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September 18, 2007

HAND DELIVERED

Ms. Ann Cole, Director
Office of Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: Petition to determine need for Polk Unit 6 electrical power plant by Tampa Electric Company; FPSC Docket No. 070467-EI

Corrections to Prefiled Direct Testimony and Exhibits

Dear Ms. Cole:

On July 20, 2007 Tampa Electric Company submitted its petition and supporting prefiled direct testimony and exhibits in this proceeding. That filing, in part, described certain tax savings the company expects to realize as a result of the Section 48A tax credits of some $133.5 million that were awarded to Tampa Electric in November of 2006 in an effort to foster the development of IGCC technology.

Tampa Electric subsequently discovered an error in the manner in which it had calculated the benefits flowing from the tax savings the company will realize as a result of the Section 48A tax credits. The initial analysis flowed the entire $133.5 million of tax credits back to customers over the life of the project. However, the $133.5 million of tax credit also reduces the in-service cost of Polk Unit 6 and this results in decreased annual depreciation expense and increased federal and state income taxes during the service life of the unit. These tax increases reduce the future net benefits realized by customers. To correct the error, Tampa Electric has prepared revised testimony and exhibit pages, each marked "REVISED 9/18/2007" as follows:

CMP
COM 5
CTR 1
ECR
GCL 3
OPC
RCA
SCR
SGA
SEC
OTH

Prepared Direct Testimony of Charles R. Black, pages 11 and 20

Chrys A. Remmers Prepared Direct Testimony, page 8

William A. Smotherman Prepared Direct Testimony, pages 18, 24, 25, 27 and 29, together with pages 36 and 37 of Mr Smotherman's Exhibit No. ___(WAS-1)

Tampa Electric Company Determination of Need for Electrical Power: Polk Unit 6 (the "Polk Unit 6 Need Study"), at pages 2, 41, 55 and 72-76

Enclosed are the original and fifteen (15) copies of each of the above-revised pages. We would appreciate your distributing one copy of each of these revised pages to each of the recipients of the original filing so that they may substitute the revised pages in place of the corresponding pages in the original filing.

After making the corrections described above, Polk Unit 6 remains the most cost-effective alternative to enable Tampa Electric to meet its generation needs beginning in 2013.

Please acknowledge receipt and filing of the above by stamping the duplicate copy of this letter and returning same to this writer.

Thank you for your assistance in connection with this matter.

Sincerely,

James D. Beasley

JDB/pp
Enclosures

cc: All Parties of Record (w/encls.)

A. If the Commission does not approve the construction of Polk Unit 6, given the timing of Tampa Electric's capacity need and the uncertainty regarding the time frames for the next generation of nuclear units, the only remaining viable option would be the construction of a natural gas-fired unit. The resulting 2013 energy mix by fuel type would be 51 percent natural gas, 47 percent solid fuels and 2 percent fuel oil and other sources.

Q. Please describe how Tampa Electric determined that the construction of Polk Unit 6 is the most cost-effective alternative means of meeting Tampa Electric's customers' need for electricity.

A. As explained by witness William A. Smotherman, Polk Unit 6 will provide a cumulative net present value savings of more than $160 million to Tampa Electric customers when compared to a natural gas combined cycle unit and savings of over $69 million compared to a supercritical pulverized coal unit. This represents cash savings in addition to the benefits of fuel diversity, environmental compliance by providing a technology platform for future carbon capture, and the further development of renewable energy resources that will flow

Q. What is the expected relative rate impact of Polk Unit 6 compared to the NGCC alternative?

A. As discussed in the testimony of witness Smotherman, the projected relative rate impact analysis comparing IGCC as the optimal solid fuel technology to NGCC resulted in the IGCC plan being $2.71 per MWH higher than the NGCC plan in 2013. This is primarily due to higher capital costs; however, the rate impact for IGCC is estimated to be lower by 2017 and through the balance of the remaining life of the unit due primarily to lower fuel and purchased power costs.

Q. Please summarize your testimony.

A. My testimony addresses and supports the need for Polk Unit 6, an IGCC unit with 610 MW and 647 MW summer and winter net capacity, respectively, to meet the projected need for additional generating capacity on Tampa Electric's system in 2013.

My testimony describes the careful and detailed analysis the company has performed to ensure that Polk Unit 6 is the most cost-effective means of meeting our future capacity needs. I describe the benefits associated with

Commission's past regulatory policy and determinations for similar tax credits. The amortization to the income statement effectively lowers the cumulative present worth revenue requirement for the new IGCC unit by approximately $39 million. The lower revenue requirement is expected to reduce customer rates.

Q. Please summarize your testimony.

A. Tampa Electric was awarded $133.5 million in tax credits for the Polk Unit 6 project which was the maximum allowable tax credits awarded for an IGCC project. The tax credits will be earned and accrued during the construction phase of the project but are subject to certain construction and operational requirements by the I.R.S. The tax credits provide a financial benefit in the form of reduced tax obligations and payments which aid in funding construction. Additionally, the tax credits benefit customers in the form of lower revenue requirements over the life of the project.

Q. Does this conclude your testimony?

A. Yes, it does.

A. The final resource plan confirmed the need for additional peaking capacity in each year from 2008 through 2012 and the baseload capacity in 2013. The final resource plan is shown in Document No. 3 of my Exhibit No. ____ (WAS-1). The final plan also demonstrated a CPWRR savings of $160 million and $69 million when the IGCC plan was compared to a NGCC or SCPC plan, respectively. A summary of the economic analysis is shown in Document No. 4 of my Exhibit No. ____ (WAS-1).

Q. Did Tampa Electric conduct an RFP to solicit proposals to meet its peaking needs from 2008 through 2012?

A. Yes. In August 2006, a request for proposals ("RFP") yielded several proposals to provide Tampa Electric peaking capacity via PPA. All PPA are contingent upon securing firm transmission service to support required reliability criteria. The company is negotiating with leading bidders regarding potential peaking PPA.

Q. Did Tampa Electric conduct an RFP to solicit alternatives to meet its baseload need in 2013?

A. Yes. In February 2007, Tampa Electric issued an RFP soliciting firm offers for cost-effective alternatives to

escalation starting in 2010. This wide range of price signals was chosen since the detail of potential CO_2 regulations, if any, is unknown.

The third scenario analysis assessed lower and higher than expected capital costs for the NGCC, SCPC and IGCC technologies. Recognizing that the estimated in-service costs for Polk Unit 6 are based on preliminary estimates, capital cost sensitivities were analyzed. The high and low cases were established utilizing 15 percent higher and lower in-service costs.

Q. Please summarize the results of the sensitivity analysis.

A. Polk Unit 6 was more cost-effective than the SCPC plan in all of the sensitivities except for the low fuel price sensitivity. Polk Unit 6 continued to demonstrate the lowest system CPWRR compared to the NGCC plan in the high fuel, low capital, and low ~~and medium~~ CO_2 price sensitivities. The results of these scenarios reinforce Tampa Electric's selection of Polk Unit 6 as the best alternative for Tampa Electric and its customers. Document No. 5 of my Exhibit No. ____ (WAS-1) contains a summary of the sensitivity analyses.

Q. What is the expected relative rate impact of Polk Unit 6 compared to the NGCC alternative?

A. The relative residential customer rate for the two technologies was calculated and compared on MWH basis. In 2013, the projected rate impact for the IGCC plan is $2.71 per MWH higher than the NGCC plan, driven by higher capital costs; however, the rate impact for IGCC is estimated to be lower by 2017 and through the balance of the remaining life of the unit due primarily to lower fuel and purchased power costs.

Whether or not Tampa Electric requests advanced cost recovery for carrying costs during construction, the overall CPWRR savings for the IGCC plan is $160 million and $69 million when compared to the NGCC and SCPC plans, respectively.

BASIS FOR DETERMINATION OF NEED

Q. Has Tampa Electric adequately established that there is a need for Polk Unit 6?

A. Yes. Tampa Electric will require an additional 482 MW of firm supply resources in summer 2013 and 576 MW in winter 2013 based upon the updated 2007 reliability analysis

assessment in the FRCC plan.

ADVERSE CONSEQUENCES

Q. What would be the adverse consequences if the Polk Unit 6 in-service date were delayed from 2013 to 2014?

A. In the event that Polk Unit 6 is delayed by one year, Tampa Electric would forfeit the advanced coal project federal tax credits of $133.5 million, project costs would increase, and fuel savings for 2013 would not be realized. It is likely that system energy requirements would be served by natural gas fired generators in Florida resulting in higher fuel costs, due to increased dependence on natural gas and a greater exposure to the supply disruptions and price volatility associated with this fuel.

Q. What would be the adverse consequences if the proposed Polk Unit 6 were denied?

A. If Tampa Electric's proposed Polk Unit 6 is denied, Tampa Electric would most likely construct an NGCC unit in 2013. This would result in higher costs for customers of $160 million on a CPWRR basis. The customers would experience an increase in supply and price volatility

construction of Polk Unit 6 for a January 2013 in-service date cannot be deferred. Tampa Electric also determined that fuel diversity is a key objective and the addition of coal technology in 2013 maintains a prudent balance in Tampa Electric's energy mix.

The selection of Polk Unit 6 was supported by subsequent economic analysis of viable supply-side alternatives, demonstrating that the unit provides the lowest CPWRR compared to natural gas-fired and other solid fuel technologies. Polk Unit 6 provides significant savings of $69 million to $160 million to Tampa Electric's customers when compared to other possible alternatives. The results of these scenarios reinforce Tampa Electric's selection of Polk Unit 6 as the best alternative for Tampa Electric and its customers.

Q. Does this conclude your testimony?

A. Yes, it does.

Final Economic Analysis Results

Total System Costs[1]

(2007 $ Million)

IGCC	SCPC	NGCC	Delta SCPC	Delta NGCC
$ 24,647	$ 24,715	$ 24,806	$ 69	$ 160

[1] Total system costs include system fuel and purchased power, system O&M and incremental capital and O&M annual revenue requirements associated with new unit additions over a 30-year study period and shown on a cumulative present worth basis in 2007 dollars.

Fuel Scenario CPWRR Results

Total System Costs [1]
(2007$ million)

				Delta	
	IGCC	SCPC	NGCC	SCPC	NGCC
Low Fuel	$ 18,698	$ 18,553	$ 17,507	$ (145)	$ (1,191)
Base Fuel	$ 24,647	$ 24,715	$ 24,806	$ 69	$ 160
High Fuel	$ 30,459	$ 30,659	$ 31,577	$ 199	$ 1,118

Environmental Scenario CPWRR Results

Total System Costs [1]
(2007$ million)

				Delta	
	IGCC	SCPC	NGCC	SCPC	NGCC
Low Price Band	$ 26,248	$ 26,312	$ 26,348	$ 64	$ 100
Medium Price Band	$ 29,451	$ 29,505	$ 29,432	$ 54	$ (19)
High Price Band	$ 34,255	$ 34,295	$ 34,057	$ 40	$ (198)

Capital Cost Scenario CPWRR Results

Total System Costs [1]
(2007$ million)

				Delta	
	IGCC	SCPC	NGCC	SCPC	NGCC
Low Capital Cost	$ 24,269	$ 24,401	$ 24,715	$ 131	$ 446
High Capital Cost	$ 25,024	$ 25,030	$ 24,898	$ 6	$ (126)

[1] Total system costs include system fuel and purchased power, system O&M and incremental capital and O&M annual revenue requirements associated with new unit additions over a 30-year study period and shown on a cumulative present worth basis in 2007 dollars.

feasibility, reliability and relative economics. The initial screening resulted in the narrowing of technology alternatives to super critical pulverized coal ("SCPC"), natural gas combined cycle ("NGCC") and IGCC for further detailed analysis.

Tampa Electric evaluated these technologies utilizing standard IRP techniques. Some of the economic and non-economic factors that were considered included resource reliability, efficiency, range of fuel capability and availability, capital and operating costs, ability to meet current and potential future environmental requirements, water use, and overall site benefits. As a result of this detailed analysis, Tampa Electric determined that IGCC technology is the best option to meet the 2013 need for four primary reasons:

1. Polk Unit 6 is the most cost-effective alternative, and the project results a savings of $160 million over NGCC technology and $69 million over SCPC technology.
2. Polk Unit 6 utilizes a proven, reliable, clean coal technology providing low environmental emissions and lower water use requirements compared to other baseload coal technologies.
3. Polk Unit 6 will be able to utilize a wide range of cost-effective fuels providing greater fuel flexibility than other solid fuel or gas technologies while allowing for natural gas as a backup fuel.
4. The existing Polk Station site and supporting infrastructure for both solid fuels and natural gas is uniquely compatible with Polk Unit 6.

After its detailed analysis, Tampa Electric conducted three scenario analyses to assess the recommended Tampa Electric Polk Unit 6 resource plan against potential future price sensitivities. The first scenario analysis tested the sensitivity of the base fuel forecast using both high and low fuel price bands around the base forecast. Tampa Electric's evaluation demonstrated that Polk Unit 6 was the most cost-effective alternative for the base and high delivered fuel

of the issuance of the IRS certification. The in-service deadline is expected to be November 2013. Failure to meet any of these deadlines means the tax credits must be forfeited in their entirety.

3. Financial Impact of the Tax Credit

Tampa Electric's tax obligation and payments are reduced as the credits are earned. The reduced tax payments will increase Tampa Electric's available cash to construct Polk Unit 6. Tampa Electric customers benefit by lower revenue requirements as the tax credits are amortized over the 25 year life of the gasifier beginning in 2013. The deferral and amortization over the depreciable life of the asset is an IRS prescribed treatment and is consistent with prior FPSC regulatory policy and determinations for similar tax credits. The amortization to the income statement effectively lowers the CPWRR for the new IGCC unit by approximately $39 million.

4. Advanced Recovery of Carrying Costs During Construction

House Bill ("HB") 549 was signed into law June 12, 2007. The law expands the statute created in 2006 that authorized advanced cost recovery for nuclear power to include IGCC technology. Stemming from legislative and executive branch concerns over the growing dependency on natural gas fired electric generation in Florida, the statute expressly states that the intent is to "promote" and "encourage" investor owned utility investment in nuclear power and IGCC technology.

Though the legislation itself does not contain environmental standards, there was public discussion and support for the legislation in both 2006 and 2007 that involved the environmental characteristics of the two technologies. Nuclear power has no air or mercury emissions, and releases no greenhouse gases. IGCC, among solid fuel technologies, has the lowest air emissions

are illustrated in Table 6 below. Polk Unit 6 provides a CPWRR savings of $160 million over NGCC and $69 million over SCPC.

Table 6: Results of Final Economic Analysis
Total System Costs[1]
(2007 $M)

IGCC	SCPC	NGCC	Delta SCPC	Delta NGCC
$ 24,647	$ 24,715	$ 24,806	$ 69	$ 160

1. Tampa Electric Selected Alternative

Tampa Electric selected IGCC technology as the best supply-side alternative to meet its 2013 need based on the results of the economic analysis and consideration of other qualitative factors. Qualitative factors not assigned a specific economic value that were considered in the selection of IGCC included reliability enhancements due to the number of fuel types and availabilities, backup fuel capabilities, low environmental emissions, byproduct production and reuse/sale, low water use requirements, potential to cost-effectively meet future environmental and renewable requirements, and infrastructure and operational synergies with Polk Unit 1.

2. Qualitative Factors and Benefits of the Selected Alternative

Polk Unit 6's fuel benefits over other coal and natural gas technologies are the primary driver in the cost-effectiveness. Due to its use of gasification technology, Polk Unit 6 will have the capability to run on a wide range of fuels

[1] Total system costs include system fuel and purchased power, system O&M and incremental capital and O&M annual revenue requirements associated with new unit additions over a 30-year study period and shown on a cumulative present worth basis in 2007 dollars.

1. Fuel Scenario

To evaluate price fluctuations, Tampa Electric prepared high and low price forecasts for natural gas and coal. The price ranges for the high and low price scenarios are derived from the level of change in annualized prices of each commodity during the past five years. In the case of solid fuel, the same percentage change was utilized for all solid fuel types. Appendices K and L include the low and high fuel forecasts, respectively. The high case for natural gas is 42 percent higher than the base case and the low case is 49 percent lower than the base case. Coal commodity is 17 percent higher and 22 percent lower than the base case, respectively. The results of the fuel price sensitivities are provided in Table 7 below:

Table 7: Results of Fuel Pricing Sensitivities
Total System Costs[1]
(2007 $M)

	IGCC	SCPC	NGCC	Delta SCPC	Delta NGCC
Low Fuel	$ 18,698	$ 18,553	$ 17,507	$ (145)	$ (1,191)
Base Fuel	$ 24,647	$ 24,715	$ 24,806	$ 69	$ 160
High Fuel	$ 30,459	$ 30,659	$ 31,577	$ 199	$ 1,118

2. Environmental Scenario

Tampa Electric based the CO_2 emissions sensitivity on three price bands for CO_2 reductions. The three price bands used were $5, $15 and $30 per ton of CO_2 with a five percent yearly escalation starting in 2010. The forecasted price used in the analysis including the high and low sensitivities is provided in Appendix P.

[1] Total system costs include system fuel and purchased power, system O&M and incremental capital and O&M annual revenue requirements associated with new unit additions over a 30-year study period and shown on a cumulative present worth basis in 2007 dollars.

These three price bands were incorporated in the CPWRR calculations of the base fuel NGCC, SCPC and IGCC cases to calculate the environmental case CPWRR results. Because the exact detail of any future CO_2 emission policy is unknown at this time, this wide range of $5 to $30 was selected for the CO_2, price sensitivity analysis in an effort to encompass the potential impacts of the various policy proposals such as a market-based cap-and-trade program, a specific tax or technology mandates. The IGCC plan resulted in a savings in comparison to NGCC and SCPC in all sensitivities except for the NGCC high and medium price band sensitivity. The results of the environmental sensitivities are provided in Table 8 below:

Table 8: Results of Environmental Sensitivities
Total System Costs[1]
(2007 $M)

	IGCC	SCPC	NGCC	Delta SCPC	Delta NGCC
Low Price Band	$ 26,248	$ 26,312	$ 26,348	$ 64	$ 100
Medium Price Band	$ 29,451	$ 29,505	$ 29,432	$ 54	$ (19)
High Price Band	$ 34,255	$ 34,295	$ 34,057	$ 40	$ (198)

3. Capital Cost Scenario

Recognizing that the estimated in-service costs for Polk Unit 6 are based on preliminary estimates, capital cost sensitivities were analyzed. The high and low cases were established utilizing 15 percent higher and lower in-service costs. The IGCC plan resulted in a savings in comparison to NGCC and SCPC plans in all of the capital cost price bands except for the NGCC high

[1] Total system costs include system fuel and purchased power, system O&M and incremental capital and O&M annual revenue requirements associated with new unit additions over a 30-year study period and shown on a cumulative present worth basis in 2007 dollars.

capital cost sensitivity. The results of the capital cost sensitivities are provided in Table 9 below:

Table 9: Results of Capital Cost Sensitivities
Total System Costs[1]
(2007 $M)

	IGCC	SCPC	NGCC	Delta SCPC	Delta NGCC
Low Capital Cost	$ 24,269	$ 24,401	$ 24,715	$ 131	$ 446
High Capital Cost	$ 25,024	$ 25,030	$ 24,898	$ 6	$ (126)

IX. ADVERSE CONSEQUENCES IF POLK UNIT 6 IS DELAYED OR DENIED

In the event that Polk Unit 6 is delayed by one year, Tampa Electric would have to forfeit the DOE advanced coal project tax credits of $133.5 million and project costs would increase. The company would need to purchase more expensive replacement power purchases. It is likely that the purchases would come from natural gas fired generators in Florida, resulting in a higher dependence on natural gas and a greater exposure to the associated risk of supply disruptions and price volatility associated with this fuel. A delay would, therefore, result in higher costs for Tampa Electric's customers.

If Tampa Electric's proposed Polk Unit 6 were denied, the company would construct a NGCC unit or SCPC unit in 2013. This would result in a cost increase to customers of $160 million or $69 million, respectively, compared to the IGCC unit on a CPWRR basis. Florida's policy on fuel diversity and single fuel reliance would not be accomplished due to the company's added reliance on

[1] Total system costs include system fuel and purchased power, system O&M and incremental capital and O&M annual revenue requirements associated with new unit additions over a 30-year study period and shown on a cumulative present worth basis in 2007 dollars.

natural gas. In fact, Tampa Electric's energy mix by fuel type would consist of 51 percent natural gas.

X. CONCLUSION

Tampa Electric, through its IRP process, determined that there is a 2013 summer need of 482 MW and a winter need of 576 MW in order to meet the Commission mandated 20 percent reserve margin criteria. Tampa Electric considered DSM and renewable energy programs and supply-side alternatives to mitigate the need. Despite Tampa Electric's recently proposed new and modified DSM programs and the associated increase in load reductions, the company will not be able to defer its need.

Tampa Electric conducted a detailed evaluation of various supply-side alternatives. Both gas fired and solid fuel fired alternatives were considered. After an initial screening process of a variety of viable technologies, a detailed economic analysis of NGCC, SCPC and IGCC technologies demonstrated that Polk Unit 6 is the most cost-effective means of meeting Tampa Electric's 2013 need. Tampa Electric's analysis demonstrated Polk Unit 6 provides $160 million in savings compared to NGCC technology and $69 million in savings compared to SCPC technology.

The use of solid fuels for Polk Unit 6 will ensure a diverse energy mix for Tampa Electric and its customers. With Polk Unit 6, Tampa Electric's energy mix by fuel type will be 64 percent solid fuel and 34 percent natural gas in 2013. If this need was met with a natural gas unit, Tampa Electric would rely on natural gas for 51 percent of its energy requirements.

Besides quantitative analyses, Tampa Electric evaluated qualitative factors such as environmental emissions, water use and byproduct production. Polk Unit 6

will have significantly lower emission rates than any currently proposed solid fuel fired power plant in Florida. Tampa Electric is designing the unit with consideration of potential future CO_2 emission regulations. The design provides space for commercially available and technically proven carbon control equipment to be added should future legislation be passed.

Polk Unit 6 will produce more marketable byproducts than any other solid fuel alternative, which will reduce costs and impacts to the environment. Polk Unit 6 will convert sulfur contained in the fuel to sulfuric acid for sale in the sulfuric acid market. Polk Unit 6 will also produce a saleable slag byproduct.

Because a significant portion of the energy in the coal is converted to syngas which is then burned in combustion turbines, Polk Unit 6 relies on a steam system that operates at lower pressures and is of smaller size than comparable SCPC technologies resulting in lower water use. Water use is a critical factor in the state and is a constraint for all power plant site permitting including Polk Station. Finally, Tampa Electric has more than a decade of experience with IGCC technology and the existing infrastructure at the Polk Station will provide design and operational synergies and maximize the effectiveness of Polk Unit 6.

After its detailed analysis, Tampa Electric conducted three scenario analyses to test the results of Tampa Electric's supply-side evaluation against potential future price sensitivities. The first scenario analysis tested the base fuel forecast results against high and low fuel price bands. Polk Unit 6 was the most cost-effective alternative compared to the NGCC and SCPC plans except for the low fuel price sensitivity. The second scenario tested the effects of potential CO_2 requirements. Tampa Electric evaluated low, medium and high CO_2 emission prices as scenarios for potential CO_2 regulation. Polk Unit 6 was the most cost-effective alternative except for the NGCC plan under the high and medium price band sensitivity. The third scenario analysis tested lower and higher than expected