STATUS OF DESIGN ENGINEERING AT THIS TIME?**

27 A. As I said earlier, the latest information that I have is as of April 2011. It was supplied  
28 by the Company in its response to OPC Interrogatory 50. It states that 31% or 65 of  
29 the 209 Mods have completed design engineering allowing some cost certainty for  
30 those Mods. From January 2010 until the latest data provided by FPL in April 2011,

1 a period of 15 months, the FPL EPU organization has completed the design of 65  
2 Mods (31%) or a little over 4 per month. They are scheduled to complete all 209  
3 Mods by the end of 2011, or 144 over 8 months, or about 18 per month, requiring a  
4 significant increase in the completion rate achieved to date. WRJ-4, to which I  
5 referred earlier, is a graph from the October 27, 2010, meeting showing the schedule  
6 for Design Modification completion. The dotted line indicating the slow pace of the  
7 progress during the six months prior to April 18, 2011 and the additional line  
8 indicating the steep rate of acceleration that would be needed to enable FPL to remain  
9 “on course,” provide a dramatic visual of the lack of engineering progress.

10  
11 **Q.COULD IT BE THAT A NUMBER OF MODS ARE ALMOST COMPLETE?**

12 A. According to the data, there are 23 Mods that are between 90% and 100% complete  
13 and 37 that are between 30% and 90% complete. There are 67 that are between 0%  
14 and 30% complete and 17 that have not been started. I do not find these figures  
15 encouraging.

16  
17 **Q.IS THE COMPANY CONCERNED ABOUT THIS SITUATION?**

18 A. Yes, they are. In the March 23, 2011, ESC presentation (Exhibit WRJ-5) on page 21,  
19 FPL states that:

20  
21 **Bechtel (the EPC contractor) has struggled with meeting**  
22 **pre-outage milestones for design modifications**  
23 **requiring increased focus and management attention.**  
24

25 It also states that recovery plans have been established. FPL witness Jones stated in  
26 his deposition of June 22, 2011 that he has started contracting out some of the work to  
27 other engineering firms. (Jones deposition transcript, June 22, 2011, page 42, lines 22  
28 – 24) With an outage starting in five months, this may be too little, too late. I have  
29 noted in the Company’s response to OPC Interrogatory No. 56, which asks for the

1 outage schedule, that every outage date is prefaced with the tentative “currently  
2 scheduled.”

3  
4 **Q. HAS LATE ENGINEERING ALREADY CAUSED DELAYS IN**  
5 **COMPLETING THE EPU PROJECTS?**

6 **A.** Yes. The outage for completion of implementation of the first EPU project, St. Lucie  
7 1, has slipped three months from [REDACTED], to [REDACTED]. The other  
8 outages have slipped some also. The ESC was told at its March 23, 2011, meeting  
9 (ESC slides, page 36) (Exhibit WRJ(FPL)-6)

10 Moved outage start dates to provide additional time for  
11 engineering and planning, bringing more certainty with  
12 execution.  
13

14 **Q. WHAT IS THE CURRENT OVERALL STATUS OF THE PROJECTS?**

15 **A.** As witness Jones indicates in his testimony, the projects are still in the early  
16 stages. Engineering is only 50% complete on a manhour basis and only 31% of  
17 the known project modification designs are complete. At this point, according to  
18 Dr. Sim, FPL has spent only \$700 million out of \$2.48 billion total. The first  
19 major EPU implementation and completion outage is coming up at St. Lucie 1,  
20 only some 4 ½ months away, and I would point out that for that outage only 15 of  
21 45 currently identified Mods have completed engineering. FPL has hired an  
22 outside estimating firm to help cost out the completion on over 100 Mods for  
23 Turkey Point, indicating that they are a long way from having costs nailed down  
24 on construction at Turkey Point. (FPL Response to OPC Interrogatory No. 83)  
25 Because this Turkey Point estimating work is in the early stages, I expect that the  
26 estimating for construction at St. Lucie is also very early in its development. FPL  
27 has to spend almost \$2 billion (according to their soft numbers) over the next 18

1 months for work that is, as of today's date, unplanned and unpriced. Based on  
2 what they know now, the almost \$2 billion can only be an uneducated guess.

3  
4 **Q. ARE THERE OTHER ISSUES THAT ARE OF CONCERN FOR THE EPU**  
5 **COST AND SCHEDULE?**

6 A. Yes. Witness Jones identifies a number of additional problems beside the design  
7 in his May 2, 2011, testimony: (Jones May 2, 2011, testimony, pages 35 – 38)

- 8 • Structural Integrity-This factor deals with the ability of existing buildings,  
9 floors, walls, etc. to support new, heavier equipment in place and also as the  
10 equipment is transported to its proper position in the plant. This engineering  
11 and planning work has not been accomplished and will cause additional  
12 engineering as well as construction.
- 13 • Limited Work and Staging Space—Because of the numerous mods to be  
14 accomplished at the same time, the planning and scheduling of simultaneous  
15 projects in the same work spaces are very difficult. This will cause additional  
16 engineering and labor costs.
- 17 • Rigging of Equipment—Mr. Jones states that some of the equipment to be  
18 replace or modified weigh up to 185 tons. Some of it is in places that are  
19 difficult to access. The additional costs are associated with engineering and  
20 implementation of this unplanned for work.
- 21 • Operating Plant Environment—I discussed this earlier. This means that every  
22 action taken inside a licensed nuclear power plant must take into account the  
23 plants NRC technical specifications. For example, there will some equipment  
24 that cannot be taken out of service unless a backup is in operation. Physical  
25 security, health physics, and radiation protection specifications must be

1 strictly adhered to. Fitness for duty requirements must be applied to all plant  
2 and contractor personnel.

- 3 • Work Order Planning and Integration with Routine Outage Activities—Work  
4 in operating nuclear facilities must be detailed with strict, specific procedures  
5 that must be developed before work begins. Also, during a refueling outage at  
6 a nuclear power plant, there is a beehive of activity that will be taking place  
7 normally without the installation of the 209 mods. Coordination of these  
8 efforts will increase cost and lengthen schedules.

9 Witness Jones indicates in his response to OPC INT 80 that:

10 ...the extent and impact of these complicating factors cannot be fully  
11 determined until the associated engineering and construction planning  
12 activities are completed.  
13

14 **Q. WHAT DO YOU CONCLUDE CONCERNING THE MANAGEMENT OF**  
15 **THE FPL EPU PROJECTS?**

16 **A. I conclude that that the decision to fast track these projects and to pursue them**  
17 **without performing a breakeven analysis was an imprudent decision on the part of**  
18 **FPL management. I expect significant increases in project cost and more project**  
19 **delays in the coming two years. Project cost will not be known until the project is**  
20 **complete, rendering FPL's feasibility analyses of relatively little use. This fast**  
21 **track decision will likely result in costs that will significantly exceed the cost of**  
22 **the studied alternative.**

23 **Q. HOW WOULD YOU DESCRIBE THE NATURE OF FPL'S EPU**  
24 **PROJECTS, IN TERMS OF THE DEGREE OF UNCERTAINTY AND**  
25 **COMPLEXITY?**

26 **A. As witness Jones states in his testimony and I have discussed above, the EPU**  
27 **projects are the largest and most complex since the last generation on U.S. nuclear**

1 plants. I would maintain that it is even more complex, because it must be  
2 accomplished within existing, operational nuclear plants, creating all the  
3 expensive complications that witness Jones discusses so well. I would add,  
4 however, that witness Jones' points regarding complexity have been known from  
5 the beginnings of the project, and demonstrate why the decision to "fast track" the  
6 uprate projects was so risky.

7  
8 **Q. IN YOUR OPINION, DO FPL'S ESTIMATED COSTS CONTAIN**  
9 **ENOUGH CONTINGENCY AT THIS TIME GIVEN THE PRESENT**  
10 **STATUS OF THE EPU PROJECTS?**

11 A. No, they do not. In its answer to OPC Interrogatory 77, FPL states that its  
12 contingency in its current number is from 0 to 7%, which seems quite small  
13 considering that the engineering is only 50 % complete and the major construction  
14 has not yet been estimated to the level of detail necessary to set up construction  
15 contracts (See response to OPC Interrogatory 83.) In my opinion, a higher  
16 contingency commensurate with the current design and construction status would  
17 be appropriate.

18  
19 **Q. FPL'S PAST AND CURRENT FEASIBILITY ANALYSES INDICATE**  
20 **THE EPU UPRATE PROJECT HAVE BEEN AND ARE CURRENTLY**  
21 **COST-EFFECTIVE TO CUSTOMERS. DOES THAT ALLAY YOUR**  
22 **CONCERNS REGARDING THE SIGNIFICANT INCREASES IN THE**  
23 **CAPITAL COSTS THAT FPL HAS ESTIMATED IT WILL INCUR TO**  
24 **COMPLETE THE PROJECTS?**

1 A. No, it does not. As I discussed above, the capital costs are still uncertain at this  
2 point. As OPC Witness Brian Smith points out, the EPU projects are not feasible  
3 under the base case assumptions when costs spent to date are included. FPL has  
4 not calculated a break-even cost and therefore does not know how much the  
5 ratepayers can afford for them to spend on the projects. I recommend that the  
6 Commission order FPL to immediately submit a breakeven analysis for the EPU  
7 projects. The St. Lucie and Turkey Point projects should be looked at separately  
8 in the analysis, with a break-even cost identified for each project.

9  
10 **Q. WHY DO YOU RECOMMEND SEPARATE ANALYSES FOR EACH**  
11 **PROJECT?**

12 A. At current estimates, the Turkey Point project's estimated cost is approximately  
13 \$250 million more than the estimate for St. Lucie. It is my understanding that the  
14 capacity increase for the Turkey Point EPU project is less than that for St. Lucie.  
15 In addition, the operating licenses for Turkey Point expire in 2032 and 2033,  
16 while St. Lucie's operating licenses expire in 2036 and 2043, giving St. Lucie 14  
17 more unit-years of operation. Bear in mind that the economic feasibility of an  
18 uprate project depends on the ability of the additional megawatts of nuclear  
19 capacity to generate fuel savings over time that will more than offset the "price  
20 tag" of capital investment. The higher capital costs, lower increments of  
21 additional nuclear generating capacity, and shorter periods of service present a  
22 greater "hurdle" that the Turkey Point uprate activities must overcome to  
23 demonstrate economic feasibility. These differences between the two plants may  
24 possibly show that the St. Lucie EPU has been "carrying" the Turkey Point EPU.

1 In any event, the differences warrant separate analyses for the plant sites, and  
2 separate decisions with respect to whether each should continue.

3

4 **Q. TO BE CLEAR, HOW HAS MANAGEMENT IMPRUDENCE IN**  
5 **MANAGING THE EPU UPRATE PROJECTS, IN YOUR OPINION,**  
6 **CONTRIBUTED TO THE SITUATION IN WHICH, WITH RESPECT TO**  
7 **WHETHER CUSTOMERS WILL REALIZE NET BENEFITS OR NET**  
8 **ADDITIONAL COSTS, THE ECONOMIC FEASIBILITY OF THE**  
9 **PROJECT IS QUESTIONABLE?**

10 **A.** FPL's imprudent decision to fast track the EPU projects has led to a situation in  
11 which FPL is spending substantial sums of money very quickly while not  
12 knowing what the final bill is going to be. As FPL has acknowledged, it is  
13 impossible to know what the projects will cost until the designs are complete.  
14 The final designs were only 31% complete as of April 18, 2011. By using  
15 inaccurate, understated estimates of project costs and ignoring money already  
16 spent, the projects will always look feasible even though they may ultimately cost  
17 the rate payer more than the alternative generation portfolio.

18

19 **Q. EVEN IF FPL'S EPU UPRATE PROJECTS TURN OUT TO BE NOT**  
20 **COST-EFFECTIVE, ISN'T THAT OFFSET BY THE PROJECT'S FUEL**  
21 **SAVINGS, FUEL DIVERSITY AND LOWER EMISSIONS OF**  
22 **GREENHOUSE GASES?**

23 **A.** Project fuel costs are the majority of costs that are included in the CPVRR or  
24 breakeven analyses. Thus, these savings are already considered. The cost of  
25 greenhouse gases is also taken into account in CPVRR and breakeven analyses.

1 The value of fuel diversity has not been quantified, and should be a matter of  
2 Commission policy; however, the fuel diversity benefits cannot be evaluated in  
3 isolation from a realistic appraisal of economic feasibility, and would not be  
4 worth pursuing at some level of cost.

5  
6 **Q. WHAT DO YOUR OBSERVATIONS REGARDING MANAGEMENT**  
7 **IMPRUDENCE INDICATE WITH RESPECT TO THE AMOUNTS**  
8 **COLLECTED FROM CUSTOMERS IN 2009, 2010, 2011, AND THE**  
9 **AMOUNT THAT FPL WISHES TO COLLECT IN 2012?**

10 **A.** I recommend that the Commission require the Company to determine a breakeven  
11 cost for each project. The Company should be allowed to collect future amounts  
12 up to the breakeven costs. Amounts for 2009, 2010, 2011 and 2012 could be  
13 collected as long as the breakeven values have not been exceeded. The amount of  
14 the breakeven cost could be reviewed and trued up each year.

15  
16 **Q. BASED ON YOUR TESTIMONY ON THE SUBJECT OF PRUDENCE,**  
17 **WHAT ACTION DO YOU RECOMMEND TO THE COMMISSION?**

18 **A.** I recommend that the Commission take the following actions:

- 19 1. Order FPL to submit a breakeven analysis for each EPU project, St. Lucie  
20 and Turkey Point.
- 21 2. Based on these analyses, determine if Turkey Point EPU should be  
22 continued.
- 23 3. Limit future recovery of EPU capital cost to the amounts determined in the  
24 final breakeven analyses as filed by FPL at the conclusion of the project  
25 and reviewed and approved by the Commission.

1           **VI. THE 2009 ESTIMATES OF UPRATE-RELATED CAPITAL COSTS**

2   **Q.   HOW DID YOU CONDUCT YOUR REVIEW OF THE 2009 ESTIMATES OF**  
3   **UPRATE-RELATED CAPITAL COSTS TO ASCERTAIN WHETHER THE**  
4   **MAY 2009 ESTIMATES REPORTED IN FPL'S PREFILED TESTIMONY**  
5   **SHOULD HAVE BEEN UPDATED PRIOR TO OR DURING THE**  
6   **SEPTEMBER 2009 EVIDENTIARY HEARING?**

7   A.   As the Commission learned last year, in February 2010 FPL engaged Concentric  
8   Energy Advisors to investigate an employee complaint letter. In the letter the author  
9   expressed his concern about (among other things) the disregard with which managers  
10   of the uprate projects treated indications that the costs of the projects were rapidly  
11   increasing beyond the initial estimates, and the manner in which FPL would report  
12   those increases in the costs of the uprate projects to the Commission. In June 2010,  
13   John Reed, President of Concentric Energy Advisors, submitted to FPL a report in  
14   which Mr. Reed concluded that the May 2009 estimates contained in FPL's prefiled  
15   testimony were not the best information known by FPL at the time of the September  
16   2009 hearing, and that FPL's witness should have revised the estimate to reflect the  
17   utility's then current view of the costs. As the Commission is also aware, FPL took  
18   issue with its consultant's finding in this regard prior to the time that the Commission  
19   deferred FPL-related issues to the 2011 hearing cycle. In this docket, Mr. Reed has  
20   reiterated his conclusion that FPL should have revised its estimate of capital costs  
21   upward prior to or during the September 2009 hearing, while FPL witnesses Art Stall  
22   and Armando Olivera contend that, because the updated cost information was subject  
23   to further review and efforts to control, FPL had no basis on which to revise its May  
24   2009 prefiled testimony at the time of the September hearing. OPC asked me to  
25   perform an independent review of the facts and circumstances that gave rise to these

1 differing assertions, and form my own conclusion regarding whether FPL should have  
2 updated its May 2009 testimony to reflect higher projected capital costs at the time of  
3 the September 2009 hearing.

4  
5 **Q. WHAT INFORMATION DID YOU REVIEW IN FORMULATING YOUR**  
6 **OPINION?**

7 A. The documents and materials that OPC requested in discovery and that I reviewed for  
8 this purpose include the bulk of the materials that Mr. Reed listed in his June, 2010  
9 report. In addition to these materials, I reviewed FPL's answers to OPC's  
10 interrogatories, FPL's prefiled testimony in this docket and the transcripts of the  
11 depositions of Art Stall, John Reed, and Terry Jones. By telephone, I monitored the  
12 deposition of former FPL Vice President-Uprates Rajiv Kundalkar, who sponsored  
13 the May 2009 prefiled testimony on the subject of capital cost estimates during the  
14 September 2009 hearing.

15  
16 **Q. PLEASE DESCRIBE THE FACTS ON WHICH YOU BASE YOUR**  
17 **CONCLUSION THAT FPL DID NOT PRESENT THE BEST AVAILABLE**  
18 **INFORMATION REGARDING ITS ESTIMATE OF THE COSTS OF**  
19 **COMPLETING THE UPRATE PROJECTS DURING THE SEPTEMBER 2009**  
20 **EVIDENTIARY HEARING.**

21 A. The original estimate for the EPU projects was based on conceptual scoping studies  
22 and indicative bids from the EPC contractor. Detailed engineering was essentially at  
23 zero percent, and there was a high degree of uncertainty in the project estimate.  
24 During 2009, EPU project management made monthly presentations on the EPU  
25 project, including cost estimates, to FPL's Executive Steering Committee (ESC). In

1 the May 2009 presentation to the ESC, the total cost forecast for both St. Lucie and  
2 Turkey Point remained the same as the original estimate. (OPCPOD1, No. 9,  
3 FPL000103 – 000132) (Exhibit WRJ-7) However, a closer examination of the May  
4 2009 forecasts shows that the total of costs for engineering, materials and  
5 implementation had increased from the original estimate by over 25% for St. Lucie  
6 from (\$475 million to \$595 million) and over 27% for Turkey Point from (\$546  
7 million to \$696 million).

8  
9 **Q. PLEASE EXPLAIN HOW THESE CATEGORIES COULD HAVE**  
10 **INCREASED IF THE OVERALL ESTIMATE DID NOT CHANGE.**

11 A. At the outset of the project, the uprate managers included a component in the estimate  
12 that they labeled “Scope not estimated.” Thereafter, each increase in costs that the  
13 managers identified was assumed to reduce the “Scope not estimated” by the same  
14 amount.

15  
16 **Q. DO YOU AGREE WITH THE MANNER IN WHICH FPL USED “SCOPE**  
17 **NOT ESTIMATED” TO MAINTAIN A CONSTANT PROJECT ESTIMATE?**

18 A. No. Necessarily, the premise for the practice is that FPL had accurately quantified,  
19 to the dollar, the ultimate cost of the project, when in fact FPL, because of its decision  
20 to “fast track” the decision, had little grasp on the costs that would be incurred. FPL  
21 had no basis for using the “Scope not estimated” as a “balancing adjustment.” In his  
22 report, John Reed of Concentric Energy Advisors also criticized this practice.

23  
24 **Q. PLEASE CONTINUE.**

1 A. The Cost and Budget Summary maintained a constant Total project cost by reducing  
2 the cost allocation for “Scope not estimated” from \$182 million to \$69 million for St.  
3 Lucie and from \$204 million to \$50 million for Turkey Point. As of May 2009 there  
4 was clearly upward pressure on the estimated cost of the project. In the June 2009  
5 ESC presentation the Total cost estimate for St. Lucie and Turkey remained the same  
6 but the “Scope not estimated” component had dwindled to \$14 million for St. Lucie, a  
7 92% decrease from the original \$182 million and to \$28 million for Turkey Point, an  
8 86% decrease from the original \$204 million. (OPCPOD1, No. 11, FPL000191 –  
9 000219) Projects costs had not stabilized and were continuing to increase. At the  
10 July 2009 ESC meeting, the current forecast for St. Lucie was shown to have  
11 increased by \$139.6 million above the original estimate and the current estimate for  
12 Turkey Point was \$160.6 million above the original estimate. (OPCPOD1, No. 5,  
13 FPL000056 – 000095 and OPCPOD1, No. 12, FPL000424 – 000475) (Exhibit WRJ-  
14 8 and Exhibit WRJ-9) In June 2009, the allowance for “Scope not estimated” had  
15 been exhausted, and FPL had to fully recognize the increase in project cost in the July  
16 ESC meeting. The July 2009 ESC presentations included a detailed, line-by-line  
17 presentation of costs as FPL management attempted to identify and understand the  
18 reasons for the cost increases.

19

20 **Q. ARE THERE OTHER ASPECTS OF THE JULY 2009 PRESENTATION TO**  
21 **THE ESC THAT ARE SIGNIFICANT?**

22 A. Yes. The July 2009 ESC presentation also reflected the results of the recent efforts  
23 by the EPU management team to rein in Bechtel’s increasing cost estimates. The July  
24 2009 ESC presentation also contains an updated feasibility analysis conducted by an  
25 FPL analyst (not Dr. Sim) to examine whether the EPU projects remained

1 economically feasible (using FPL's methodology) at the new higher cost estimates.  
2 The feasibility analysis in the July 2009 ESC presentation used a combined EPU total  
3 cost of \$1.706 billion, compared to the \$1.407 billion used in the original  
4 Determination of Need filing and in FPL's 2008 and 2009 NCRC testimony. See  
5 page 50 of Exhibit WRJ-9.

6 **Q. WHAT HAPPENED AFTER JULY 2009?**

7 A. Upward cost pressures continued, as the August 2009 cost estimate shown in the  
8 September 2009 ESC presentation increased again from \$1.706 billion to \$1.850  
9 billion. From the above presentation demonstrating continued increasing costs  
10 throughout the spring and summer of 2009 and the use of the increased cost estimates  
11 in the updated feasibility analysis, I conclude that the cost estimate submitted in  
12 FPL's prefiled testimony in May 2009 was clearly stale and should have been  
13 updated prior to or during the hearing in September 2009. In addition, FPL should  
14 have updated the feasibility analysis that it presented at the September 2009 hearing  
15 to reflect the increased estimates of capital costs.

16  
17 **Q. HOW WOULD YOU COMPARE YOUR CONCLUSION WITH THAT OF**  
18 **CONCENTRIC ENERGY ADVISORS, AS EXPRESSED IN ITS JUNE 21,**  
19 **2010, INVESTIGATION REPORT?**

20 A. I reached the same conclusion as Mr. Reed with respect to whether the capital cost  
21 estimate should have been updated, with one difference. Mr. Reed approached his  
22 task from the standpoint of whether FPL adhered to its own internal policies  
23 regarding, among other things, communications to the Commission. My approach is  
24 to assess whether FPL met *Commission* requirements for submissions in the nuclear  
25 cost recovery clause, including the requirement of Rule 25-6.0423 that it provide an

1 analysis of the long term feasibility of the uprate project annually. Regardless of the  
2 methodology that is used, a proper analysis of the long term feasibility of the uprate  
3 project requires that the best available information regarding the capital costs of the  
4 project be used as an input to the analysis. This was not done in the September 2009  
5 hearing.

6  
7 **Q. FPL HAS ASSERTED THAT FPL HAD NO OBLIGATION TO UPDATE THE**  
8 **TESTIMONY ON CAPITAL COSTS BECAUSE DESIGN ENGINEERING**  
9 **HAD NOT BEEN COMPLETED FOR THE PROJECTS. DO YOU FIND**  
10 **THIS PERSUASIVE?**

11 A. No, I do not. Design engineering for the project will not be complete until shortly  
12 before the project itself is complete. For example, as of April 18, 2011 design  
13 engineering has been completed for only 31% of the Plant Change Modifications.  
14 (Response to OPC Interrogatory 50) The logical extension of FPL's assertion is that  
15 FPL would need to update its initial estimate of capital costs (formed when little  
16 engineering had been done) and adjust the capital cost input to its ongoing economic  
17 feasibility analyses only when the project is virtually complete. This approach would  
18 frustrate the ability of the Commission to monitor the feasibility of the project over  
19 time. Further, when FPL updated capital costs in May 2010, design engineering was  
20 only 10% complete.

21  
22 **Q. FPL HAS ALSO CONTENDED THAT AT THE TIME OF THE JULY 2009**  
23 **PRESENTATION TO THE ESC THERE EXISTED OPPORTUNITIES TO**  
24 **REMOVE SCOPE FROM THE PROJECTS, AND THEREFORE THE**

1           **NUMBERS WERE PRELIMINARY AND NOT YET READY TO REPORT**  
2           **TO THE COMMISSION. HOW DO YOU RESPOND?**

3    A.    I respond in two ways. First, the July 2009 cost estimates were the result of extensive  
4           line by line analyses of the capital costs which included identification and  
5           quantification of all known reductions in scope. The reductions in scope were  
6           quantified and reflected in the revised estimate of capital costs. See page 9 of Exhibit  
7           WRJ-9. It is doubtful that additional reductions in scope would be identified at a later  
8           date that would have a significant impact on the July 2009 estimate. This is borne out  
9           by the fact that FPL increased its estimate of capital costs materially above the July  
10          2009 estimate in the following month. Secondly, FPL could have provided the latest  
11          cost estimates and informed the Commission of their preliminary nature with a  
12          promise to provide the Commission with the latest update when it became more firm.  
13          FPL should have informed the Commission of this latest cost estimate.

14  
15    **Q.    FPL SAYS THAT IT DIRECTED ITS UPRATE MANAGERS TO REDUCE**  
16           **COSTS BY “PUSHING BACK” AGAINST BECHTEL. IT SAYS THAT**  
17           **BECAUSE IT HAS NOT ACCEPTED BECHTEL’S ESTIMATE, IT WAS**  
18           **UNDER NO OBLIGATION TO REGARD THE JULY 25 ESTIMATES AS**  
19           **HAVING SUPERSEDED THE MAY TESTIMONY. WHAT IS YOUR**  
20           **RESPONSE?**

21    A.    Again, the July 2009 cost estimates include the results of FPL’s initiatives to push  
22           back against Bechtel. In the May 2009 and June 2009 presentations, uprate managers  
23           laid out a program of steps through which they intended to resolve their challenges to  
24           Bechtel’s new, higher estimates. The program contemplated a flurry of measures  
25           designed to bring closure to the challenges within a 30 day time frame ending in late

1 June 2009. A table in the implementation section of the July 2009 report for both St.  
2 Lucie and Turkey Point presents the results of extensive negotiations with Bechtel  
3 that are incorporated in the July 2009 cost estimate. These tables entitled "Bechtel  
4 proposal Estimate Changes" show the following cost changes resulting from the  
5 negotiations with Bechtel::

- 6 ● Original P50 Submittal;
- 7 ● Most Likely P50;
- 8 ● Most Likely P50 Rev 1;
- 9 ● Reduced Scope Hours;
- 10 ● Consolidated Procurement;
- 11 ● Reduced Engineering manhours and Construction.

12 Page 28 of 52 of Exhibit WRJ-9 is a bar graph that was part of the presentation to the  
13 ESC during the July 2009 meeting. It indicates that FPL's program of challenging  
14 Bechtel's numbers resulted in a decrease in Bechtel's estimate of EPC-related costs  
15 from the \$■■■ million contained in Bechtel's May 12 presentation to \$■■■ million by  
16 the time the package for the July meeting was prepared. In short, negotiations with  
17 Bechtel were far along at the time the July 2009 estimate was developed and  
18 meaningful reductions in Bechtel's cost estimate were clearly identified.

19  
20 **Q. FPL HAS ALSO MAINTAINED THAT BECAUSE IT WAS CONSIDERING**  
21 **EITHER SELF--PERFORMANCE OR REPLACING BECHTEL WITH A**  
22 **DIFFERENT EPC CONTRACTOR, THE JULY 2009 PRESENTATION WAS**  
23 **TOO PRELIMINARY TO HAVE THE EFFECT OF SUPPLANTING THE**  
24 **MAY 2009 TESTIMONY. DOES THIS CONTENTION PERSUADE YOU**

1           **THAT FPL HAD NO OBLIGATION TO UPDATE ITS TESTIMONY BY THE**  
2           **TIME OF THE SEPTEMBER 2009 HEARING?**

3    A.    No, it does not. In July 2009, Bechtel was the primary EPC contractor and any steps  
4           to self-perform or replace Bechtel were very preliminary. FPL could have qualified  
5           their July 2009 estimate by stating that they were evaluating a self-performing option  
6           or replacing Bechtel. In any event, FPL should have notified the Commission of the  
7           July 2009 estimate with whatever qualifiers were needed.

8  
9    **Q.    WOULD REPORTING A HIGHER ESTIMATE OF CAPITAL COSTS HAVE**  
10           **UNDERMINED FPL'S ABILITY TO NEGOTIATE WITH BECHTEL FOR**  
11           **THE BENEFIT OF CUSTOMERS?**

12   A.    No. Aside from the fact that the negotiations had borne fruit by July 25, 2009, it is  
13           important to remember that the EPC contract with Bechtel is essentially an agreement  
14           to compensate Bechtel for "time and materials" associated with its services. At issue  
15           at the time was Bechtel's estimates of labor that would be required. While of course  
16           FPL's objective properly was and is to require accurate and reasonable estimates,  
17           reporting a higher estimate to the Commission would not jeopardize FPL's ability to  
18           hold Bechtel to only the levels of staffing that would be required to actually perform  
19           the project as it progressed by supervising Bechtel and reviewing invoices so as to  
20           guard against paying for inefficiencies.

21  
22   **Q.    FPL POINTS TO THE FACT THAT ITS PROCESS FOR EVALUATING**  
23           **CAPITAL COSTS WAS NOT FINISHED UNTIL SHORTLY PRIOR TO THE**  
24           **MAY 2010 FILING FOR THE FOLLOWING YEAR, AT WHICH TIME IT**  
25           **PRESENTED ITS FIRST REVISION TO THE ORIGINAL ESTIMATE OF**

1           **CAPITAL COSTS. DOES THIS SUPPORT FPL'S CONTENTION THAT**  
2           **THERE WAS NO NEED TO REVISE THE MAY 2009 ESTIMATES DURING**  
3           **THE SEPTEMBER 2009 HEARING?**

4    A.    No. FPL has argued that a revision could not be made until design engineering had  
5           been completed. At the time of the May 2010 testimony, in which FPL provided a  
6           revised estimate that increased the original estimate by between \$252 million and  
7           \$502 million, by its own account only 10% of the design engineering of the project  
8           had been completed. (Testimony of Terry Jones dated May 3, 2010 page 6, lines 8-9  
9           and 15 and page 36, line 12)

10  
11   **Q.    WHAT IS THE SIGNIFICANCE OF THE UPDATED FEASIBILITY STUDY**  
12       **THAT MANAGERS INCLUDED IN THE JULY 2009 PRESENTATION, AND**  
13       **TO WHICH MR. JOHN REED REFERRED IN CONCENTRIC ENERGY**  
14       **ADVISORS' JUNE 2010 INVESTIGATION REPORT?**

15   A.    The fact that the managers of the uprate project asked for and obtained a revised  
16           feasibility study taking into account both anticipated capacity increases and increased  
17           capital costs reinforces my conclusion that FPL had moved beyond the May 2009  
18           information.

19  
20   **Q.    IN RESPONSES TO OPC DISCOVERY REQUESTS, FPL CONTENDS THAT**  
21       **THE PORTION OF THE JULY 2009 PRESENTATION TO THE ESC THAT**  
22       **IS CAPTIONED AS A "FEASIBILITY ANALYSIS" WAS INSTEAD A**  
23       **"SENSITIVITY STUDY" OF THE ORIGINAL FEASIBILITY ANALYSIS,**  
24       **PERFORMED TO MEASURE THE SENSITIVITY OF THE ORIGINAL TO**  
25       **CHANGES IN CAPITAL COSTS AND MEGAWATT INCREASES. DOES**

1           **THIS CHARACTERIZATION LESSEN THE SIGNIFICANCE OF THE**  
2           **EXERCISE, IN YOUR OPINION?**

3    A.    No. It merely means that FPL held constant all of the variables except those for  
4           which its most recent information exhibited material changes. That is exactly what I  
5           would expect FPL to do with new information regarding higher capital costs and/or  
6           increased capacity. It does not matter whether the calculations are labeled an updated  
7           feasibility analysis or a sensitivity study-the significance is the same under either  
8           designation.

9  
10   **Q.    IN YOUR OPINION, SHOULD FPL HAVE PROVIDED THIS REVISED**  
11       **FEASIBILITY INFORMATION TO THE COMMISSION DURING THE**  
12       **SEPTEMBER 2009 HEARING IN ADDITION TO THE REVISED ESTIMATE**  
13       **OF CAPITAL COSTS, EVEN IF THE RESULTS CONTINUED TO**  
14       **INDICATE THE PROJECTS WERE COST-EFFECTIVE UNDER FPL'S**  
15       **METHODOLOGY?**

16   A.    Yes. FPL has an obligation to keep the Commission fully informed with the latest  
17           available information as the EPU project progresses. This includes material changes  
18           in schedule, cost and/or overall feasibility that occur following the regular submission  
19           date. In addition to a snap shot in time that these data provide, they also allow the  
20           Commission to develop a trend over time which is important in determining the  
21           ultimate success of the project.

22  
23   **Q.    HAVE YOU SEEN ANY INDICATIONS THAT FPL'S MANAGERS**  
24       **CONTEMPLATED UPDATING THE MAY 2009 TESTIMONY AT ANY**  
25       **POINT PRIOR TO THE SEPTEMBER 2009 HEARING?**

1 A. Based on my review, I believe it is clear that, as of the August-September 2009 time  
2 frame, FPL's Vice President-Uprates and FPL's senior management had  
3 communicated on the subject, and had adopted the position that updating the capital  
4 costs was not called for. I did review one document that indicates to me the witness  
5 was considering updating his testimony earlier in the process.

6

7 **Q. PLEASE CONTINUE.**

8 A. In discovery, OPC obtained, and I reviewed, an email that Rajiv Kundalkar, the FPL  
9 witness who sponsored the 2009 cost estimate, wrote to FPL's Chief Nuclear Officer  
10 on May 30, 2009. I am attaching it as Exhibit WRJ-10.

11

12 The memorandum indicates to me that Mr. Kundalkar was considering updating his  
13 testimony once the pending challenges to Bechtel's estimates were resolved at the  
14 time he wrote it.

15

16 **Q. PLEASE EXPLAIN.**

17 A. In this email, after first alluding to the fact that the Commission Staff had requested  
18 copies of all presentations on the uprates to the ESC and the Chief Nuclear Officer,  
19 Mr. Kundalkar stated:

20

21

22

23

24

25

26

27

28

29

30

31

32

In previous planning discussions with Armando and the legal staff we had made them aware of the expected \$\$ estimated could be higher than the \$750 million for PTN and the \$650 million for PSL based on Bechtel's recent view. Therefore, in the May testimony we indicated that FPL will update this related information as soon as final analysis and designs are completed. Armando's advise (sic) at the time was to introduce the topic and collect/finalize the facts and scope for further submittal at appropriate time.

Therefore, the timing of getting the scope firmly defined and validation of estimates becomes very important. We

1 have laid out a schedule that Bechtel and the PTN/PSL/JW  
2 teams are working to be ready for FPL-Bechtel meeting  
3 scheduled for 6/12/09. Also, we will need the same  
4 information for your review and Jim Robo meeting in mid-  
5 late June.  
6

7 I believe the document shows that Mr. Kundalkar was concerned at the time that the  
8 PSC Staff would observe the disparity between the estimates he included in his May  
9 2009 prefiled testimony and the higher estimates that were contained in presentations  
10 to senior management that Staff had requested. It appears to me that at the time he  
11 was writing he regarded the conclusion of the period in which managers were  
12 attempting to bring closure to the Bechtel-related challenges—scheduled to end in  
13 late June—as the point at which pending issues of scope and estimates could be  
14 clarified and the disparity between his testimony and presentations to management  
15 could be addressed.  
16

17 **Q. WHAT DID MR. KUNDALKAR SAY ABOUT THE DOCUMENT?**

18 A. During his deposition, Mr. Kundalkar denied that the memorandum is related to the  
19 subject of updating the May testimony. He maintained that the higher Bechtel  
20 estimates were “unvetted” and referred to the status of design engineering. I am  
21 attaching the pertinent portion of the transcript of Mr. Kundalkar’s deposition as  
22 Exhibit WRJ-11 (see pages TR-56-76). However, even if the witness either had no  
23 intention of updating testimony at the time or changed his mind after he wrote the  
24 memorandum, based on the other matters I have described my opinion is that FPL  
25 should have updated the testimony on estimated capital costs no later than the  
26 September 2009 hearing.  
27

1 **Q. DOES THE FACT THAT DURING THE SEPTEMBER 2009 HEARING**  
2 **WITNESSES KUNDALKAR AND SIM WERE AVAILABLE ON THE STAND**  
3 **TO ANSWER ANY QUESTIONS REGARDING POSSIBLE INCREASES**  
4 **ALTER YOUR CONCLUSION?**

5 A. No.

6  
7 **Q. WHY NOT?**

8 A. In the first place, I believe FPL had a responsibility to be forthcoming with the  
9 information. In addition, neither witness was in a position to provide full information  
10 in response to questions. This is because FPL did not share the fact of a revised  
11 feasibility study containing higher (by \$300 million) July estimates of capital costs,  
12 much less the even higher (by \$144 million) August estimate, with Dr. Sim, who  
13 sponsored the feasibility study that was based on the May 2009 estimate. Further,  
14 FPL did not inform Mr. Kundalkar, who helped present the July data to the ESC  
15 shortly before he was assigned to a different position, that the uprate managers had  
16 increased the estimate of capital costs again (by approximately \$144 million) in  
17 August 2009 before he testified in September 2009. See Exhibits WRJ-12, WRJ-13,  
18 and WRJ-11, at pages TR-131-134.

19  
20 **Q. BASED ON YOUR REVIEW AND ANALYSIS, WHAT DO YOU**  
21 **RECOMMEND THAT THE COMMISSION FIND?**

22 A. I recommend that the Commission find that FPL failed to provide the best, most  
23 current information regarding its estimate of capital costs during the September 2009  
24 hearing when it elected to not update and revise the May 2009 prefiled testimony with  
25 information that was developed between the May filing date and the July 25, 2009

1 meeting of the ESC. Further, because the capital cost estimate is a key input to the  
2 feasibility analysis required by Rule 25-6.0423, F.A.C., to satisfy that requirement  
3 FPL should have updated the feasibility analysis to incorporate the more recent  
4 estimate.

5

6 **VII. TURKEY POINT UNITS 6 AND 7**

7 **Q. HAVE YOU REVIEWED THE STATUS OF TURKEY POINT 6 AND 7 AND**  
8 **THE FPL'S MANAGEMENT OF THIS PROJECT?**

9 A. Yes, I have. I am not taking issue with FPL's approach to the Turkey Point 6 and 7  
10 project at this time.

11

12 **Q. DOES THAT CONCLUDE YOUR TESTIMONY?**

13 A. Yes, it does.

# Exhibit B

**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

In Re: Nuclear Cost Recovery )  
Clause. )  
\_\_\_\_\_ /

Docket No. 110009-EI  
FILED: July 8, 2011

**DIRECT TESTIMONY**

**OF**

**BRIAN D. SMITH**

**ON BEHALF OF THE CITIZENS OF**

**THE STATE OF FLORIDA**

**REVIEW OF FLORIDA POWER AND LIGHT COMPANY'S**

**NUCLEAR COST RECOVERY RULE FILING**



1           **II.    SUMMARY OF TESTIMONY**

2   **Q.    WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

3   A.    In my testimony, I will identify and describe a means of using the same information that  
4           FPL has presented to approximate the extent to which the uprate projects are projected to  
5           be economical or uneconomical for customers. My testimony dovetails with that of Dr.  
6           William Jacobs. In his testimony, Dr. Jacobs describes shortcomings in the methodology  
7           that FPL witness Dr. Steven Sim employs when assessing the long term economic  
8           feasibility of FPL's EPU uprate project. Dr. Jacobs makes the point that with FPL's  
9           current methodology, in which a comparison is made between revenue requirements  
10          associated with a resource plan that includes the uprates and those of a resource plan that  
11          does not include the uprates, the exclusion of amounts spent on the uprate project to date  
12          (so-called "sunk costs") from the capital costs of the 'with uprate' plan that FPL  
13          includes in the comparison--when coupled with a rapidly increasing estimate of the cost  
14          to complete the projects-- causes distortions in the exercise to determine whether the  
15          uprates are cost-effective to customers.

16  
17           **III.   REVIEW OF FPL'S ANALYSIS**

18   **Q    WHAT IS YOUR UNDERSTANDING OF THE APPROACH THAT FPL USES**  
19           **TO EVALUATE THE FEASIBILITY OF THE EPU PROJECT?**

20   A.    FPL's calculations involve the use of computerized simulations to model the manner in  
21          which FPL's system would operate to meet projected customer needs under two  
22          alternative resource plans and quantify the revenue requirements of each of the plans over  
23          time. The objective of each plan is to add generating capacity when needed to maintain

1 FPL's targeted minimum reliability criteria over time. One resource plan incorporates the  
2 EPU uprate projects as the means for satisfying near term increases in demand, while the  
3 other plan does not. FPL's analyst expresses the total revenue requirements of each plan  
4 in terms of the cumulative net present value of those costs. He then compares the  
5 cumulative net present value figures. If the cumulative net present value of the revenue  
6 requirements associated with the resource plan that includes the uprates is lower than the  
7 cumulative net present value of the revenue requirements of the resource plan that does  
8 not include the uprates, then FPL concludes the project is economically feasible.

9  
10 **Q. WHAT IS WRONG WITH THAT APPROACH?**

11 A. As Dr. Jacobs describes, each time FPL has produced a comparison of revenue  
12 requirements (beginning in 2009), FPL has excluded the capital costs of the uprates that it  
13 has already spent. Presumably, for ratemaking purposes FPL will not propose to exclude  
14 this amount: instead, FPL will expect to earn a return on it. Accordingly, the comparison  
15 of resource plans that FPL performs for the long term feasibility analysis understates the  
16 revenue requirements associated with the uprates that it will seek to collect from  
17 customers.

18  
19 **Q. ISN'T THIS TREATMENT OF "SUNK COSTS" AND "TO GO COSTS" AN**  
20 **ACCEPTED METHOD OF ASSESSING THE COST-EFFECTIVENESS OF A**  
21 **PROJECT?**

22 A. It is appropriate to exclude sunk costs in typical cost-effectiveness evaluations. In this  
23 instance, where estimated costs to complete continue to increase, excluding amounts

1 spent to date in each annual evaluation has the potential to distort the measurement of  
2 cost-effectiveness. In his testimony, Dr. Jacobs discusses this aspect of the choice of  
3 economic feasibility methodologies in more detail.  
4

5 **Q. WON'T FPL ASSERT THAT THE "SUNK COSTS" CAN'T BE SUBTRACTED**  
6 **FROM THE SAVINGS, BECAUSE THEY WOULD ALSO APPEAR IN THE**  
7 **ALTERNATIVE RESOURCE PLAN AS COSTS TO BE RECOVERED FROM**  
8 **CUSTOMERS EVEN IF THE UPRATE PROJECT IS NOT CONSTRUCTED?**

9 A. The assertion that the "sunk costs" must be excluded from the comparison because they  
10 would show up in both resource plans, and therefore cancel out, is dependent on the  
11 assumption that the sunk costs would be fully recoverable—i.e., would be amortized and  
12 earn a return—in the alternative plan to the same extent as they would be in the resource  
13 plan that includes the uprate project. If previous costs were prudently incurred and are  
14 allowed to be included in rate base, then excluding them in current and future feasibility  
15 analyses is appropriate. This rationale would not hold, however, if the Commission were  
16 to determine that a portion of the costs of the uprate project should be attributed to  
17 imprudence and should be disallowed, because in that instance the disallowed costs (and  
18 associated revenue requirements) would not appear in both resource plans. In his  
19 testimony Dr. Jacobs will recommend such a disallowance and explain the basis for his  
20 recommendation. However, the exclusion of "sunk costs" is only one aspect that renders  
21 FPL's methodology inappropriate for its EPU projects.

22 **Q. WHAT IS THE OTHER FACTOR THAT AFFECTS FPL'S**  
23 **METHODOLOGY?**

1 A. The other equally important factor is that the estimate of overall capital costs and “to  
2 go” costs have increased each time FPL has produced a feasibility analysis. It is the  
3 combination of excluding past expenditures while also increasing projected costs of  
4 completion that can result in unreliable indications of cost-effectiveness. Under FPL’s  
5 approach, the faster the utility spends, the better able it is to show that a project of  
6 significantly increasing costs remains feasible. I agree with Dr. Jacobs’ statement that  
7 while FPL’s method of comparing the present value of revenue requirements may be  
8 suitable for a project of known and stable costs, it is a poor choice for assessing its  
9 volatile and uncertain EPU projects.

10  
11 **IV. ALTERNATE EVALUATION METHOD**

12 **Q. EARLIER YOU SAID IT IS POSSIBLE TO USE THE SAME INFORMATION**  
13 **THAT FPL PRESENTS TO APPROXIMATE THE TRUE COST-**  
14 **EFFECTIVENESS OF THE PROJECT. PLEASE EXPLAIN HOW THIS CAN BE**  
15 **DONE.**

16 A. FPL’s Dr. Sim expressed the streams of future costs of competing resource plans in  
17 present value terms, then compared the two resulting present value figures. By “present  
18 value terms,” I mean that he discounted the stream of future revenue requirements so as  
19 to measure them in 2011 dollars. The “amounts spent” that have been excluded from the  
20 comparison were expended very recently. These past spent amounts can be expressed in  
21 present value terms, such that they are quantified and measured on the same basis as are  
22 the revenue requirements of the resource plans being analyzed. To illustrate, it is  
23 possible to express the present value of the revenue requirements for the term of a

1 multiyear plan in 2011 dollars, then also convert amounts spent in 2009 and 2010 to 2011  
2 dollars. Assuming that the amounts spent to date are included in rate base and allowed to  
3 earn a return over the life of the project, there would be a stream of annual capital-related  
4 revenue requirements associated with the "sunk costs." I have used FPL's response to  
5 OPC's Interrogatory No. 59 as an example of how the present value of future revenue  
6 requirements compares to the actual amounts of capital expenditures. I have included an  
7 edited version of that response as Exhibit BDS-2 to my testimony. Column 2a on the  
8 exhibit shows FPL's projection of the annual revenue requirements (in nominal dollars)  
9 associated with the EPU project capital investment. Using the discounting factors shown  
10 in column 1, I have converted the values in column 2a into 2011 dollars. These values  
11 are shown in column 6 which I added to FPL's table. Summing the annual present value  
12 amounts results in a total present value of \$2.17 billion. This present value of revenue  
13 requirements is associated with the \$1.78 billion "going forward" capital costs that FPL  
14 included in its evaluation. This demonstrates that the present value of revenue  
15 requirements associated with a capital expenditure is greater than the actual expenditure.  
16 I will conservatively assume, however, that the present value of revenue requirements  
17 equals the actual expenditure for the remainder of my testimony. To gauge whether  
18 customers are receiving a net benefit or a net cost from an overall perspective, one can  
19 approximate the effects of the present value of capital-related revenue requirements  
20 associated with the amounts previously spent by expressing the amounts previously spent  
21 in 2011 dollars and adding them to the present value of the costs of the resource plan with  
22 the uprates before comparing the costs of the two resource plans. Since FPL has already  
23 compared the costs of the two plans and concluded there is a positive benefit, one can

1 subtract the amounts spent to date (measured in 2011 dollars) from the present value of  
2 the claimed savings benefit (also measured in 2011 dollars) and determine whether the  
3 resulting figure is positive or negative. If it is positive, then the project is cost-effective  
4 even when both the rapidly increasing estimates of "to go" costs and the past  
5 expenditures are accounted for. If it is negative, then customers are "in the hole" by the  
6 amount of the difference.

7  
8 **Q. CAN YOU ILLUSTRATE THE ADDITIONAL STEP THAT HAVE**  
9 **DESCRIBED?**

10 A. Yes. I will use round figures to keep the explanation simple. Assume that the revenue  
11 requirements of the resource plan that includes the uprate projects over a period of 33  
12 years have been calculated and then discounted back to a present value, in 2011 dollars,  
13 of \$100 million. Next assume the corresponding cumulative present value of the resource  
14 plan that does not include the uprate projects is \$125 million. FPL would contend that  
15 customers would save (on a net present value basis) \$25 million dollars through the  
16 uprate projects. However, pursuant to FPL's methodology, this conclusion ignores the  
17 amount of money that FPL has spent on the projects and on which it will expect a  
18 return—which will be reflected in revenue requirements. Therefore, to gauge better the  
19 cost-effectiveness of the project, one can subtract the amount spent to date from the  
20 claimed "savings" figure. If, for instance, FPL spent \$20 million in the past two years  
21 (assume the original amount has been adjusted as necessary to express the amount in  
22 2011 dollars), the additional step I describe would be to subtract the \$20 million of  
23 "amounts previously spent" from the \$25 million of claimed net savings resulting from

1 the comparison of the two resource plans. The result in this example would be the  
2 indication that the projects are cost-effective, but only in the amount of approximately \$5  
3 million. If on the other hand FPL had spent \$35 million to date, then the calculation  
4 would be to subtract the \$35 million from the \$25 million of claimed savings that resulted  
5 from FPL's "CPVRR comparison" exercise. In this example, doing so would result in  
6 the conclusion that customers are actually worse off by approximately \$10 million, in  
7 present value terms, at this stage of the project, even though FPL claims the project is  
8 economically feasible.

9 **Q. HAVE YOU APPLIED YOUR METHOD TO THE INFORMATION THAT FPL**  
10 **HAS PROVIDED WITH ITS FEASIBILITY ANALYSIS?**

11 **A.** Yes. At Exhibit SRS-8 his testimony, Dr. Sim reports the results of the comparison of  
12 the two resource plans, using medium fuel and medium environmental compliance cost  
13 assumptions to be positive for customers in the amount of \$622 million on a present  
14 value basis. At page 20, he states that he has removed \$700 million of amounts  
15 previously spent from the resource plan that includes the uprate projects. Expressed in  
16 2011 dollars, and based on a spending profile of \$347 million in 2009 and \$353 million  
17 in 2010, the amounts already spent total \$778 million. Subtracting the already spent  
18 amount of \$778 million from the claimed savings amount of \$622 million demonstrates  
19 that the impact on customers can be conservatively estimated as a negative \$156 million  
20 for the medium fuel and medium environmental compliance cost case.

21  
22 **Q. DOES THIS MEAN THE UPRATE PROJECTS SHOULD NOT GO FORWARD?**

1 A. No. However, it does mean that the Commission should adopt a method of viewing the  
2 project that will enable it to identify and disallow costs that exceed the maximum amount  
3 that would be cost-effective for customers.

4 Q. CAN YOU RECOMMEND A WAY IN WHICH SUCH A MAXIMUM AMOUNT  
5 CAN BE IDENTIFIED?

6 A. Yes. For its evaluation of the feasibility of Turkey Point units 6 & 7, FPL used a  
7 breakeven analysis. I suggest that a similar approach could be used to identify a  
8 maximum amount of EPU related cost that should be included in FPL's rate base. FPL  
9 should be directed to produce a breakeven analysis that identifies the amount of EPU  
10 investment that can be included in the "nuclear" resource plan in order to yield the same  
11 Cumulative Present Value of Revenue Requirements ("CVPRR") as the "non-nuclear"  
12 resource plan. For purposes of this discussion, the "nuclear" resource plan is the one in  
13 which the EPU project is included. The "non-nuclear" resource plan is the one in which  
14 the EPU project is not included and is the one against which the nuclear plan is  
15 compared. The breakeven EPU investment amount should be the maximum amount  
16 allowed to be included in rate base and should include all dollars spent beginning in 2009  
17 for the project. This would protect FPL's rate payers from costs (associated with the plan  
18 that FPL has identified as its least cost choice) that exceed those associated with what it  
19 has identified as its second best choice.

20  
21 Q. DOES THAT CONCLUDE YOUR TESTIMONY?

22 A. Yes, it does.