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:

April 2, 2010

TO:

Ann Cole, Commission Clerk, Office of Commission Clerk

FROM:

Erik L. Sayler, Senior Attorney, Office of the General Counsel

RE:

Docket No. 090109-EI - Petition for approval of solar energy power purchase

agreement between Tampa Electric Company and Energy 5.0, LLC.

Please place the attached Tampa Electric Company's responses to Staff's Third Set of Interrogatories (Nos. 70-79) and Third Request for Production of Documents (No. 13), dated April 1, 2010, into the Docket file.

Please place Energy 5.0 LLC's responses to Staff's First Set of Interrogatories (Nos. 1-4), dated April 1, 2010, into the Docket file.

ELS/th Attachment



02448 APR-29

AUSLEY & MCMULLEN

ATTORNEYS AND COUNSELORS AT LAW

123 SOUTH CALHOUN STREET
P.O. BOX 391 (ZIP 32302)
TALLAHASSEE, FLORIDA 32301
(850) 224-9115 FAX (850) 222-7560

April 1, 2010

HAND DELIVERED

Mr. Erik L. Sayler Senior Attorney Office of General Counsel Florida Public Service Commission Room 370L – Gerald L. Gunter Bldg. 2540 Shumard Oak Boulevard Tallahassee, FL 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 Mr. Sayler:

Enclosed are Tampa Electric Company's answers to Staff's Third Set of Interrogatories (Nos. 70-79) and Third Request for Production of Documents (No. 13), propounded and served by electronic and U. S. Mail on March 12, 2010.

Sincerely,

James D. Beasley

JDB/pp Enclosures

DOCUMENT NUMBER - DATE

02448 APR-29

FPSC-COMMISSION CLERK

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition for approval of solar energy)	
power purchase agreement between Tampa)	DOCKET NO. 090109-EI
Electric Company and Energy 5.0 LLC.)	
)	FILED: April 1, 2010

TAMPA ELECTRIC COMPANY'S NOTICE OF SERVICE OF ANSWERS TO THIRD SET OF INTERROGATORIES (NOS. 70-79) OF THE FLORIDA PUBLIC SERVICE COMMISSION STAFF

Tampa Electric Company has this date furnished by hand delivery to Mr. Erik L. Sayler, Senior Attorney, Office of General Counsel, Florida Public Service Commission, 2540 Shumard Oak Blvd., Tallahassee, FL 32399-0850, its Answers to Staff's Third Set of Interrogatories (Nos. 70-79), propounded and served by electronic and U. S. Mail on March 12, 2010.

DATED this / day of April, 2010.

Respectfully submitted,

JAMES D. BEASLEY

J. JEFFRY WAHLEN

Ausley & McMullen

Post Office Box 391 Tallahassee, FL 32302

(850) 224-9115

ATTORNEYS FOR TAMPA ELECTRIC COMPANY

DOCUMENT NUMBER-DATE

02448 APR-29

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing Notice of Service of Answers to Staff's Third Set of Interrogatories (Nos. 70-79), filed on behalf of Tampa Electric Company, has been furnished by U. S. Mail or hand delivery (*) on this / day of April 2010 to the following:

Mr. Erik L. Sayler*
Senior Attorney
Office of General Counsel
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Mr. Robert Scheffel Wright Mr. John T. LaVia, III Young van Assenderp, P.A. 225 South Adams Street, Suite 200 Tallahassee, FL 32301 Mr. Richard Zambo 2336 S.E. Ocean Blvd. - #309 Stuart, FL 34996

Energy 5.0, LLC 1601 Forum Place, Suite 1010 West Palm Beach, FL 33401

ATTORNEY

BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

In re: P	etition for approval of Solar
	Power Purchase Agreement
	Tampa Electric and Energy
5.0. LLC	

DOCKET NO. 090109-EI FILED: APRIL 1, 2010

TAMPA ELECTRIC COMPANY'S

ANSWERS TO THIRD SET OF INTERROGATORIES (NOS. 70 - 79)

OF

FLORIDA PUBLIC SERVICE COMMISSION STAFF

Tampa Electric files this its Answers to Interrogatories (Nos. 70 - 79) propounded and served on March 12, 2010, by the Florida Public Service Commission Staff.

02448 APR-29

FPSC-COMMISSION CLERK

TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI INDEX TO STAFF'S THIRD SET OF INTERROGATORIES (NOS. 70- 79)

Number	Witness	Subject	Potos
 	1111033	Subject	<u>Bates</u> Stamped
			Page
70	Smith	Please complete the following table describing the	1
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71		Solar PV facility at TECO's Polk Site:	
/1	Smith	In addition to TECO's response to Interrogatory 70, please provide the following information related to a self-build project at the Polk Site:	2
		a) Annual and Levelized cost of the project (¢/kwh)	
1		b) Please provide a comparison of	
		TECO's response to Interrogatory No.]
,		71(a), above to those found in the	
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		2. Solar PV	
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		Interrogatory 70. For purposes of this response,	
		please identify the capital structure components,	
		amounts, relative percentages, cost rates, and the	
,		weighted average cost of capital on a pretax and after lax basis.	
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'3	Smith	credits were included the response to Interrogatory	3
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		for Demand Side Renewable Projects. In its	
		brief, TECO states, "For GDS to ignore the	
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		and to propose a financial burden [\$0.10	
		monthly residential bill impact] on Tampa	
		Electric's customers in the form of a huge	
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		a) Please identify the basis for the	
		statement that it is "totally wrong" for	
		GDS to ignore the "non-cost-	
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		renewable measures?	
		b) Please reconcile this statement	

Number	Witness	<u>Subject</u>	Bates Stamped Page
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77	Aldazabal	Please identify any consumer groups of which TECO is aware that support paying higher rates for renewable energy.	9
78	Aldazabal	As of January 2010, what percentage of eligible customers were participating in TECO's renewable energy program?	10
79	Aldazabal	Please explain or describe whether all the discovery responses served by TECO to Staff's First and Second Set of Interrogatories (Nos. 1-44 and 45-69, respectively) and responses served by TECO to Staff's First and Second Set of Requests for Production of Documents (Nos. 1-4 and 4-12, respectively) are current. If the responses are not current, please supply or provide supplemental responses as needed.	11

Benjamin Smith II Manager, Power Marketing

Carlos Aldazabal Director, Regulatory Affairs

Tampa Electric Company 702 N. Franklin Street Tampa, Florida 33602

TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI STAFF'S THIRD SET OF INTERROGATORIES INTERROGATORY NO. 70 PAGE 1 OF 1 FILED: APRIL 1, 2010

70. Please complete the following table describing the total cost estimate for TECO to self-build a 25 MW Solar PV facility at TECO's Polk Site:

Capital	O&M	Administrative Costs	Tax Credits	Rebates	Other

A. The following table reflects the approximate costs for a self-build 25 MW Solar PV facility at the site of Tampa Electric's Polk Power Station.

Capital (\$000)	O&M (\$000)	Administrative Costs (\$000)	Tax Credits (\$000)	Rebates (\$000)	Other (\$000)
175,000	9,965	1,335	(22,485)	0	0

TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI STAFF'S THIRD SET OF INTERROGATORIES INTERROGATORY NO. 71 PAGE 1 OF 2 FILED: APRIL 1, 2010

- 71. In addition to TECO's response to Interrogatory 70, please provide the following information related to a self-build project at the Polk Site:
 - a) Annual and Levelized cost of the project (¢/kwh)
 - b) Please provide a comparison of TECO's response to Interrogatory No. 71(a), above to those found in the Navigant study for the following technologies:
 - 1. Solar Thermal
 - 2. Solar PV
- A. a) The levelized cost of the 25 MW self-build Solar PV facility is approximately 45.8 cents per kWh, and the annual cost of the project is as follows:

Year	Annual Cost
2010	0
2011	64.7
2012	62.2
2013	59.4
2014	56.8
2015	54.3
2016	51.9
2017	49.7
2018	47.4
2019	45.2
2020	42.9
2021	40.7
2022	38.5
2023	36.2
2024	34.0
2025	31.7
2026	29.8
2027	28.3
2028	27.2
2029	26.0
2030	24.9
2031	23.7
2032	22.5
2033	21.4
2034	20.2
2035	19.0

TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI STAFF'S THIRD SET OF INTERROGATORIES INTERROGATORY NO. 71 PAGE 2 OF 2 FILED: APRIL 1, 2010

- b) Using the "favorable for renewable energy scenario" data on page 266 of the Navigant Florida Renewable Energy Potential Assessment study, the following is a comparison between the response to Interrogatory No. 71(a) above and those found in the Navigant study for the following technologies:
 - 1. Solar Thermal
 - 2. Solar PV

Year	TEC Self-Build	Solar Ground Mounted PV (cents/kWh)	Solar CSP	TEC Self- Build Vs. Solar PV Delta (cents/kWh)	TEC Self-Build Vs. Solar CSP Delta (cents/kWh)
2009	0.0	28.8	25.5	-	-
2010	0.0	25.1	25.4	-	_
2011	64.7	24.2	25.4	40.5	39.3
2012	62.2	23.3	25.4	38.9	36.8
2013	59.4	22.4	25.4	37.0	34.0
2014	56.8	21.6	25.3	35.2	31.5
2015	54.3	20.7	25.3	33.6	29.0
2016	51.9	19.8	25.1	32.1	26.8
2017	49.7	19.0	24.8	30.7	24.9
2018	47.4	18.2	24.5	29.2	22.9
2019	45.2	23.5	31.9	21.7	13.3
2020	42.9	22.5	31.5	20.4	11.4

TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI STAFF'S THIRD SET OF INTERROGATORIES INTERROGATORY NO. 72 PAGE 1 OF 1

FILED: APRIL 1, 2010

- 72. Please supply the weighted average cost of capital that TECO used for purposes of TECO's response to Interrogatory 70. For purposes of this response, please identify the capital structure components, amounts, relative percentages, cost rates, and the weighted average cost of capital on a pretax and after tax basis.
- A. Tampa Electric's weighted average cost of capital used for the response to Staff's Third Set of Interrogatories No. 70 is as follows:

	Rate (%)	Weight (%)
Debt	6.80	46.04
Common Equity	<u>11.25</u>	<u>53.96</u>
Composite/Total	9.20	100.00

After tax discount rate for present worth calculations: 7.99% Corporate income tax rate utilized in the analysis: 38.575%

TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI STAFF'S THIRD SET OF INTERROGATORIES INTERROGATORY NO. 73 PAGE 1 OF 1 FILED: APRIL 1, 2010

- **73.** Please explain how the benefits, if any, of federal tax credits were included the response to Interrogatory 70?
- A. Pursuant to the current tax law, the data provided in response to Staff's Third Set of Interrogatories No. 70, reflects a 30 percent federal tax credit for the qualifying property placed in service in 2011. The credit reduces current tax payable in 2011 and is amortized over the depreciable life of the property.

TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI STAFF'S THIRD SET OF INTERROGATORIES INTERROGATORY NO. 74 PAGE 1 OF 1 FILED: APRIL 1. 2010

- 74. On page 31 of TECO's post-hearing brief, filed August 28, 2009, in Docket No. 080409-EG, In re: Commission review of numeric conservation goals (Tampa Electric Company), TECO addresses GDS's Subsidy for Demand Side Renewable Projects. In its brief, TECO states, "For GDS to ignore the non-cost-effectiveness of these measures and to propose a financial burden [\$0.10 monthly residential bill impact] on Tampa Electric's customers in the form of a huge subsidy of those measures over a five year period is totally wrong."
 - a) Please identify the basis for the statement that it is "totally wrong" for GDS to ignore the "non-cost-effectiveness" of demand-side renewable measures?
 - b) Please reconcile this statement relative to the "cost-effectiveness" of the proposed contract?
 - c) Please explain or describe the financial impact a \$0.48 increase to monthly residential bills will have on TECO's customers?
- A. a) The basis for Tampa Electric's statement in its post-hearing brief in Docket No. 080409-EG is specific to the Commission cost-effectiveness tests used in determining demand-side management ("DSM") goals, namely, the rate impact measure ("RIM") test, the total resource cost ("TRC") test and the participant test. All renewable measures evaluated in the DSM goals proceeding were not cost-effective under any of these tests. The company believes it is not appropriate to promote a non-cost-effective measure to be installed behind the meter at the expense of all other ratepayers.
 - b) Tampa Electric acknowledges that its proposed PPA agreement with Energy 5.0 is above avoided costs. However, the agreement was signed in an effort to address the renewable energy policies articulated by the Governor and Florida Legislature. Those policies which promote the development of renewable energy, particular solar, result in payments above avoided costs for energy.
 - c) The PPA is expected to have a first year impact of \$0.48 on monthly residential bills. The \$0.48 represents less than one-half of 1 percent of a current average residential bill; therefore, the company does not anticipate an increase to the delinquency rate as a result of the agreement.

TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI STAFF'S THIRD SET OF INTERROGATORIES INTERROGATORY NO. 75 PAGE 1 OF 1 FILED: APRIL 1, 2010

- **75.** Please provide the average residential/customer delinquency rate TECO has experienced for the years 2000-2009.
- A. Tampa Electric's response to Staff's Second Data Request No. 3 dated November 17, 2009, was updated to reflect the balance of 2009 in the table below.

Residential De	linquency Rate
2000	0.28%
2001	0.27%
2002	0.32%
2003	0.28%
2004	0.30%
2005	0.34%
2006	0.34%
2007	0.36%
2008	0.40%
2009	0.49%

TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI STAFF'S THIRD SET OF INTERROGATORIES INTERROGATORY NO. 76 PAGE 1 OF 1 FILED: APRIL 1, 2010

- **76.** Please provide an updated response to Staff Interrogatory No. 66. Please use TECO's most recent fuel forecasts. For scenarios which include carbon costs, please use the Congressional Budget Office's CO2 cost estimates under H.R. 2454.
- A. The most recent fuel forecast can be found in Tampa Electric's response to Staff's Second Data Request No. 4 filed on November 17, 2009. The CO₂ cost estimates used in the forecast reflect those found under H.R. 2454.

TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI STAFF'S THIRD SET OF INTERROGATORIES INTERROGATORY NO. 77 PAGE 1 OF 1 FILED: APRIL 1, 2010

- 77. Please identify any consumer groups of which TECO is aware that support paying higher rates for renewable energy.
- A. Tampa Electric is aware of three consumer groups that advocate paying higher rates for renewable energy, Southern Alliance for Clean Energy, Natural Resources Defense Council and Florida Solar Coalition.

TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI STAFF'S THIRD SET OF INTERROGATORIES INTERROGATORY NO. 78 PAGE 1 OF 1 FILED: APRIL 1, 2010

- **78.** As of January 2010, what percentage of eligible customers were participating in TECO's renewable energy program?
- A. As of January 2010, there were 2,720 customers participating in the company's renewable energy program representing 0.41 percent of the customers eligible to participate at that time.

TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI STAFF'S THIRD SET OF INTERROGATORIES INTERROGATORY NO. 79 PAGE 1 OF 1 FILED: APRIL 1, 2010

- 79. Please explain or describe whether all the discovery responses served by TECO to Staff's First and Second Set of Interrogatories (Nos. 1-44 and 45-69, respectively) and responses served by TECO to Staff's First and Second Set of Requests for Production of Documents (Nos. 1-4 and 4-12, respectively) are current. If the responses are not current, please supply or provide supplemental responses as needed.
- A. Tampa Electric's responses to Staff's First and Second Sets of Interrogatories Nos. 1 through 44 and 45 through 69 as well as Staff's First and Second Sets of Requests for Production of Documents Nos. 1 through 4 and 4 through 12 reflect the most current information.

AFFIDAVIT

STATE OF FLORIDA)
COUNTY OF HILLSBOROUGH)

Before me the undersigned authority personally appeared Carlos Aldazabal who deposed and said that he is Director, Tampa Electric Company, and that the individuals listed in Tampa Electric Company's response to Staff's Third Set of Interrogatories, (Nos. 70 -79) prepared or assisted with the responses to these interrogatories to the best of his information and belief.

Dated at Tampa, Florida this 30th day of March, 2010.

Sworn to and subscribed before me this 30th day of March, 2010.

Cyrakia Log Kyle

Notary Public State of Florida Cynthia Roy Kyle My Commission DD645902 Expires 03/01/2011

My Commission expires _____

BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition for approval of Solar)
Energy Power Purchase Agreement)
Between Tampa Electric and Energy)
5.0. LLC

DOCKET NO. 090109-EI FILED: APRIL 1, 2010

TAMPA ELECTRIC COMPANY'S ANSWERS TO THIRD SET OF INTERROGATORIES (NOS. 70 - 79)

OF

FLORIDA PUBLIC SERVICE COMMISSION STAFF

Tampa Electric files this its Answers to Interrogatories (Nos. 70 - 79) propounded and served on March 12, 2010, by the Florida Public Service Commission Staff.

02448 APR-29

FPSC-COMMISSION CLERK

TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI INDEX TO STAFF'S THIRD SET OF INTERROGATORIES (NOS. 70-79)

Number	<u>Witness</u>	<u>Subject</u>	<u>Bates</u>
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Number	<u>Witness</u>	<u>Subject</u>	Bates Stamped Page
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Benjamin Smith II Manager, Power Marketing

Carlos Aldazabal Director, Regulatory Affairs

Tampa Electric Company 702 N. Franklin Street Tampa, Florida 33602

TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI STAFF'S THIRD SET OF INTERROGATORIES INTERROGATORY NO. 70 PAGE 1 OF 1 FILED: APRIL 1, 2010

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TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI STAFF'S THIRD SET OF INTERROGATORIES INTERROGATORY NO. 71 PAGE 1 OF 2

- FILED: APRIL 1, 2010
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 - b) Please provide a comparison of TECO's response to Interrogatory No. 71(a), above to those found in the Navigant study for the following technologies:
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<u>Year</u>	Annual Cost
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2021	40.7
2022	38.5
2023	36.2
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2025	31.7
2026	29.8
2027	28.3
2028	27.2
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2032	22.5
2033	21.4
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TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI STAFF'S THIRD SET OF INTERROGATORIES INTERROGATORY NO. 71 PAGE 2 OF 2 FILED: APRIL 1, 2010

- b) Using the "favorable for renewable energy scenario" data on page 266 of the Navigant Florida Renewable Energy Potential Assessment study, the following is a comparison between the response to Interrogatory No. 71(a) above and those found in the Navigant study for the following technologies:
 - 1. Solar Thermal
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TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI STAFF'S THIRD SET OF INTERROGATORIES INTERROGATORY NO. 72 PAGE 1 OF 1 FILED: APRIL 1, 2010

- 72. Please supply the weighted average cost of capital that TECO used for purposes of TECO's response to Interrogatory 70. For purposes of this response, please identify the capital structure components, amounts, relative percentages, cost rates, and the weighted average cost of capital on a pretax and after tax basis.
- A. Tampa Electric's weighted average cost of capital used for the response to Staff's Third Set of Interrogatories No. 70 is as follows:

	Rate (%)	Weight (%)
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Common Equity	<u>11.25</u>	<u>53.96</u>
Composite/Total	9.20	100.00

After tax discount rate for present worth calculations: 7.99% Corporate income tax rate utilized in the analysis: 38.575%

TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI STAFF'S THIRD SET OF INTERROGATORIES INTERROGATORY NO. 73 PAGE 1 OF 1 FILED: APRIL 1, 2010

- **73.** Please explain how the benefits, if any, of federal tax credits were included the response to Interrogatory 70?
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TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI STAFF'S THIRD SET OF INTERROGATORIES INTERROGATORY NO. 74 PAGE 1 OF 1 FILED: APRIL 1, 2010

- 74. On page 31 of TECO's post-hearing brief, filed August 28, 2009, in Docket No. 080409-EG, In re: Commission review of numeric conservation goals (Tampa Electric Company), TECO addresses GDS's Subsidy for Demand Side Renewable Projects. In its brief, TECO states, "For GDS to ignore the non-cost-effectiveness of these measures and to propose a financial burden [\$0.10 monthly residential bill impact] on Tampa Electric's customers in the form of a huge subsidy of those measures over a five year period is totally wrong."
 - a) Please identify the basis for the statement that it is "totally wrong" for GDS to ignore the "non-cost-effectiveness" of demand-side renewable measures?
 - b) Please reconcile this statement relative to the "cost-effectiveness" of the proposed contract?
 - c) Please explain or describe the financial impact a \$0.48 increase to monthly residential bills will have on TECO's customers?
- A. a) The basis for Tampa Electric's statement in its post-hearing brief in Docket No. 080409-EG is specific to the Commission cost-effectiveness tests used in determining demand-side management ("DSM") goals, namely, the rate impact measure ("RIM") test, the total resource cost ("TRC") test and the participant test. All renewable measures evaluated in the DSM goals proceeding were not cost-effective under any of these tests. The company believes it is not appropriate to promote a non-cost-effective measure to be installed behind the meter at the expense of all other ratepayers.
 - b) Tampa Electric acknowledges that its proposed PPA agreement with Energy 5.0 is above avoided costs. However, the agreement was signed in an effort to address the renewable energy policies articulated by the Governor and Florida Legislature. Those policies which promote the development of renewable energy, particular solar, result in payments above avoided costs for energy.
 - c) The PPA is expected to have a first year impact of \$0.48 on monthly residential bills. The \$0.48 represents less than one-half of 1 percent of a current average residential bill; therefore, the company does not anticipate an increase to the delinquency rate as a result of the agreement.

TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI STAFF'S THIRD SET OF INTERROGATORIES INTERROGATORY NO. 75 PAGE 1 OF 1 FILED: APRIL 1, 2010

- **75.** Please provide the average residential/customer delinquency rate TECO has experienced for the years 2000-2009.
- A. Tampa Electric's response to Staff's Second Data Request No. 3 dated November 17, 2009, was updated to reflect the balance of 2009 in the table below.

Residential Delinquency Rate				
2000	0.28%			
2001	0.27%			
2002	0.32%			
2003	0.28%			
2004	0.30%			
2005	0.34%			
2006	0.34%			
2007	0.36%			
2008	0.40%			
2009	0.49%			

TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI STAFF'S THIRD SET OF INTERROGATORIES INTERROGATORY NO. 76 PAGE 1 OF 1 FILED: APRIL 1, 2010

- **76.** Please provide an updated response to Staff Interrogatory No. 66. Please use TECO's most recent fuel forecasts. For scenarios which include carbon costs, please use the Congressional Budget Office's CO2 cost estimates under H.R. 2454.
- A. The most recent fuel forecast can be found in Tampa Electric's response to Staff's Second Data Request No. 4 filed on November 17, 2009. The CO₂ cost estimates used in the forecast reflect those found under H.R. 2454.

TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI STAFF'S THIRD SET OF INTERROGATORIES INTERROGATORY NO. 77 PAGE 1 OF 1 FILED: APRIL 1, 2010

- 77. Please identify any consumer groups of which TECO is aware that support paying higher rates for renewable energy.
- A. Tampa Electric is aware of three consumer groups that advocate paying higher rates for renewable energy, Southern Alliance for Clean Energy, Natural Resources Defense Council and Florida Solar Coalition.

TAMPA ELECTRIC COMPANY
DOCKET NO. 090109-EI
STAFF'S THIRD SET OF
INTERROGATORIES
INTERROGATORY NO. 78
PAGE 1 OF 1

FILED: APRIL 1, 2010

78. As of January 2010, what percentage of eligible customers were participating in TECO's renewable energy program?

A. As of January 2010, there were 2,720 customers participating in the company's renewable energy program representing 0.41 percent of the customers eligible to participate at that time.

TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI STAFF'S THIRD SET OF INTERROGATORIES INTERROGATORY NO. 79 PAGE 1 OF 1 FILED: APRIL 1, 2010

- 79. Please explain or describe whether all the discovery responses served by TECO to Staff's First and Second Set of Interrogatories (Nos. 1-44 and 45-69, respectively) and responses served by TECO to Staff's First and Second Set of Requests for Production of Documents (Nos. 1-4 and 4-12, respectively) are current. If the responses are not current, please supply or provide supplemental responses as needed.
- A. Tampa Electric's responses to Staff's First and Second Sets of Interrogatories Nos. 1 through 44 and 45 through 69 as well as Staff's First and Second Sets of Requests for Production of Documents Nos. 1 through 4 and 4 through 12 reflect the most current information.

AFFIDAVIT

STATE OF FLORIDA	1
COUNTY OF HILLSBOROUGH	1

Before me the undersigned authority personally appeared Carlos Aldazabal who deposed and said that he is Director, Tampa Electric Company, and that the individuals listed in Tampa Electric Company's response to Staff's Third Set of Interrogatories, (Nos. 70-79) prepared or assisted with the responses to these interrogatories to the best of his information and belief.

Dated at Tampa, Florida this 30th day of March, 2010.

Sworn to and subscribed before me this 30th day of March, 2010.

Notary Public State of Florida Cynthia Roy Kyle My Commission DD645902 Expires 03/01/2011

My Commission expires _____

ynthis Day Kyle

AUSLEY & MCMULLEN

ATTORNEYS AND COUNSELORS AT LAW

123 SOUTH CALHOUN STREET
P.O. BOX 391 (ZIP 32302)
TALLAHASSEE, FLORIDA 32301
(850) 224-9115 FAX (850) 222-7560

April 1, 2010

HAND DELIVERED

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 for filing in the above docket are the original and one copy of Tampa Electric Company's Answer to Third Production of Documents (No. 13) of the Florida Public Service Commission Staff propounded and served by electronic and U. S. Mail on March 12, 2010.

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: All Parties of Record (w/enc.)

DOCUMENT NUMBER-DATE

02448 APR-29

FPSC-COMMISSION CLERK

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition for approval of solar energy)	
power purchase agreement between Tampa)	DOCKET NO. 090109-EI
Electric Company and Energy 5.0 LLC.)	
)	FILED: April 1, 2010

TAMPA ELECTRIC COMPANY'S ANSWER TO THIRD PRODUCTION OF DOCUMENTS (NO. 13) OF THE FLORIDA PUBLIC SERVICE COMMISSION STAFF

Tampa Electric Company ("Tampa Electric" or "the company") files this its Answer to the Third Request for Production of Documents (No. 13) propounded and served on March 12, 2010, by the Florida Public Service Commission Staff, and says that, Tampa Electric has produced this date all documents requested by Staff to Mr. Erik L. Sayler, Senior Attorney, Office of General Counsel, Florida Public Service Commission, 2540 Shumard Oak Boulevard, Tallahassee, FL 32399-0850.

DATED this / safe day of April 1, 2010.

Respectfully submitted,

JAMES D. BEASLEY

J. JEFFRY WAHLEN

Ausley & McMullen

Post Office Box 391 Tallahassee, FL 32302

(850) 224-9115

ATTORNEYS FOR TAMPA ELECTRIC COMPANY

DOCUMENT NUMBER-DATE

02448 APR-29

CERTIFICATE OF SERVICE

Mr. Erik L. Sayler*
Senior Attorney
Florida Public Service Commission
Room 370L – Gerald L. Gunter Building
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Mr. Robert Scheffel Wright Mr. John T. LaVia, III Young van Assenderp, P.A. 225 South Adams Street, Suite 200 Tallahassee, FL 32301 Mr. Richard Zambo 2336 S.E. Ocean Blvd. - #309 Stuart, FL 34996

Energy 5.0, LLC 1601 Forum Place, Suite 1010 West Palm Beach, FL 33401

ATORNEY

BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

	In re: Petition for approval of Solar Energy Power Purchase Agreement Between Tampa Electric and Energy)))	DOCKET NO. 090109-EI FILED: APRIL 1, 2010
5.0, LLC)	5.0, LLC)	

TAMPA ELECTRIC COMPANY'S ANSWERS TO THIRD REQUEST FOR PRODUCTION OF DOCUMENTS (NO. 13)

OF

FLORIDA PUBLIC SERVICE COMMISSION STAFF

Tampa Electric files this its Answers to Production of Documents (No. 13) propounded and served on March 12, 2010, by the Florida Public Service Commission Staff.

02448 APR -2 = FPSC-COMMISSION CLERK

TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI INDEX TO STAFF'S THIRD REQUEST FOR PRODUCTION OF DOCUMENTS (NO. 13)

Number	<u>Subject</u>	Bates Stamped Page
13	Please provide any documents supporting or explaining TECO's response to Staff's Interrogatory No. 77, identifying any consumer groups of which TECO is aware that support paying higher rates for renewable.	1

TAMPA ELECTRIC COMPANY DOCKET NO. 090109-EI STAFF'S THIRD REQUEST FOR PRODUCTION OF DOCUMENTS DOCUMENT NO. 13 BATES STAMPED PAGE: 1 FILED: APRIL 1, 2010

- 13. Please provide any documents supporting or explaining TECO's response to Staff's Interrogatory No. 77, identifying any consumer groups of which TECO is aware that support paying higher rates for renewable.
- A. Tampa Electric's response to Staff's Interrogatory No. 77 is based on the position these groups articulated in numerous documents recently filed in Docket Nos. 080407 through 080413-EG, Commission review of numeric conservation goals, for the seven utilities subject to the Florida Energy Efficiency and Conservation Act.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition for approval of solar energy power purchase agreement between Tampa Electric Company and Energy 5.0, LLC. DOCKET NO. 090109-EI

DATED: APRIL 1, 2010

RESPONSES TO STAFF'S FIRST SET OF INTERROGATORIES TO ENERGY 5.0, LLC (NOS. 1 - 4)

Energy 5.0 LLC ("Energy 5.0" or "E50"), pursuant to Rule 28-106.206, Florida Administrative Code, Rule 1.340, Florida Rules of Civil Procedure, and the Order Establishing Procedure in this matter, hereby submits its responses to the Staff's First Set of Interrogatories to Energy 5.0, which were propounded on March 12, 2010.

The answers to all interrogatories have been furnished by Mr. Gil A. Weisblum, Energy 5.0 LLC, 1601 Forum Place, Suite 1010, West Palm Beach, FL 33401. A copy of Mr. Weisblum's Affidavit is attached with these responses.

INTERROGATORIES & RESPONSES

Please complete the following table describing the total cost of the proposed Energy 5.0 project:

Capital	O&M	Administrative Costs	Tax Credits	Rebetes	Other

Response:

Please see the table below. By way of explanation and qualification, Energy 5.0 offers the following observations regarding the information presented here.

With the exception of the purchase price of the reclaimed mine land site, the various cost components of the Florida Solar 1 Project ("FS1") are at present estimates based on E50's experience and market intelligence. Actual values will be determined by competitive procurement processes to be conducted following satisfaction of the conditions precedent defined in E50's Negotiated Contract with Tampa Electric Company.

Capital Cost: E50 estimates FS1 capital costs including financing and transaction costs to be million. The capital cost includes E50's base case estimates for development, site preparation, permitting, finance, construction and project start up as well as an estimate of the debt service reserve expected to be required by project lenders. Actual costs will depend on the PV and mounting technology selected, the timing of E50's procurement, permit requirements (not yet defined), final contractor assessment of site soil conditions (that will determine foundation requirements), and the costs of PV modules and other commodities such as copper, steel, electrical components, and labor and transportation, all of which are subject to change and market volatility.

O&M Costs: E50 estimates that the levelized annual costs for routine operation and maintenance will be approximately million. O&M costs are expected to vary with the technology selected. This estimate includes administrative costs. In addition, certain of the project components are not likely to have a service life of 25 years. Project lenders will likely require a cash reserve for major maintenance and replacements. This major maintenance cash reserve is expected to require an annual contribution of the first fifteen years of the project's life.

Tax Credits/Grant: (Please see response to staff's interrogatory number 4 below.) Per the terms of the federal program 30% of "qualifying" capital costs will eligible for the grant defined below or the federal investment tax credit ("ITC"). E50 estimates that this is equivalent to approximately 6 of the total capital costs.

E50 has assumed that solar equipment is exempt from Florida Sales Tax and that this exclusion applies to costs for the entire array and interconnection. E50 has not assumed any benefits for additional rebates.

Capitai	O&M	Administrative Costs	Grant	Rebates	Other
Similion	million; includes Administrative Costs	Included in O&M Costs	MM		year for Major Maintenance Cash Reserve

2. Please define the weighted average cost of capital that Energy 5.0 proposes to use for purposes of this project. For purposes of this response, identify the capital structure components, amounts, relative percentages, cost rates, and the weighted average cost of capital on a pretax and after tax basis.

Response:

E50 expects that the FS-1 capital costs will be financed as follows:

- percent with the U.S. Treasury grant in lieu of investment tax credits pursuant to Section 1603 of the American Recovery and Reinvestment Act of 2009 (hereinafter, the "Grant");
- percent Debt;
- Epercent Tax Equity; and
- percent Equity.

See Energy 5.0's answer to Interrogatory No. 4 below for additional information relating to the utilization of the Grant. In particular, note that the Grant amount is 30 percent of eligible costs, and that E50 estimates that this will translate into percent of the total Project capital costs as set forth above.

These percentages would be applied to the capital cost provided in the previous response and will vary depending on the final project costs and the market conditions at the time of financing.

The following table provides a breakdown of the expected capital structure and calculation of the weighted average cost of capital for the estimated capital cost and expected required interest rates and equity returns.

Capital Structure	Portion	Million \$	Rate
Grant			
Debt			
Tax Equity			
Equity			
Total			
Tax Rate	•		
WACC (After-Tax)			
WACC (Pre-Tax)			

- 3. Please provide the following information for the Energy 5.0 project:
 - a) Annual and levelized cost of the project (¢/kWh) Response:

Energy 5.0's estimate of the Levelized Cost of Electricity is presented at the conclusion of this answer. The following discussion is offered to explain and qualify E50's estimate.

First, paying the project's costs, whatever they are, is an E50 obligation. E50's estimates and discussion of project costs were provided in the response to staff's interrogatory number 1 above. While, as noted in E50's responses to Interrogatories Nos. 1 and 2 above, there is substantial variability and uncertainty in the project costs and also in the cost of key capital financing components, using the WACC provided in response to Interrogatory No. 2 results in an estimated levelized annual cost of the million.

Translating this to a cost per kilowatt-hour requires a forecast of annual deliveries. Project generation will be dependent on several factors including: weather, equipment performance and availability.

Weather data sets upon which energy forecasts are based are made up of information collected over long periods (20 to 30 years) and compiled into typical years for each location. These data along with specific equipment and terrain information are used to forecast initial system performance.

Performance can vary substantially depending on the PV technology and mounting system employed. E50 has not yet selected a specific PV technology or mounting system. Additionally, PV systems degrade with exposure to the elements and with age. Expected annual degradation of will directly impact generation. For purposes of economic analysis E50 has assumed delivery of MWhs in the first year, declining at a rate of per year.

Using these assumptions and the WACC of the prior two responses, the project's projected annual levelized cost of generation is forecast to be cents per kilowatt-hour.

b) Annual revenue (\$)

Response:

As indicated above, project generation will be variable resulting in variability in revenue. However, assuming a typical first year delivery of MWhs and an assumed degradation of 600% each year, the annual project revenue would start at 5000 million and reflect year-to-year variability and an underlying annual decline at 600%. The levelized annual revenue is \$1000 million.

c) Please provide a comparison contrasting these costs (provided in response to 3(a), above) to those found in the Navigant study for the following technologies:

Response:

E50 has identified three tables in the Appendix of the study that indicate that the LCOE (in cents per kilowatt-hour) for each technology under varying conditions for selected years as indicated in the following tables.

Solar PV	2009	2010	2011	2012
Unfavorable	28.8	25.1	24.3	23.4
Mid-favorable	28.8	25.1	24.2	23.3
Favorable	, 27.7	24.1	23.3	22.4

Solar Thermal	2009	2010	2011	2012
Unfavorable	25.3	25.1	25.1	25.1
Mid-favorable	25,5	25.4	25.4	25.4
Favorable	24.7	24.6	24.6	24.5

The above estimated LCOE for the FS-1 Project is less than the costs estimated in the Navigant Solar PV costs for 2009, which is when the Negotiated Contract was executed and submitted to the Commission for approval by Tampa Electric. The Navigant Study was completed in December 2008, and significant changes have occurred in the cost of financing and materials, components price/cost since then. There is no estimate provided for the year 2007 when the Tampa Electric Request for Renewable Energy Proposals was conducted and E50 established its price.

4. Please explain how the benefits, if any, of federal tax credits were included in the cost of the Energy 5.0 project?

Response:

As stated in response to Interrogatory No. 2 above, E50 expects to utilize the Grant to finance of the total facility cost. E50 is assuming that the FS-1 project will qualify for the Grant or that E50 will be able to monetize the investment tax credits (ITC). The form of federal tax benefits that will be available to the FS-1 Project will depend on the project schedule and construction. The FS-1 Project will only be able to take advantage of the Grant if it is "under construction" by December 31, 2010. The Treasury classifies a project to be under construction when physical work of a significant nature begins on the project, or by meeting the safe harbor provisions or "construction by contract" requirements set forth in the Section 1603 Program Guidance. (Current guidance calls for at least 5% of eligible project cost to be "incurred" through binding non-refundable contracts by December 31, 2010.)

Section 1603 of the American Recovery and Reinvestment Act of 2009 authorizes the Department of Treasury to issue grants to renewable energy facilities that were placed in service or commenced construction by the end of 2010. E50 expects the FS-1 project to qualify for a payment equivalent to 30% of the eligible costs of the property. Applications will be reviewed and payments made within 60 days from the later of the date of the complete application or the date the property is placed in service. E50 estimates that if the project meets the "under construction" qualification requirement, approximately who of the total capital costs of the project will be eligible for a grant. If the FS-1 Project is not "under construction" by the current grant deadline, E50 would endeavor to fully utilize and monetize the ITC. In order to monetize the ITC, E50 would have to depend on the then available tax equity market, which is currently thin, challenging and expensive (the ITCs are only valuable to investors with significant positive tax liabilities). Using the ITC as a financing source increases uncertainty and potentially degrades the economics of the project. In addition to the ITC and/or the Grant, accelerated depreciation/Modified Accelerated Cost-Recovery System (MACRS) tax benefits are available to renewable energy projects. E50 will attempt to monetize the accelerated depreciation tax shields available to the FS-1 project through its tax equity investors.

Respectfully submitted this 1st day of April, 2010.

Young van Assenderp A. 225 South Adams Street, Suite 200

Tallahassee, Florida 32301 Phone: 850/222-7206

FAX: 850/561-6834

Attorneys for Energy 5.0 LLC

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing has been served by electronic mail and hand delivery (*) or U.S. Mail this 1st day of April, 2010, on the following:

Erik L. Sayler, Esquire *
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Ms. Paula K. Brown Tampa Electric Company P.O. Box 111 Tampa, FL 33601-0111

Energy 5.0, LLC 1601 Forum Place, Suite 1010 West Palm Beach, FL 33401

James D. Beasley, Esquire Ausley Law Firm Post Office Box 391 Tallahassee, Florida 32302

Richard A. Zambo Mosaic Fertilizer, LLC 2336 S.E. Ocean Blvd. #309 Stuart, FL 34996

Attorney

AFFIDAVIT

STATE OF NEW YORK)
COUNTY OF Brook
I hereby certify that on this day of, 2010, before me, as
officer duly authorized in the State and County aforesaid to take acknowledgments, personally
appeared Gil A. Weis blum, who is personally known to me, and he/she acknowledged
before me that he/she provided the answers to Interrogatory Numbers 1 through 4 from STAFF'S
FIRST SET OF INTERROGATORIES TO ENERGY 5.0, LLC (NOS. 1 - 4) in Docket No
090109-EI, and that the responses are true and correct based on his/her personal knowledge.
In Witness Whereof, I have hereunto set my hand and seal in the State and County
aforesaid as of this day of
My Commission Expires: 7/31/2013