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

August 9, 2017

VIA: ELECTRONIC FILING

Ms. Carlotta S. Stauffer
Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: Docket No. 20170149-EI – Petition to approve modifications to neighborhood weatherization and energy education, awareness and agency outreach programs, by Tampa Electric Company

Dear Ms. Stauffer:

Attached for filing in the above docket are Tampa Electric Company's Answers to Staff's First Data Request (Nos. 1-3) dated August 1, 2017.

Thank you for your assistance in connection with this matter.

Sincerely,

James D. Beasley

JDB/pp
Attachment

cc: Moniaishi Mtenga (w/attachment)
Paula K. Brown (w/o attachment)

1. Please refer to Exhibit B, Page 2, under program savings and explain the assumptions the Company made for the calculations of the energy savings and seasonal peak demand.

A. Tampa Electric established the program savings with the proposed Light Emitting Diode ("LED") lamps for the Neighborhood Weatherization and Energy Education, Awareness and Agency Outreach programs using the same methodology that was used in establishing the company's Commission approved 2015-2024 DSM Plan. This methodology contained two portions, the first methodology was to obtain the summer and winter demand (kW) and annual energy (kWh) savings directly attributable to each lamp. The second methodology was to obtain the summer and winter demand (kW) and annual energy (kWh) savings attributable to the combined energy saving measures provided within each program.

Tampa Electric followed the methodology to obtain the summer and winter demand (kW) and annual energy (kWh) savings directly attributable to each lamp directly which was explained in the company's response as filed on April 27, 2015 in Staff's first Data Request, Response No. 13 supporting the company's proposed 2015-2024 DSM Plan. Tampa Electric's 2015-2024 DSM Plan included savings associated with Compact Fluorescent Lightbulbs ("CFL") for two DSM programs. Tampa Electric's Neighborhood Weatherization and Energy Education, Awareness and Agency Outreach programs include CFLs as a portion of their overall energy and demand savings. The updated ITRON study baseline used a 43-Watt incandescent bulb. When comparing this to the actual 13-Watt CFLs that are included as part of the energy efficiency kits that customers receive, the following energy and demand savings toward the goals per CFL were derived:

Summer Demand: 0.004 kW
Winter Demand: 0.005 kW
Annual Energy: 66 kWh

To obtain the attributable savings per LED lamp, the company adjusted these savings taking into consideration the proposed LED lamps are 9-Watts. The following energy and demand savings toward the goals per LED were derived as compared to the original 43-Watt incandescent bulb.

Summer Demand: 0.005 kW
Winter Demand: 0.006 kW
Annual Energy: 75 kWh

Tampa Electric took these values and performed the same methodology to determine the overall summer and winter demand (kW) and annual energy (kWh) savings attributable to all the measures provided within each program. This evaluation took each of the programs energy efficiency measures that have attributable summer and winter demand (kW) and annual energy (kWh) savings and weighted them on the number of these measures that have been installed in the total homes that have participated. Tampa Electric used the same percentages that were used to establish the company's Commission approved 2015-2024 DSM Plan for this evaluation. The following energy efficiency measures that have attributable demand and energy savings, which are components of the overall energy efficiency kit in each program, are listed below:

Neighborhood Weatherization:

- Duct sealing

- Ceiling insulation
- CFL lamps (proposed LED lamps)
- Water heater wrap
- Hot water pipe insulation
- Water heater temperature check and adjustment card
- Low flow faucet aerator(s)
- Low flow showerhead(s)
- Weather Stripping

Energy Education, Awareness and Agency Outreach

- CFL lamps (proposed LED lamps)
- Water heater temperature check and adjustment card
- Low flow faucet aerator(s)

In this overall summer and winter demand (kW) and annual energy (kWh) savings evaluation for both the Neighborhood Weatherization and Energy Education, Awareness and Agency Outreach programs, the company wanted the program design with proposed LED lamps to support at least the demand and energy savings as was originally provided by the current total CFL lamps. This evaluation determined the Neighborhood Weatherization program would require six 9-Watt LED lamps and the Energy Education, Awareness and Agency Outreach program would require four 9-Watt LED lamps to at least maintain the total demand and energy savings for the programs. The overall summer and winter demand (kW) and annual energy saving changes are provided in the tables below:

Current: Eight 13-Watt CFL's Provided Neighborhood Weatherization		
Original Summer kW	Original Winter kW	Original Annual Energy kWh
0.241 kW	0.337 kW	1,222 kWh

Proposed: Six 9-Watt LED's – Neighborhood Weatherization		
New Summer kW	New Winter kW	New Annual Energy kWh
0.245 kW	0.339 kW	1,255 kWh

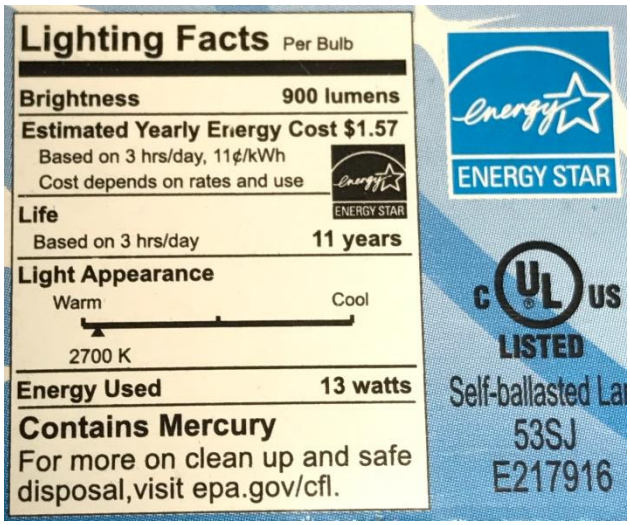
Current: Four 13-Watt CFL's Provided Energy Education, Awareness and Agency Outreach		
Original Summer kW	Original Winter kW	Original Annual Energy kWh
0.025 kW	0.046 kW	342 kWh

Proposed: Four 9-Watt LED's Energy Education, Awareness and Agency Outreach		
New Summer kW	New Winter kW	New Annual Energy kWh
0.027 kW	0.049 kW	377 kWh

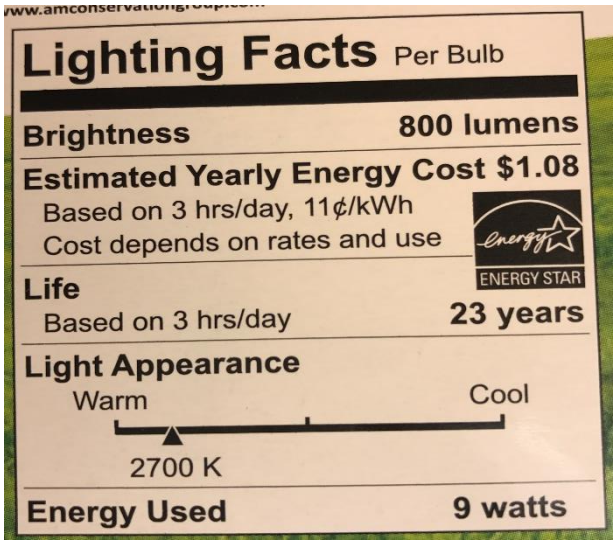
2. Please provide the technical assumptions used for CFL's and LEDs, including peak demand, energy savings, and lifespan versus the building code and appliance standards.

A. The initial Wattage value for the current CFL and proposed LED lamps were obtained by examining the "Lighting Facts" label on the packaging of the actual CFL and proposed LED lamps. Below are the Lighting Facts label for each lamp:

CFL 13-Watt
Lighting Facts label



LED 9-Watt
Lighting Facts label



Tampa Electric then utilized this difference in lamp Wattages as explained in Response No. 1 above to determine the summer and winter demand (kW) and annual energy (kWh) savings.

The Lighting Facts label show the estimated life of each of the lamps above, however, the Neighborhood Weatherization and Energy Education, Awareness and Agency Outreach programs are comprised of a blend of many different energy saving measures. The blended life for each of these programs was determined at 15-years in the refreshed technical potential study that was performed to support the company's Commission approved 2015-2024 DSM Plan. This blended life of 15-years was used as the "Study Period For Conservation Program" within the cost-effectiveness tests that were performed.

The current CFL and proposed LED lamps within Tampa Electric's Neighborhood Weatherization and Energy Education, Awareness and Agency Outreach programs are designed to replace 60-Watt incandescent lamps. 60-Watt incandescent lamp equivalents are still governed for maximum rated Wattage by the Energy Independence and Security Act of 2007 which took effect on January 1, 2014. The maximum rated Wattage, for these 60-Watt replacement lamps, remains to be 43-Watts. This 43-Watt lamp Wattage was used as the base design for the lamp portion of the Neighborhood Weatherization and Energy Education, Awareness and Agency Outreach programs in the company's 2015-2024 Commission approved DSM Plan. The current CFL and proposed LED lamps both exceed the minimum requirements of the International Energy Conservation Code 2015. The current CFL and proposed LED lamps use less than 15-Watts of power per lamp. Because of this Wattage, the lamp's Lumen per

Watt ("L/W") rating must be at least 40 L/W. The current CFL's L/W rating is 69.2 L/W and the proposed LED L/W rating is 88.9 L/W.

3. What are the results of the TRC, RIM, and Participant tests for the Neighborhood Weatherization and Energy Education programs before and after the modification?

A. The table below shows the cost-effectiveness test results for the Total Resource Cost ("TRC") test, Rate Impact Measure ("RIM") test, and Participant Cost Tests ("PCT") for the Neighborhood Weatherization and Energy Education, Awareness and Agency Outreach programs with existing CFL lamps and after the proposed LED lamps modification:

	Cost-effectiveness Test	Existing	Proposed
Energy Education, Awareness and Agency Outreach	TRC	4.14	4.01
	RIM	0.70	0.69
	PCT	591	651
Neighborhood Weatherization	TRC	6.93	6.14
	RIM	0.66	0.63
	PCT	36,560	36,448