

State of Florida



Public Service Commission

CAPITAL CIRCLE OFFICE CENTER • 2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FLORIDA 32399-0850

-M-E-M-O-R-A-N-D-U-M-

DATE: September 2, 2009

TO: Office of Commission Clerk (Cole)

FROM: Office of Strategic Analysis and Governmental Affairs (Matthews, Ellis)
Division of Economic Regulation (Lee) DL
Office of the General Counsel (Brown) MCB

Handwritten initials and signatures:
POE
DL
MCB
RGT

RE: Docket No. 090146-EQ – Petition by Tampa Electric Company for approval of extension of small power production agreement with City of Tampa.

AGENDA: 09/15/09 – Regular Agenda – Interested Persons May Participate

COMMISSIONERS ASSIGNED: All Commissioners

PREHEARING OFFICER: Edgar

CRITICAL DATES: None

SPECIAL INSTRUCTIONS: None

FILE NAME AND LOCATION: S:\PSC\SGA\WP\090146.RCM.DOC

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COMMISSION CLERK

Case Background

Tampa Electric Company (TECO) filed a petition on March 23, 2009, requesting Commission approval of an extension to a small power production agreement (Extension) with the City of Tampa (City). The power is produced at the City's McKay Bay Refuse to Energy Facility (Facility), a municipal solid waste-fired steam turbine generator, located in Hillsborough County, Florida. The original agreement was approved in Order No. 12445, issued September 2, 1983, in Docket No. 830199-EU, In re: Petition of Tampa Electric Company for approval of energy and capacity payments to the City of Tampa, Florida. An amendment to the agreement was approved by the Commission in Order No. 21862-A, issued September 8, 1989, in Docket No. 890736-EQ, In re: Petition of Tampa Electric Company for approval of amendment to small power agreement with City of Tampa. The original 1982 agreement and the 1989 amendment

DOCUMENT NUMBER-DATE

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are referred to collectively as the “First Agreement” and allow for the sale and purchase of 15.5 megawatts (MW) of capacity and associated energy.

In February 1999, the City and TECO (the Parties) executed a “Force Majeure Agreement” which allows the contract obligations to be suspended during extended outages of the Facility for various reasons and which provides for an extension of the termination date of the First Agreement by an amount of time equal to that of the outage. In order to complete an environmental retrofit project which also included the replacement of items such as boilers and furnace/grate systems, the Facility experienced an outage of 29 months duration which began on August 1, 1999 and ended on December 31, 2001. In accordance with the provisions of the Force Majeure Agreement, the First Agreement termination date was extended from March 1, 2009, to August 1, 2011. The retrofit project also resulted in enhanced performance and improved efficiency of the Facility.

After a demonstration period confirming the Facility’s improved performance, in 2006 the Parties executed an agreement for the sale and purchase of 3.5 MW of additional firm capacity and associated energy. The “2006 Agreement” was approved by the Commission pursuant to Order No. PSC-06-0943-PAA-EQ, issued November 13, 2006, in Docket No. 060573-EQ, In re: Petition of Tampa Electric Company for approval of 2006 small power production agreement with City of Tampa. The First Agreement and the 2006 Agreement together provide a combined total of 19 MW of firm capacity and associated energy with a common expiration date of August 1, 2011.

The instant petition for approval of the Extension seeks to combine the two separate capacities into one 19 MW total under a single agreement terminating in 2024. The contract extension is effectively a continuation of the First Agreement, which was first negotiated in the 1980s. This contract, like many purchased power agreements of the period, is a type of ‘fuel savings’ arrangement modeled after a coal unit. In particular, the Extension continues many of the provisions from the First Agreement, such as performance parameters, while extending the term of the contract for an additional 13 years and making other modifications discussed below. The Extension will not apply to the 2006 Agreement which will expire as scheduled on August 1, 2011.

The Commission has jurisdiction over this matter pursuant to Sections 366.051 and 366.81, Florida Statutes (F.S.).

Discussion of Issues

Issue 1: Should the Commission approve, for the purposes of cost recovery, the proposed extension of a small power production agreement between Tampa Electric Company (TECO) and the City of Tampa (City)?

Recommendation: Yes. Based on cost-effectiveness analyses, the contract can potentially result in a net present value savings to TECO's customers of between \$677,000 and \$8.7 million when compared to TECO's Standard Offer Contract using a 2012 combustion turbine as the avoided unit. The Extension provides both Parties the absolute discretion to terminate the Agreement effective August 1, 2014, August 1, 2017, or August 1, 2020, by providing 18 months prior written notice. Because the cost-effectiveness of the Extension is highly dependent on the actual performance of the solid waste facility, staff recommends that TECO be required to file with staff a re-evaluation of the continued long term cost-effectiveness of the agreement by August 1, 2012, August 1, 2015, and August 1, 2018. (Matthews, Ellis)

Staff Analysis: For the past 26 years, TECO has purchased firm capacity and associated energy generated by the Facility under agreements previously approved by the Commission. The original 15.5 MW has been sold and purchased under contract since 1983, and the additional 3.5 MW since 2006. The Facility is fueled by municipal solid waste, which is defined as a renewable resource in Section 366.91(2)(a), F.S., and in Rule 25-17.210, Florida Administrative Code (F.A.C.). The Commission has a long history of supporting utility purchases of electric energy generated from renewable sources, including municipal solid waste.

Pursuant to Rule 25-17.0832(3), F.A.C., in reviewing a negotiated firm capacity contract, the Commission must consider the following: the need for power, the cost-effectiveness of the contract, security provisions for capacity payments, and performance guarantees. Each of these considerations is evaluated below.

Need for Power

TECO currently purchases a combined total of 19 MW of firm capacity under the two agreements with the City, which both expire on August 1, 2011. This capacity is included in TECO's 2009 Ten-Year Site Plan which projects that the reserve margin for the summer peak demand will drop below the 20 percent target to 19.3 percent in 2012. Approval of the Extension would increase the reserve margin to 19.7 percent in 2012. TECO's next planned generating unit is a combustion turbine with an in-service date of May 2012.

In addition to its contribution to reliability, the Extension also increases the displacement of energy generated by fossil fuels. The Extension will provide some additional reduction to the state's dependence on these resources and positively affect the promotion of fuel diversity.

Cost Effectiveness

Several analyses were performed in order to determine the cost-effectiveness of the proposed Extension. TECO's petition states that the contract provides a savings to its customers of \$2.2 million. After staff requested detailed information regarding the declared savings, it was determined that these savings were estimated by comparing the contract payments for firm capacity and energy under the Extension to those for system as-available energy at a capacity factor of 95 percent. This capacity factor was used because the actual capacity factor of the Facility has averaged 95 percent over the past seven years. Under the terms of the Extension, however, the City will receive fixed capacity payments if the Facility achieves a twelve-month rolling average capacity factor of not less than 70 percent. Staff requested a comparison between the Extension and the Standard Offer Contract, based on an avoided combustion turbine unit with an in-service date of 2012, for which TECO filed a petition for approval on April 1, 2009. This analysis shows that when using a capacity factor of 70 percent, the Extension affords a net savings to ratepayers of \$8.6 million over the contract term. When using a 95 percent capacity factor, the savings increases to \$15.6 million.

Upon review of the assumptions for the above analyses, it was determined that the fuel forecast being used for comparison was from late 2007. Staff requested that TECO perform the same analyses using a more recent fuel forecast. When using a 95 percent capacity factor, the net savings from the Extension are \$8.7 million compared to the Standard Offer Contract. At the negotiated minimum capacity factor of 70 percent, the net savings drop to a marginal amount of \$677,000. In other words, the use of the updated fuel forecast in the analysis significantly reduces the projected net savings resulting from the Extension if the Facility operates at the lower 70 percent capacity factor negotiated by the Parties. As noted above, the actual capacity factor of the Facility has averaged 95 percent over the past seven years.

The 2006 Agreement requires the Facility to achieve a minimum capacity factor of 80 percent in order to receive a capacity payment. However, only a portion of the capacity payment is made unless a capacity factor of 90 percent or greater is achieved. In contrast, the terms of the First Agreement featured a requirement of only 70 percent capacity factor for a full capacity payment. The performance parameters in the Extension have been 'grandfathered' from the First Agreement, which was approved over 20 years ago.

Columns (3) and (8) of Attachments A and B show that the capacity payments under the Extension are approximately twice as large as capacity payments under the Standard Offer Contract. Conversely, columns (4) and (9) show that the energy rate under the Extension is roughly half of the rate under the Standard Offer Contract. This relationship occurs because the Standard Offer Contract payments are based on a natural gas peaking unit. While the capacity of the Facility does contribute to the peak load requirements of TECO, its primary benefit is derived from projected fuel savings which, because of the low 70 percent capacity factor agreed to in the negotiated contract, are significantly lower than the actual savings the Facility is expected to produce (i.e., at a capacity factor of 95 percent). The figures in column (11) show that the net savings of the Extension over the Standard Offer Contract are greatest in the early years of the contract term. As mentioned previously, the Extension represents a contract that is effectively displacing the use of higher priced energy. Although the Extension meets the Commission's

established cost-effectiveness criteria as a negotiated contract, it places the risk of future fuel fluctuations on the ratepayers, and staff questions why TECO would agree to carry forward such a low threshold capacity factor of 70 percent.

While the Extension may have low minimum performance requirements, it does contain a provision that ensures that TECO's ratepayers will receive all the committed capacity and energy from the Facility. Page 3 of the Extension states:

...the Parties agree that electric energy produced by the Facility that is in excess of the total amount of energy necessary to deliver 19.0 megawatts to Tampa Electric at a monthly capacity factor of 100% during each calendar month during the term of this Extension ("Excess Energy") may be sold to Tampa Electric; or the City may sell such Excess Energy to third-parties...

In addition, Section 5 of the Extension modifies the First Agreement by including the following clause:

Commencing August 1, 2011, the City and Tampa Electric shall each have the right in its sole and absolute discretion to terminate the Agreement effective August 1, 2014, August 1, 2017, or August 1, 2020, by providing 18 (eighteen) months prior written notice of such termination, and thereupon the Parties shall be fully relieved of any and all liability or responsibility of any kind to one another arising out of or relating to this Extension...

Overall the contract appears to be cost effective and should be approved. Staff believes that a higher minimum capacity factor may have been more appropriate based on the Facility's historic performance. In order to protect TECO's ratepayers, staff believes that the three drop-out dates contained in the Extension should be utilized as a cost-effectiveness checking mechanism. In order to verify the continued savings to TECO's customers, staff recommends that TECO file an evaluation with staff prior to each of the three contract drop-out dates. Because each Party is required to give the other at least 18 months prior notice of intent to terminate the contract, a report updating the projected performance of the Facility and projected cost-effectiveness of the contract should be submitted to staff 24 months (two years) in advance of each termination date. The reports would thus be due on August 1, 2012, August 1, 2015, and August 1, 2018. If the determination is made that the contract is in fact no longer a good value for TECO's customers, TECO should exercise its rights under Section 5 of the Extension.

Security for Capacity Payments

No security provisions for early capacity payments are necessary, as this agreement is an extension of an existing contract.

Performance Guarantees

The First Agreement contains provisions requiring the repayment of capacity payments following non-performance periods of 12 months. The Extension eliminates those provisions and supplants them by allowing the contract to be terminated for any reason as provided for in Section 5 of the Extension. As mentioned above, the terms of the Extension provide that the City will receive fixed capacity payments only if the Facility achieves a twelve-month rolling average capacity factor of 70 percent or greater.

Conclusion

Rule 25-17.001(5)(d), F.A.C., encourages electric utilities to:

Aggressively integrate nontraditional sources of power generation including Cogenerators with high thermal efficiency and small power producers using renewable fuels into the various utility service areas near utility load centers to the extent cost effective and reliable.

Staff believes the continued use of the capacity and energy associated with the Facility represents an encouragement of renewable fuels in Florida. The Extension provides TECO's customers an opportunity to obtain 19 MW of firm capacity and energy, generated using a renewable fuel source, that are potentially below TECO's avoided cost. Taking into consideration the protections afforded by the Commission's re-assessment of the contract every three years and the ability of either of the Parties to terminate the contract, staff believes that the Extension represents a good value for TECO's ratepayers and should be approved as recommended.

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Issue 2: Should this docket be closed?

Recommendation: Yes. If no person whose substantial interests are affected by the proposed action files a protest within 21 days of the issuance of the order, this docket should be closed upon the issuance of a consummating order. (Brown)

Staff Analysis: If no person whose substantial interests are affected by the proposed action files a protest within 21 days of the issuance of the order, this docket should be closed upon the issuance of a consummating order.

Attachment A - 70 % Capacity Factor

Comparison of Projected Payments to City of Tampa (COT) and Payments Under TECO 2012 CT Standard Offer Contract (SOC)

		Capacity Factor		70%		Capacity		19 MW			
Year	(1) Coal based Negotiated Capacity Payments \$/kW-Mo	(2) Projected Coal Energy Payments Big Bend 4 cents/kWh	(3) COT Negotiated Capacity Payments \$	(4) COT Negotiated Energy Payments \$	(5) COT Negotiated Total Payments \$	(6) COT Negotiated Total Payments \$/MWh	(7) SOC 2012 CT Capacity Payments \$/kW-Mo	(8) SOC 2012 CT Capacity Payments \$	(9) SOC 2012 CT Energy Payments \$	(10) SOC 2012 CT Total Payments \$	(11) (5) - (10) Difference between COT and SOC \$
2011	23.8	3.12	2,261	1,523	3,784	77.49	10.26	975	2,960	3,935	(150.00)
2012	24.1	3.15	5,494	3,674	9,168	78.69	10.49	2,392	6,439	8,831	337.00
2113	24.82	3.23	5,659	3,762	9,420	80.85	10.73	2,446	7,988	10,435	(1015.00)
2014	25.57	3.42	5,829	3,981	9,810	84.2	10.98	2,503	8,834	11,338	(1528.00)
2015	26.34	3.66	6,004	4,259	10,264	88.09	11.23	2,560	8,297	10,857	(594.00)
2016	27.12	3.88	6,184	4,522	10,706	91.89	11.49	2,620	8,941	11,561	(854.00)
2017	27.94	4.05	6,369	4,718	11,087	95.16	11.76	2,681	7,993	10,674	413.00
2018	28.77	4.42	6,561	5,153	11,713	100.54	12.03	2,743	8,965	11,708	5.00
2019	29.64	4.62	6,757	5,381	12,138	104.18	12.3	2,804	9,700	12,504	(366.00)
2020	30.53	4.82	6,960	5,613	12,573	107.91	12.59	2,871	8,553	11,424	1149.00
2021	31.44	5.02	7,169	5,851	13,019	111.75	12.88	2,937	9,919	12,855	164.00
2022	32.39	5.23	7,384	6,094	13,478	115.68	13.18	3,004	9,370	12,375	1103.00
2023	33.35	5.44	7,604	6,343	13,947	119.71	13.48	3,073	10,084	13,158	790.00
2024	33.93	5.65	4,513	3,823	8,336	123.18	13.79	1,834	4,782	6,616	1720.00

NPV 2009\$

\$77,922

\$78,599

(\$677)

Discount
Rate:

7.88%

Attachment B - 95 % Capacity Factor

Comparison of Projected Payments to City of Tampa (COT) and Payments Under TECO 2012 CT Standard Offer Contract (SOC)

Capacity Factor	95%	Capacity	19 MW
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Year	(1) Coal based Negotiated Capacity Payments \$/kW-Mo	(2) Projected Coal Energy Payments Big Bend 4 cents/kWh	(3) COT Negotiated Capacity Payments \$	(4) COT Negotiated Energy Payments \$	(5) COT Negotiate d Total Payments \$	(6) COT Negotiated Total Payments \$/MWh	(7) SOC 2012 CT Capacity Payments \$/kW-Mo	(8) SOC 2012 CT Capacity Payments \$	(9) SOC 2012 CT Energy Payments \$	(10) SOC 2012 CT Total Payments \$	(11) (5) - (10) Difference between COT and SOC \$
2011	23.8	3.12	2,261	2,067	4,328	65.31	10.26	975	4,164	5,139	(810.00)
2012	24.1	3.15	5,494	4,986	10,480	66.28	10.49	2,392	9,379	11,771	(1291.00)
2013	24.82	3.23	5,659	5,105	10,764	68.07	10.73	2,446	10,368	12,814	(2051.00)
2014	25.57	3.42	5,829	5,403	11,232	71.04	10.98	2,503	11,245	13,749	(2517.00)
2015	26.34	3.66	6,004	5,780	11,785	74.53	11.23	2,560	11,021	13,582	(1797.00)
2016	27.12	3.88	6,184	6,137	12,321	77.93	11.49	2,620	11,864	14,484	(2163.00)
2017	27.94	4.05	6,369	6,403	12,772	80.78	11.76	2,681	10,681	13,362	(590.00)
2018	28.77	4.42	6,561	6,993	13,554	85.72	12.03	2,743	11,606	14,349	(795.00)
2019	29.64	4.62	6,757	7,302	14,060	88.92	12.3	2,804	12,706	15,510	(1450.00)
2020	30.53	4.82	6,960	7,618	14,578	92.19	12.59	2,871	11,528	14,399	179.00
2021	31.44	5.02	7,169	7,940	15,109	95.55	12.88	2,937	13,002	15,939	(830.00)
2022	32.39	5.23	7,384	8,270	15,654	99	13.18	3,004	12,398	15,402	252.00
2023	33.35	5.44	7,604	8,608	16,213	102.54	13.48	3,073	13,508	16,581	(368.00)
2024	33.93	5.65	4,513	5,188	9,701	105.63	13.79	1,834	6,769	8,603	1098.00

NPV 2009\$

\$89,810

\$98,525	(\$8,715)
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Discount Rate:	7.88%
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