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September 28, 2009

HAND DELIVERED

RECEIVED-FPSC
09 SEP 28 PM 2:25
COMMISSION
CLERK

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

Re: Petition for approval of solar energy power purchase agreement between Tampa Electric Company and Energy 5.0 LLC; FPSC Docket No. 090109-EI

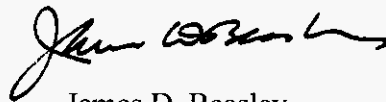
Dear Ms. Cole:

Enclosed are the originals of Tampa Electric's responses to Staff's August 31, 2009 First Informal Data Request (Nos. 1-9).

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
Enclosure

cc: Mr. Robert Graves (w/enc.)
Ms. Jean Hartman (w/enc.)

DOCUMENT NUMBER-DATE

09982 SEP 28 2

FPSC-COMMISSION CLERK

**TAMPA ELECTRIC COMPANY
DOCKET NO. 090109-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 1
PAGE 1 OF 2
FILED: SEPTEMBER 28, 2009**

1. How was the fixed energy cost by Energy 5.0 developed? (Capital, O&M, Green Attributes, IRR, etc) Please provide any and all work papers/spreadsheets associated with the development of this cost. (Direct to Energy 5.0).
 - A. The fixed energy cost, the fixed price to be paid by Tampa Electric under the Solar PPA, is a negotiated value. While Energy 5.0 made certain assumptions in preparing its initial 2007 response to Tampa Electric's renewable energy solicitation, and throughout the negotiation process, the fixed price is just that, a fixed price. It is not a "built up" value in the conventional utility accounting sense. Tampa Electric has no knowledge of Energy 5.0's internal financial analysis that may support the confidential price of the subject power purchase agreement. Energy 5.0 responded to Tampa Electric's 2007 Renewable Generation Request for Proposals with a proposal to build, own and operate a 75 MW PV facility and deliver all of the energy and environmental attributes of the energy to Tampa Electric for a period of 30 years for a set base price with a yearly escalation rate. The initial proposals were provided to the Commission on a confidential basis. During the course of that negotiation the size of the project was reduced from 75 MW to 25 MW, the price was adjusted slightly to reflect the impact of the decreased economies of scale and the escalated price was levelized to the confidential value previously provided to the Commission.

As stated in Tampa Electric's petition, filed March 9, 2009, the Energy 5.0 response to the company's request for proposals was the most competitive non-firm solar proposal. Also, Tampa Electric's response to Staff's Second Set of Interrogatories No. 51 provided comparative pricing information for utility scale PV solar projects. The most recently available information relevant to Staff's request can be found in the California Energy Commission report entitled "Comparative Costs Of California Central Station Electricity Generation" which provides a methodology and levelized price for a variety of energy generation technologies for facilities built, owned, and operated by merchant, investor and publicly owned utilities. The executive summary of that report is attached to this response; the full report is available at the following link: <http://www.energy.ca.gov/2009publications/CEC-200-2009-017/CEC-200-2009-017-SD.PDF>. The study considers all capital, operating and maintenance cost components, an assumed capital structure, taxes, insurance, available incentives and as appropriate fuel and waste disposal costs to establish a consistent set of levelized costs per kWh for utility scale facilities employing several energy generation technologies assumed

DOCUMENT NUMBER-DATE

1

09982 SEP 28 09

FPSC-COMMISSION CLERK

**TAMPA ELECTRIC COMPANY
DOCKET NO. 090109-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 1
PAGE 2 OF 2
FILED: SEPTEMBER 28, 2009**

commencing operation in California in 2009. Table B-1 of that report lists the average levelized costs for a merchant 25 MW PV solar facility as 26.22 cents per kWh. Despite the presence of better solar resource in most areas of California than any in Florida, the levelized price from the CEC report is greater than the confidential price in the Tampa Electric Energy 5.0 power purchase and sale agreement. The list of data points, while by no means exhaustive, is representative of utility scale PV projects. The conclusion, for the Commission's inquiry into the reasonableness of the pricing under the Tampa Electric-Energy 5.0 Solar PPA, is that by whatever means Energy 5.0 and Tampa Electric arrived at the contract price, the results are more favorable to Tampa Electric's customers than any of the comparably sized facilities listed in the table.

**TAMPA ELECTRIC COMPANY
DOCKET NO. 090109-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 2
PAGE 1 OF 1
FILED: SEPTEMBER 28, 2009**

2. Please complete the table below describing a 25 MW self built, by TECO, solar facility.

Cost data		
	Fixed Array	Tracking
Incremental Gross Capacity (MW)		
Incremental Net Capacity (MW)		
Construction start date		
In-service date		
Useful life (years)		
Total Site area		
Overnight construction costs (\$/kw)		
CWIP (\$)		
Total installed costs (\$/kw)		
Fixed O&M (\$/kw-yr)		
Variable O&M (\$/MWH)		
Discount Rate (%)		

A.

Cost data ¹		
	Fixed Array	Tracking
Incremental Gross Capacity (MW)	32.5	34.2 ²
Incremental Net Capacity (MW)	25.0	25.0 ³
Construction start date	01/01/2010	01/01/2010 ³
In-service date	01/01/2011	01/01/2011 ³
Useful life (years)	25	25 ³
Total Site area (acres)	200	200 ³
Overnight construction costs (\$/kw)	5,490	6,220 ⁴
CWIP (\$)	N/A	N/A
Total installed costs (\$/kw)	5,490	6,220 ⁴
Fixed O&M (\$/kw-yr)	30	30 ⁴
Variable O&M (\$/MWH)	N/A	N/A ⁴
Discount Rate (%)	7.99	7.99 ⁵

¹The estimated costs for a 25 MW solar facility do not include any ITC credit.

²Source: NREL (National Renewable Energy Lab) website showing MW DC to MW AC losses.

³Source: Energy 5.0 Petition

⁴Source: Black & Veatch Supply Side Options Report, 1/12/09.

⁵Source: Tampa Electric memo from Chrys Remmers, 8/5/09 titled, "Updated Financial Assumptions for 2009 Economic Evaluations and Planning Studies"

**TAMPA ELECTRIC COMPANY
DOCKET NO. 090109-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 3
PAGE 1 OF 1
FILED: SEPTEMBER 28, 2009**

3. If approved will the Energy 5.0 solar plant provide firm capacity that will contribute to TECO's reserve margin? Please explain answer.
 - A. No. The Energy 5.0 purchase is non-firm.

**TAMPA ELECTRIC COMPANY
DOCKET NO. 090109-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 4
PAGE 1 OF 1
FILED: SEPTEMBER 28, 2009**

- 4.** Are there any requirements for the Energy 5.0 facility to deliver energy?
- A.** No. The Energy 5.0 agreement does not have a minimum energy delivery requirement however; the contract has an energy only payment structure. There are no fixed monthly payments; therefore, Tampa Electric pays Energy 5.0 only for the energy delivered by the facility.

**TAMPA ELECTRIC COMPANY
DOCKET NO. 090109-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 5
PAGE 1 OF 1
FILED: SEPTEMBER 28, 2009**

5. How will the costs (\$750,000) with the transmission upgrades be recovered?
 - A. As discussed in the supplement to Tampa Electric's petition filed March 9, 2009, a preliminary estimate determined that costs of necessary upgrades could be as much as \$750,000. The network upgrades would primarily be capital improvements that would become the property of Tampa Electric and be included as part of the company's rate base.

**TAMPA ELECTRIC COMPANY
DOCKET NO. 090109-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 6
PAGE 1 OF 1
FILED: SEPTEMBER 28, 2009**

- 6.** Please provide a timeline for the transmission upgrades.
 - A.** The rebuild of the one mile of 69 kV circuit may take up to 15 months depending on permit and engineering requirements. Subject to Commission approval of the Energy 5.0 project, with the expected start date of January 2010 the rebuild will be complete by April 2011.

**TAMPA ELECTRIC COMPANY
DOCKET NO. 090109-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 7
PAGE 1 OF 1
FILED: SEPTEMBER 28, 2009**

7. Will the required transmission upgrades effect the in-service date of the proposed solar project?
- A. No. The expected in-service date provided by the customer for the impact study is April 2011. Based on the 15-month time line, the line rebuild will be complete by April 2011 if started in January 2010 as Tampa Electric anticipates.

**TAMPA ELECTRIC COMPANY
DOCKET NO. 090109-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 8
PAGE 1 OF 2
FILED: SEPTEMBER 28, 2009**

8. Please complete the table below regarding the impact of the proposed purchase on customer's bills. Please assume carbon costs consistent with those assumed by TECO in Docket No 080409. Also please utilize TECO's most recent fuel costs.

Scenario Assumed					
Year	Annual Total Revenue Requirements (\$millions, Nominal \$) with Solar Contract	Annual Total Revenue Requirements (\$millions, Nominal \$) without Solar Contract	Differential in Annual Total Revenue Requirements (\$millions, Nominal \$)	Differential in Annual Total Revenue Requirements (\$millions, 2009 \$)	Differential in Customer Bill of 1,200 kWh (\$)
2011					
2012					
2013					
2014					
2015					
2016					
2017					
2018					
2019					
2020					
2021					
2022					
2023					
2024					
2025					
2026					
2027					
2028					
2029					
2030					
2031					
2032					
2033					
2034					
2035					

**TAMPA ELECTRIC COMPANY
DOCKET NO. 090109-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 8
PAGE 2 OF 2
FILED: SEPTEMBER 28, 2009**

A. The impact of the proposed purchase on customer's bills is provided in the table below.

Scenario Assumed					
Year	Annual Total Revenue Requirements (\$millions, Nominal \$) with Solar Contract ¹	Annual Total Revenue Requirements (\$millions, Nominal \$) without Solar Contract	Differential in Annual Total Revenue Requirements (\$millions, Nominal \$)	Differential in Annual Total Revenue Requirements (\$millions, 2009 \$)	Differential in Customer Bill of 1,200 kWh (\$) ²
2011	1,103	1,094	8.94	7.62	0.46
2012	1,172	1,163	8.85	6.96	0.42
2013	1,257	1,248	8.81	6.40	0.38
2014	1,982	1,974	7.80	5.23	0.31
2015	2,092	2,084	7.93	4.90	0.30
2016	2,208	2,200	7.66	4.38	0.26
2017	2,315	2,307	7.36	3.88	0.23
2018	2,565	2,557	7.90	3.85	0.23
2019	2,696	2,688	7.86	3.53	0.22
2020	2,822	2,815	6.70	2.78	0.17
2021	2,943	2,935	7.43	2.84	0.17
2022	3,076	3,070	6.79	2.40	0.14
2023	3,229	3,223	6.26	2.04	0.12
2024	3,510	3,503	7.45	2.24	0.13
2025	3,673	3,666	6.61	1.84	0.11
2026	3,821	3,814	6.80	1.75	0.11
2027	3,993	3,987	5.82	1.38	0.08
2028	4,173	4,168	5.59	1.22	0.07
2029	4,338	4,333	5.04	1.02	0.06
2030	4,528	4,523	5.28	0.98	0.06
2031	4,735	4,730	4.95	0.85	0.05
2032	4,941	4,937	4.26	0.68	0.04
2033	5,149	5,145	3.97	0.58	0.04
2034	5,350	5,347	3.48	0.47	0.02
2035	5,590	5,587	2.88	0.36	0.02

¹ Revenue requirements represent system fuel, capacity and variable O&M costs plus incremental expansion capital and fixed O&M costs.

² Customer bill impacts are based on the current approved rates and are calculated in 2009 dollars.

**TAMPA ELECTRIC COMPANY
DOCKET NO. 090109-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 9
PAGE 1 OF 2
FILED: SEPTEMBER 28, 2009**

9. Please complete the table below regarding the impact of the proposed purchase on customer's bills. Please assume carbon costs consistent with those presented in the Congressional Budget Office's Waxman-Markey Climate Bill (Please assume that the REC price would be capped at the alternative compliance payment also featured in the current draft of Waxman-Markey). Also please utilize TECO's most recent fuel costs.

Scenario Assumed					
Year	Annual Total Revenue Requirements (\$millions, Nominal \$) with Solar Contract	Annual Total Revenue Requirements (\$millions, Nominal \$) without Solar Contract	Differential in Annual Total Revenue Requirements (\$millions, Nominal \$)	Differential in Annual Total Revenue Requirements (\$millions, 2009 \$)	Differential in Customer Bill of 1,200 kWh (\$)
2011					
2012					
2013					
2014					
2015					
2016					
2017					
2018					
2019					
2020					
2021					
2022					
2023					
2024					
2025					
2026					
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2028					
2029					
2030					
2031					
2032					
2033					
2034					
2035					

**TAMPA ELECTRIC COMPANY
DOCKET NO. 090109-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 9
PAGE 2 OF 2
FILED: SEPTEMBER 28, 2009**

A. The impact of the proposed purchase on customer's bills is provided in the table below.

Scenario Assumed					
Year	Annual Total Revenue Requirements (\$millions, Nominal \$) with Solar Contract ¹	Annual Total Revenue Requirements (\$millions, Nominal \$) without Solar Contract	Differential in Annual Total Revenue Requirements (\$millions, Nominal \$)	Differential in Annual Total Revenue Requirements (\$millions, 2009 \$)	Differential in Customer Bill of 1,200 kWh (\$) ²
2011	1,351	1,342	8.63	7.35	0.44
2012	1,442	1,434	8.47	6.66	0.40
2013	1,552	1,544	8.41	6.10	0.37
2014	1,626	1,618	8.29	5.56	0.34
2015	1,715	1,706	8.43	5.22	0.31
2016	1,825	1,817	8.19	4.68	0.28
2017	1,909	1,901	7.95	4.19	0.25
2018	2,156	2,147	8.41	4.09	0.24
2019	2,275	2,267	8.42	3.78	0.23
2020	2,379	2,371	7.34	3.04	0.18
2021	2,482	2,474	8.00	3.06	0.18
2022	2,593	2,586	7.44	2.63	0.16
2023	2,724	2,717	6.94	2.26	0.13
2024	2,989	2,981	8.06	2.43	0.14
2025	3,129	3,121	7.27	2.02	0.12
2026	3,253	3,246	7.42	1.90	0.12
2027	3,403	3,396	6.58	1.56	0.10
2028	3,553	3,547	6.37	1.39	0.08
2029	3,695	3,689	5.82	1.17	0.07
2030	3,861	3,855	6.05	1.13	0.07
2031	4,040	4,035	5.80	1.00	0.06
2032	4,218	4,213	5.16	0.82	0.05
2033	4,403	4,398	4.84	0.71	0.05
2034	4,576	4,572	4.40	0.60	0.04
2035	4,790	4,786	3.86	0.48	0.02

¹ Revenue requirements represent system fuel, capacity and variable O&M costs plus incremental expansion capital and fixed O&M costs.

² Customer bill impacts are based on the current approved rates and are calculated in 2009 dollars.