BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Nuclear Cost Recovery Clause	DOCKET No.: 150009 - EI Filed: September 4, 2015

POST-HEARING BRIEF OF THE CITY OF MIAMI

The City of Miami ("Miami" or "the City"), pursuant to the Order Establishing Procedure in this docket, Order No. PSC-15-0082-PCO-EI, issued on January 30, 2015, submits this Post-Hearing Brief.

INTRODUCTION

Commission approval of a utility's long-term feasibility analysis is a prerequisite for cost recovery in each year's Nuclear Cost Recovery docket. Fla. Admin. Code Ann. r. 25-6.0423(6)(c)(5). This long-term feasibility analysis must include evidence demonstrating that the utility intends to complete its proposed nuclear power plant, including evidence demonstrating that this intent is "realistic and practical." *Id*. Specifically, the Commission requires each year's long-term feasibility analysis to include updated:

- fuel forecasts,
- environmental compliance cost forecasts,
- break-even costs, and
- capital cost estimates.

Order No. PSC-08-0237-FOF-EI at 27 and 29. In addition, the long-term feasibility analysis "should account for sunk costs." *Id*. The Commission has explained that annual updates of this information "will allow us to monitor the feasibility regarding the continued construction of Turkey Point 6 and 7." *Id*.

In essence, each year's long-term feasibility analysis compares FPL's Turkey Point 6 and 7 project against a hypothetical alternative project. [T2.221:21-222:3; T6.804:9-15; T6.936:11-23].[1] In this case, FPL has chosen a natural gas combined-cycle power plant as the hypothetical alternative. *Id*. The proposed nuclear reactors and the hypothetical natural gas combined-cycle power plant are compared across the various informational items listed above. Specifically, the comparison was made in seven scenarios comprised of "combinations of three fuel and three emission cost forecasts" over a forty-year and a sixty-year operating life. [T2.222:1-3].

The break-even cost included in the analysis – where the proposed reactors and the hypothetical natural gas combined-cycle plant have the same life cycle cost – is used as a comparison point between the two. [T2.221:21-222:1]. A scenario which results in a cost for the proposed reactors that is below the break-even cost is considered competitive. Likewise, costs above break-even are not competitive. Consequently, any additional costs that are added to the hypothetical alternative enable FPL's Turkey Point 6 and 7 project to appear more competitive because it raises the break-even cost. Generally, costs included in the hypothetical natural gas combined-cycle power plant and not the proposed reactor project can be portrayed as cost-savings as well.

The most significant of the projected cost-savings included in the long-term feasibility analysis are the environmental compliance costs. Of these costs, the avoided carbon emissions costs are the most significant driver of the proposed reactors' long-term feasibility. [T4.605:13-16; T4:607:6-17]. The carbon emissions costs included in the long-term feasibility analysis are based on forecasts provided to FPL by a vendor. [T6.832:22-23]. However, the forecasts provided by the vendor include estimated carbon emissions costs only up to the year 2030, the

[1] Citations to the transcript will be "T" followed by a volume number and a page number, for example, T1.50.

third or fourth year of the proposed reactors' operating lives. [T6.941:3-10]. Since the long-term feasibility analysis accounts for forty-year and sixty-year operating lives for the proposed reactors, almost the entirety of the avoided carbon emissions costs are based on FPL's extrapolations from the forecasts provided by its vendor. [T6.941:19-21].

STATEMENT OF BASIC POSITION

The long-term feasibility analysis submitted by FPL is not reasonable because it depends on unrealistic extrapolations of the cost of emitting carbon. This year, the first issue before the Commission in the Nuclear Cost Recovery Clause docket is:

> Should the Commission approve **as reasonable** what FPL has submitted as its 2015 annual detailed analysis of the long-term feasibility of completing the Turkey Point Units 6 & 7 project, as provided for in Rule 25-6.0423, F.A.C?

In this instance, the Commission should not conclude that the analysis submitted is reasonable based on the evidence submitted.

Avoiding the carbon emission costs extrapolated by FPL is the most significant of the projected benefits of Turkey Point 6 and 7. At hearing, FPL's witness Steven Sim agreed that the avoided carbon emissions costs represent a significant portion of Turkey Point 6 and 7's projected benefits.[2] [T6.961:21-22]. Miami's witness, Eugene Meehan, also noted, "[w]ith carbon costs adding between $ 1400 per KW and $ 2600 per KW to breakeven costs . . . the economic feasibility of Turkey Point units 6 and 7 **hinges** on the avoided carbon costs."

[2] On a related note, Mr. Sim critiqued adjustments made by Mr. Meehan to FPL's assumed carbon emissions costs but misunderstood the purpose of those adjustments. [T6.827:9-11]. Mr. Meehan reduced the avoided carbon emissions costs by 50% and 100% to illustrate how significant those costs are to Turkey Point 6 and 7's economic feasibility. However, Mr. Sim agrees with Mr. Meehan that the avoided carbon emissions costs are significant to the project's long-term feasibility. Hence, Mr. Sim's critique is a moot issue. Moreover, the level of significance is a separate point from the unreasonableness of the carbon emissions costs extrapolated by FPL – the latter point is critical and has not been rebutted in evidence presented by the company.

[T4.607:14-16 (emphasis added)]. However, the carbon emissions costs extrapolated by FPL are unreasonably extreme because they are drastically higher than the predicted cost of fuel for the hypothetical natural gas combined-cycle power plant. [T4.611:11-612:3]. In fact, the carbon emissions costs used by FPL are, in the long run, two to five times the fuel costs. *Id*.

Effectively, FPL created the impression that the reactors will be competitive with the hypothetical natural gas alternative by assuming a tax on carbon emissions equal to 200% to 500% of fuel prices. As an analogy, it is like assuming a price of $3 per gallon to fill a car's gas tank, but an additional price of $6 to $15 per emission to actually drive the car. This faulty assumption allows FPL to avoid costs that are high enough to make the project appear potentially cost-effective.

For additional context, the avoided carbon emissions costs extrapolated by FPL are unreasonable because they reach up to **eight times the cost that would result from inflation alone**, increasing by a factor of over 20 times during the project's operating life. [T4.607:17-19]. This is important for two reasons. First, other environmental compliance costs used by FPL are much lower. In the long-term feasibility analysis, FPL predicts that sulfur dioxide emissions costs will be zero. [T4.608:6-7]. If market prices for sulfur dioxide emissions (which reached as high as $800 per ton) fall to zero, it is unreasonable to assume that carbon emissions costs will nevertheless increase to eight times the cost that would result from inflation. Second, a scenario in which the cost of emitting carbon is as high as FPL predicts is radically different from the present, meaning that the standard economic assumptions used by FPL elsewhere in the long-term feasibility analysis would not be applicable to that scenario. [T4.611:2-9].

Likewise, the carbon emissions costs extrapolated by FPL are unreasonable because a significant portion of these projected benefits are estimated to occur at a point when forecasting

is least accurate. About 20% of FPL's projected benefits for Turkey Point 6 and 7 derive solely from avoided carbon emissions costs during the final decades of a sixty-year operating life for the reactors. Specifically, FPL projects that its proposed reactors will provide benefits worth $10.4 to $15.6 billion in 2015 present value dollars and that $2.3 billion to $2.8 billion of these benefits will come from avoiding carbon emissions costs after the first forty-years of operations. Essentially, the long-term feasibility analysis must look to the point in time furthest into the future, and least likely to match FPL's extrapolations, to make the proposed reactors competitive with the hypothetical natural gas alternative.

Moreover, FPL made these assumptions by extrapolating from forecasts that are three years old. [T6.834:6-14]. FPL decided not to update its carbon emissions cost forecasts based purely on a conversation with one vendor. [T6.947:2-8]. It did not seek outside opinion or other sources of information to update its forecasts. [T6.902:14]. This is in spite of the Commission's order that environmental compliance cost forecasts be updated annually in each long-term feasibility analysis. Order No. PSC-08-0237-FOF-EI at 27 and 29.

For these reasons, Miami respectfully requests that the Commission reject FPL's 2015 long-term feasibility analysis.

ISSUES AND POSITIONS

FPL Turkey Point units 6 & 7

Issue 1: Should the Commission approve as reasonable what FPL has submitted as its 2015 annual detailed analysis of the long-term feasibility of completing the Turkey Point Units 6 & 7 project, as provided for in Rule 25-6.0423, F.A.C?

Miami: *No. FPL's analysis of the long-term economic feasibility of Turkey Point 6 and 7 hinges on avoiding carbon costs that FPL projects to be unreasonably extreme and transmission costs that are not well supported. Accordingly, FPL has not met its burden to submit a reasonable long-term feasibility analysis and has failed to demonstrate that its project is economically feasible. Therefore, FPL's feasibility analysis does not offer any insight into the project's likely value to ratepayers and the Commission should reject it. Miami incorporates its statement of basic position by reference.*

The central question in this issue is whether the 2015 long-term feasibility analysis submitted by FPL is reasonable. Although the substantive law has always focused on reasonableness, this is the first year that the issue has been framed so directly. For the reasons mentioned in Miami's statement of basic position, FPL's long-term feasibility analysis is unreasonable and should be rejected by this Commission.

In sum, the avoided carbon emissions costs are so significant to FPL's case that Turkey Point 6 and 7 appears economically feasible only because those costs were projected to be extreme in the long-term feasibility analysis. Furthermore, the extreme carbon emissions costs extrapolated by FPL from its vendor's forecasts are unreasonable because: (1) they assume a carbon tax between 200% and 500% of the projected fuel price; (2) they are eight times the cost that would result from inflation alone and increase by a factor of over 20 times during the project's operating life; (3) FPL predicts that sulfur dioxide emissions costs will be zero at the same time that it predicts carbon emissions costs will increase by a factor of over 20; (4) a significant percentage of the carbon emissions costs are speculated to materialize only after forty years of operations, far enough into the future that the actual costs are unlikely to match FPL's

extrapolations; and (5) FPL's extrapolated carbon emissions costs are based on forecasts that are three years old.

Beyond the unrealistically extrapolated costs of carbon emissions, FPL's long-term feasibility analysis also burdens the alternative hypothetical natural gas combined-cycle plant by adding $1.7 billion in incremental transmission costs. Similar to the avoided carbon emissions costs, increasing the avoided transmission costs makes Turkey Point 6 and 7 appear more competitive. FPL alleges that the added cost is reasonable because gas capacity would be located outside of South Florida. However, FPL provided only hearsay evidence that the alternative gas-fired capacity could not be located in South Florida like the nuclear reactors. Consequently, the proposed benefits that FPL's 2015 long-term feasibility analysis relies on to justify a $13 to $20 billion investment are actually speculative projections of what could happen over 52 years from now.

Increasingly, the cost-effectiveness of Turkey Point 6 and 7 for ratepayers relies on a 60 year instead of a 40 year return. However, forecasting that far into the future is highly uncertain and FPL will require over $2 billion from ratepayers prior to providing a single kilowatt-hour in 2027. The only sensible way to examine the feasibility of such an investment is using present value. FPL's analyses show that in many cases present value benefits will not be realized until over 50 years from today.

Therefore, FPL's 2015 long-term feasibility analysis is premised on faulty assumptions and does not provide an accurate picture of Turkey Point 6 and 7's value to ratepayers or a reasonable basis on which to approve further recovery.

<u>Issue 1A:</u> What is the current total estimated all-inclusive cost (including AFUDC and sunk costs) of the proposed Turkey Point Units 6 & 7 nuclear project?

Miami: *Adopt the position of OPC.*

Issue 1B: **What is the current estimated planned commercial operation date of the planned Turkey Point Units 6 & 7 nuclear facility?**

Miami: *The current estimated planned commercial operation dates of the planned Turkey Point Units 6 and 7 are overly optimistic. The actual commercial operation dates of these units will occur later in time than the commercial operation dates put forward by FPL.*

Issue 2: **Should the Commission find that FPL's 2014 project management, contracting, accounting and cost oversight controls were reasonable and prudent for the Turkey Point Units 6 & 7 project?**

Miami: *No position.*

Issue 3A: **(Legal): Pursuant to Section 366.93, Florida Statutes, can costs, which are not related to, or necessary for, obtaining or maintaining a combined license from the Nuclear Regulatory Commission for a nuclear power plant be incurred prior to the issuance of the COL and deferred for later recovery?**

Miami: *Adopt the position of OPC.*

Issue 3B: **Are the Initial Assessment costs incurred as set forth in FPL's Petition and Testimony for which FPL is seeking deferred recovery, costs that are related to or necessary for obtaining or maintaining a combined license?**

Miami: *Adopt the position of OPC.*

Issue 3C: **Should the Commission approve FPL's proposal to incur and defer for later recovery its Initial Assessment costs, as set forth in FPL's petition and supporting testimony?**

Miami: *Adopt the position of OPC.*

Issue 4: **What jurisdictional amounts should the Commission approve as FPL's actual 2014 prudently incurred costs and final true-up amounts for the Turkey Point Units 6 & 7 project?**

Miami: *Adopt the position of FIPUG.*

Issue 5: **What jurisdictional amounts should the Commission approve as reasonably estimated 2015 costs and estimated true-up amounts for FPL's Turkey Point Units 6 & 7 project?**

Miami: *Adopt the position of OPC.*

Issue 6: What jurisdictional amounts should the Commission approve as reasonably projected 2016 costs for FPL's Turkey Point Units 6 & 7 project?

Miami: *No costs that are dependent on FPL's 2015 long-term feasibility analysis should be approved. The submission of a reasonable long-term feasibility analysis is a prerequisite for approval that FPL has not met. Miami incorporates its statement of basic position and position on Issue 1 by reference.*

Issue 7: What is the total jurisdictional amount to be included in establishing FPL's 2016 Capacity Cost Recovery Clause factor?

Miami: *No costs that are dependent on FPL's 2015 long-term feasibility analysis should be approved or included. The submission of a reasonable long-term feasibility analysis is a prerequisite for approval that FPL has not met. Miami incorporates its statement of basic position and position on Issue 1 by reference.*

Duke Energy Florida

Issues 8-16: Miami takes no position on the issues identified for Duke Energy Florida.

CONCLUSION

For all of the foregoing reasons, the City of Miami respectfully requests that the Commission reject FPL's long-term feasibility analysis, and the Nuclear Cost Recovery amounts requested by FPL that depend upon that analysis, consistent with the positions stated in this Post-Hearing Brief.

Respectfully submitted this 4th day of September, 2015.

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CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on the 4th day of September, 2015, I served the foregoing document on all parties list in the attached Service List by e-mail.

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