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March 27, 2020

VIA: ELECTRONIC FILING

Mr. Adam J. Teitzman
Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Re: Petition for Approval of Demand Side Management Plan for Tampa
Electric Company; Docket Number 20200053-EG

Dear Mr. Teitzman:

Attached for filing in the above docket is Tampa Electric Company's Responses
to Staff's First Data Request (Nos. 1-20) dated March 16, 2020.

Thank you for your assistance in connection with this matter.

Sincerely,



James D. Beasley

JDB/bmp
Attachment

cc: Takira Thompson, Engineering Specialist
Ashley Weisenfeld, Office of General Counsel

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1. Please identify and describe any changes between TECO's 2015 demand-side management (DSM) plan filing approved by Order No. PSC-15-0323-PAA-EG, and the proposed 2020 DSM plan filing. Please also identify whether any of those changes were not included in TECO's proposed 2020 DSM plan filing.
- A. The tables below provide the residential and commercial Demand Side Management ("DSM") program changes between Tampa Electric's 2015-2024 demand-side management ("DSM") Plan filing approved by the Commission in Order No. PSC-15-0323-PAA-EG, and the company's proposed 2020-2029 DSM Plan filing. All of the proposed changes in the tables below were provided within the company's proposed 2020-2029 DSM Plan filing.

2015-2024 DSM Plan Current Residential	2020-2029 DSM Proposed Residential	Changes in Residential Design
Walk-Through audit (Free)	Walk-Through audit (Free)	No changes
Customer Assisted audit (Online)	Customer Assisted audit (Online)	No changes
Computer Assisted audit (RCS - Paid)	Computer Assisted audit (RCS - Paid)	No changes
Ceiling Insulation	Ceiling Insulation	Increased rebate from \$0.14 to \$0.15 per square foot
Residential Duct Repair	Residential Duct Repair	Lowered rebate from \$165 to \$125 per Air Distribution System
Electronically Commutated Motors (ECM)		Proposed discontinuing program
Energy Education, Awareness and Agency Outreach	Energy and Renewable Education, Awareness and Agency Outreach	Added renewable component of energy education to program
ENERGY STAR for Multi-Family Residences	ENERGY STAR for Multi-Family Residences	Lowered rebate from \$325 to \$300
ENERGY STAR for New Homes	ENERGY STAR for New Homes	Increased rebate from \$850 to \$1,000
	ENERGY STAR Pool Pumps	New, rebate up to \$350
	ENERGY STAR Thermostats	New, rebate of \$50
Heating and Cooling	Heating and Cooling	No changes
Neighborhood Weatherization	Neighborhood Weatherization	Added the performance of an Walk Through Energy Audit to program
Energy Planner	Energy Planner	No changes
	Prime Time Plus	New, receive smart thermostat access to Portal, load control for monthly credits: AC (\$6), Pool Pump (\$3), Water Heater (\$3)
Wall Insulation		Proposed discontinuing program
Window replacement	Window replacement	Lowered rebate from \$2.20 to \$0.76 per square foot
Renewable Block Program (Sun To Go)	Renewable Block Program (Sun To Go)	No changes

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2015-2024 DSM Plan Current Commercial	2020-2029 DSM Proposed Commercial	Changes in Commercial Design
Commercial/Industrial audit (Free)	Commercial/Industrial audit (Free)	No changes
Comprehensive Commercial/Industrial audit (Paid)	Comprehensive Commercial/Industrial audit (Paid)	No changes
Ceiling Insulation		Proposed discontinuing program
Chiller	Chiller	Reduced rebate from \$146 to \$50 per kW
Cogeneration	Cogeneration	No changes
Conservation Value	Conservation Value	No changes
Cool roof		Proposed discontinuing program
Cooling - DX	Cooling - DX	Increased rebate from \$11.00 to \$19.00 per Ton
Demand Response	Demand Response	No changes
Duct repair		Proposed discontinuing program
Electronically Commutated Motors (ECM)		Proposed discontinuing program
	Facility Energy Management System	New, rebate up to \$25,000 per facility
GSLM - 2 & 3	GSLM - 2 & 3	No changes
LED Street and Outdoor Lighting Conversion	LED Street and Outdoor Lighting Conversion	No changes
Lighting - Conditioned	Lighting - Conditioned	Increased rebate from \$0.148 to \$0.250 per Watt
Lighting - Non-Conditioned	Lighting - Non-Conditioned	Increased rebate from \$0.075 to \$0.200 per Watt
Lighting - Occupancy sensors	Lighting - Occupancy sensors	Increased rebate from \$20.00 to \$40.00 per qualifying sensor
Thermal Energy Storage		Proposed discontinuing program
Commercial Load Management (GSLM - 1)	Commercial Load Management (GSLM - 1)	No changes
Refrigeration Anti-Condensate Control		Proposed discontinuing program
	Smart Thermostats	New, rebate up to \$4,500
Standby Generator	Standby Generator	No changes
	Variable Frequency Drive Control for Compressors	New, rebate of \$50 per compressor controlled HP
Wall Insulation		Proposed discontinuing program
Water heating	Water heating	Decreased rebate from \$0.0250 to \$0.0100 per Btu
	Integrated Renewable Energy System (Pilot)	New, 800 kW PV array, 2-250 kW batteries, and vehicle and truck battery charging to study how these systems can be leveraged for DSM
Conservation R&D	Conservation R&D	Increased annual amount to \$400,000 and five-year not to exceed amount of \$2,000,000
Renewable Block Program (Sun To Go)	Renewable Block Program (Sun To Go)	No changes

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- 2.** Please provide a table identifying the projected program participation by program for each residential and commercial program in TECO's 2015 and 2020 DSM plan filings for the years 2020 through 2024.
 - a. Please also explain any differences between the projected program participation for the years 2020 through 2024.

- A.** The table for this response identifies the projected program participation by program for each residential and commercial program in Tampa Electric's 2015-2024 DSM Plan and the 2020-2029 DSM Plan filings for the years 2020 through 2024 and is being provided as a separate Excel spreadsheet titled, (BS-4) Response No. 2 – Participation Chart.
 - a. The differences between the projected program participation for the years 2020 through 2024 in Tampa Electric's proposed 2020-2029 DSM Plan and the prior DSM Plan is explained in the Excel spreadsheet titled, (BS-4) Response No. 2 – Participation Chart.

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- 3.** Please provide a table identifying the projected program savings by program for each residential and commercial program in TECO's 2015 and 2020 DSM plan filings for the years 2020 through 2024.
 - a. Please also explain any differences between the projected program savings for the years 2020 through 2024.

- A.** The table for this response identifies the projected program savings by program for each residential and commercial program in Tampa Electric's 2015-2024 DSM Plan and the 2020-2029 DSM Plan filings for the years 2020 through 2024 and is being provided as a separate Excel spreadsheet titled, (BS-6) Response No. 3 – Savings Chart.
 - a. The differences between the projected program savings for the years 2020 through 2024 in Tampa Electric's proposed 2020-2029 DSM Plan and the prior DSM Plan is explained in the Excel spreadsheet titled, (BS-6) Response No. 3 – Savings Chart.

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- 4.** Please provide a table identifying the projected customer incentives by program for each residential and commercial program in TECO's 2015 and 2020 DSM plan filings for the years 2020 through 2024.
 - a. Please also explain any differences between the projected customer incentives for the years 2020 through 2024.

- A.** The table for this response identifies the projected customer incentives by program for each residential and commercial program in Tampa Electric's 2015-2024 DSM Plan and the 2020-2029 DSM Plan filings for the years 2020 through 2024 and is being provided as a separate Excel spreadsheet titled, (BS-8) Response No. 4 – Incentives Chart.
 - a. The differences between the projected customer incentives for the years 2020 through 2024 in Tampa Electric's proposed 2020-2029 DSM Plan and the prior DSM Plan is explained in the Excel spreadsheet titled, (BS-8) Response No. 4 – Incentives Chart.

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5. Please refer to the “Discontinued DSM Programs Summary” table on page 6 of TECO’s petition filed in this Docket. Please provide a revised version of this table to reflect the benefit/cost ratio results in the “PCT Value” column.
- a. Please also indicate whether the Utility attempted to achieve passing cost-effectiveness test results prior to deciding to discontinue the programs mentioned. Please explain your response in detail.
- A. The table below provides a revised version of the “Discontinued DSM Programs Summary” table on page 6 of Tampa Electric’s petition filed in this proceeding that reflects the Participant Cost Test (“PCT”) results as a benefit/cost ratio.

Discontinued DSM Programs Summary			
Program	RIM Value	PCT Value	TRC Value
Residential - Electronically Commutated Motors (ECM)	0.10	Note 1	1.12
Residential - Wall Insulation	0.27	0.78	1.40
Commercial - Ceiling Insulation	0.97	1.57	0.99
Commercial - Cool Roof	0.96	0.04	0.03
Commercial - Duct Repair	0.80	14.32	7.58
Commercial - Electronically Commutated Motors (ECM)	0.91	Note 1	1.78
Commercial - Refrigeration Anti-Condensate Control	0.95	1.93	0.99
Commercial - Thermal Energy Storage	0.87	Note 1	0.79
Commercial - Wall Insulation	0.40	17.65	6.08

Note 1: The values obtained and reported in the company’s proposed 2020-2029 DSM Plan for the PCT were reported in Net Present Value. Individual cost effectiveness runs were not made for these three existing DSM programs beyond the economic potential cost-effectiveness test. The output of the economic potential does not perform the PCT in a benefit to cost ratio format.

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- a. Tampa Electric performed additional analysis and examinations on all of the existing DSM programs prior to deciding to propose their discontinuation as part of the company's proposed 2020-2029 DSM Plan. The list below details what areas were examined and/or analyzed prior to making the decision to propose to the Commission to discontinue the DSM program in the company's proposed 2020-2029 DSM Plan.
- Examined recent and prior participation to see if adjustments could be made to drive different results.
 - Examined recent and prior participant actual data to see if this would drive different results.
 - Examined incremental cost of the equipment and installation for accuracy.
 - Examined the company's administrative cost to ensure it was reasonable.
 - Examined if the company could facilitate the program differently to reduce the administrative costs.
 - Analyzed residential wall insulation using an approved Department of Energy "2" software to see if more typical actual participant data would drive different results.

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6. Please reference TECO's proposed Integrated Renewable Energy System (Pilot) Program for the following questions:
- a. Please identify any alternatives the Utility has explored to conduct this research other than the Pilot Program (such as through computer models). Please also explain why any alternatives were dismissed. If other alternatives were not explored, please explain why.
 - b. Please indicate whether the Pilot Program is the most cost-effective way to conduct this research. Please also provide any cost-effectiveness analyses conducted for the Pilot Program. If these analyses are unavailable, please explain why.
 - c. Please explain why this research cannot be conducted under TECO's current Conservation Research & Development Program.
 - d. Please explain how the Utility intends to recover costs associated with the Pilot Program.
- A. a. Tampa Electric has not identified any other potential opportunity to conduct this research other than through the proposed Integrated Renewable Energy System (Pilot) program. Tampa Electric has been exploring each of these technologies that support this program for several years, even dating back to 1998 with the addition of solar photovoltaic ("PV") energy education at the company's Energy Technology Resource Center. This program provides a unique opportunity to integrate all these technologies and evaluate the benefits that system may provide. More recently the company has explored these technologies in isolation through the following:
- PV: The company's DSM Program "Renewable Energy Systems Initiative" which was the five year Pilot program to offer credits for residential and commercial customers to install PV systems and/or solar water heating systems, in addition to providing five PV systems installed at schools that were utilized as emergency shelters.
 - Batteries: The company initiated a battery storage Research and Development ("R&D") for small or mid-sized commercial customers in 2016. In this R&D project, the feasibility of potentially offering a battery storage DSM program and would be evaluated through research and field study with at least one battery being installed at a commercial/industrial customer's facility. To assist in the performance of this R&D project, Tampa Electric partnered with the University of South Florida's College of Engineering. In 2017, the first phase of the

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R&D project was completed by having a comprehensive report completed on the types of batteries available and would be most suitable for this type of installation. Tampa Electric then proceeded to start the second phase of the project with the identification of potential customer sites and asking for request for proposals for the batteries. During this phase of the project, the cost of batteries in each of the proposals was considered high and the company R&D project was suspended at that time until the price of battery technology dropped to a more reasonable level.

- Electric vehicle charging: Tampa Electric has been monitoring the types and number of charging stations being installed within the company's service area. The company does not have information on the performance of charging stations for large industrial trucks.

Tampa Electric also gains knowledge through conference calls pertaining to these individual systems and projects that are occurring with other utilities that are members of the Edison Electric Institute in addition to sharing of information with other utility contacts. In these calls, Tampa Electric is not aware of another utility incorporating all of these systems into one integrated system to be evaluated nor a computer modeling system available to assess the information wanted to be gained through the proposed Integrated Renewable Energy System (Pilot) program.

- b. Tampa Electric believes that the proposed Integrated Renewable Energy System (Pilot) program is a very cost effective way to gain the knowledge regarding load shifting during current peak times, load shifting during changing peak times due to high solar penetration, and how to maximize the DSM benefits of these systems. Another important part of the pilot is to make the technology available for viewing and education by potential commercial/industrial customers that are interested in these systems.

In the company's most recent DSM Goals Docket No. 20190021-EG, all forms of these individual technologies failed cost-effectiveness. The company believes there are opportunities to utilize these three systems integrated together to maximize their DSM benefits and achieving cost-effectiveness.

- c. The company's R&D DSM program does a very good job at funding smaller initiatives where the cost limits of the program will not be exceeded. The proposed Integrated Renewable Energy System (Pilot) program is projected to cost approximately four million dollars and the company believes that the Commission should have an opportunity to weigh in this

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decision similar to the approval of the Renewable Energy Systems Initiative Pilot Program as compared to the typical method of notifying the Commission Staff prior to initiating an R&D project.

- d. Tampa Electric intends to recover costs associated directly with the Integrated Renewable Energy System (Pilot) Program through the Energy Conservation Cost Recovery Clause ("ECCR").

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7. Please refer to pages 12 and 13 of the Utility's petition in this Docket for the following:
 - a. Please provide revised versions of the "Residential Programs" and "Commercial Programs" tables to reflect the benefit/cost ratio results in the "PCT Value" column.
 - b. Please explain why the Utility is proposing to continue the "Residential Heating and Cooling" program even though it fails the Participants Test (PCT) and Total Resource Cost (TRC) Test. Please also explain why this program should be approved as part of TECO's DSM plan. As part of your response, please describe a possible solution, if any, to achieve passing results for the PCT and TRC Test, while also maintaining passing results for the Rate Impact Measure (RIM) Test.
 - c. For each of the residential and commercial programs failing the TRC Test, please describe possible solutions, if any, to achieve passing results while also maintaining passing results for the PCT and RIM Test.
- A.
 - a. The tables below provide a revised version of the "Residential Programs" and "Commercial Programs" tables on page 12 and 13 of Tampa Electric's petition filed in this proceeding that reflects the PCT results as a benefit/cost ratio:

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Residential Programs:

Residential Programs			
Program	RIM Value	PCT Value	TRC Value
Residential Ceiling Insulation	1.02	1.37	1.01
Residential Duct Repair	1.02	2.89	1.95
Energy and Renewable Education, Awareness and Agency Outreach	0.73	Undefined, Note 1	4.03
ENERGY STAR for New Multi-Family Residences	1.01	1.64	1.12
ENERGY STAR for New Homes	1.09	1.50	1.10
ENERGY STAR Pool Pumps	1.04	2.01	1.51
ENERGY STAR Thermostats	1.11	1.64	1.31
Residential Heating and cooling	1.01	0.70	0.53
Neighborhood Weatherization	0.68	Undefined, Note 1	1.56
Residential Price Responsive Load Management (Energy Planner)	1.98	Undefined, Note 1	3.52
Residential Prime Time Plus	1.05	Undefined, Note 1	2.69
Residential Windows	1.02	1.15	0.93

Note 1: Customer has zero upfront costs making benefit-to-cost ratio undefined (divisible by zero).

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Commercial Programs:

Commercial Programs			
Program	RIM Value	PCT Value	TRC Value
Chiller	1.03	3.20	2.22
Conservation Value	1.00	2.04	1.94
Cooling	1.02	1.16	0.83
Demand Response	1.45	Undefined, Note 1	6.91
Facility Energy Management System	1.02	2.34	1.53
LED Street and Outdoor Lighting Conversion Program	1.40	Undefined, Note 1	2.61
Lighting - Conditioned Space	1.13	1.55	1.12
Lighting - Non-Conditioned Space	1.22	1.06	0.79
Lighting Occupancy Sensors	1.04	5.09	3.69
Commercial Load Management (GSLM - 1, Cyclic)	2.75	Undefined, Note 1	6.29
Commercial Load Management (GSLM - 1, Extended)	2.55	Undefined, Note 1	49.47
Smart Thermostats	1.06	1.07	0.65
Standby Generator	1.76	Undefined, Note 1	6.93
Variable Frequency Drive Control for Compressors	1.22	2.26	1.58
Water Heating	1.02	2.47	1.46

Note 1: Customer has zero upfront costs making benefit-to-cost ratio undefined (divisible by zero).

- b. Tampa Electric is proposing to continue the “Residential Heating and Cooling” program because of the following reasons:
 1. The program passes the Rate Impact Measure test (“RIM”) so it is cost-effective to offer.
 2. The current Federal Appliance Energy Efficiency Standards for home air conditioning equipment is a 14 seasonally averaged energy efficiency ratio (“SEER”). The typical customer that participates in this program installs a SEER rated unit of 16, even though the program requires only

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- a 15 SEER, the program does a good job at educating residential customers to install more energy efficient air conditioning equipment.
3. Installing more energy efficient air conditioning equipment directly supports the key area of the Florida Energy Efficiency and Conservation Act by reducing the growth rates of weather sensitive-peak demand and electricity usage.
 4. This program has a very high participant rate, so it is one of the more desirable programs for residential customers to participate in, so even with a failing PCT and failing Total Resource Cost ("TRC") test, customers desire to have this program available to assist in some of the deferring of the high incremental cost of the higher energy efficient air conditioning equipment.

Tampa Electric examined this program thoroughly during the development of the DSM Plan. The company also examined the program through computer modeling to see if there were any benefits that could be additionally realized prior to designing the program for submission into the proposed 2020-2029 DSM Plan. The company looked at potentially increasing the rebate by driving the RIM score to a 1.00, if this was done the first time actual program administrative costs increased like in an annual cost of living increase or merit increase would make the program not cost-effective under RIM. Because of this and in all cases evaluated, the results were the same, to recommend keeping the incentive level at its current level.

- c. All of the residential and commercial programs, with the exception of Residential Window Replacement, that fail the TRC test cannot be made to pass TRC regardless of what is done to the factors that may affect the PCT or RIM results. All of the programs have a failing TRC test score due to the relatively high incremental cost of the equipment. The tables below show the resulting updated cost-effectiveness score for each of the programs with the administrative cost removed (set to zero). The resulting cost effectiveness scores are also provided for the Residential Window Replacement by changing the current administrative cost of \$44 to \$21.79.

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Residential Programs			
Program	RIM Value	PCT Value	TRC Value
Residential Heating and cooling	1.07	0.70	0.55
Residential Windows (with zero admin cost)	1.16	1.15	1.05
Residential Windows (with \$21.79 admin cost)	1.10	1.15	1.00

Commercial Programs			
Program	RIM Value	PCT Value	TRC Value
Cooling	1.03	1.16	0.84
Lighting - Non-Conditioned Space	1.23	1.06	0.79
Smart Thermostats	1.07	1.07	0.65

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- 8.** Please identify the total projected annual bill impact (at 1,000 kilowatt-hours (kWh) and 1,200 kWh) on the general body of customers' monthly bills by program for each of the proposed residential and commercial DSM programs.

- A.** The table showing the total projected annual bill impact at 1,000 kilowatt-hours ("kWh") and 1,200 kWh, for the general body of customers' monthly bills by program for each of the proposed residential and commercial DSM programs is being provided as a separate Excel spreadsheet titled, (BS-20) Response No. 8 – Bill Impact Chart.

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- 9.** Please identify the total projected annual program costs by program for each of the proposed residential and commercial DSM programs.

- A.** The table showing the total projected annual program costs by program for each of the proposed residential and commercial DSM programs is being provided as a separate Excel spreadsheet titled, (BS-22) Response No. 9 – Costs Chart.

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- 10.** Please provide a table identifying the projected annual program savings that will contribute to the Commission-approved DSM goals by program for each of the proposed residential and commercial DSM programs.
 - A.** The table showing the projected annual program savings that will contribute to the Commission-approved 2020-2024 DSM goals by program for each of the proposed residential and commercial DSM programs is being provided as a separate Excel spreadsheet titled, (BS-24) Response No. 10 – Annual Savings Chart.

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- 11.** Please refer to page 119 of TECO's petition. Please explain why the Utility projects that it will take two years to start the program.
 - A.** Tampa Electric's proposed Prime Time Plus program will leverage the company's Advanced Metering Infrastructure ("AMI") system which has not been completed at this time. To maximize the cost-effectiveness of the Prime Time Plus program, the program will utilize the AMI system as the communication platform and Meter Data Management ("MDM") system to initiate the load control events to participating customers. The projected completion time for these systems is in 2021 which is the reason for the delay in participants for this proposed DSM program until 2022.

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- 12.** Please refer to page 7 of the Utility's petition. Page 7 states that the Neighborhood Weatherization Program will now include the performance of a walk-through energy audit. Will those audits be counted as participants under both the Neighborhood Weatherization and Residential Walk-Through Energy Audit programs? Please explain your response in detail.
- A.** If the company's 2020-2029 DSM Plan is approved, Tampa Electric will count the performance of the walk-through energy audit portion of the Neighborhood Weatherization Program within that program only. The purpose of this reporting structure is to show the complete activity of the Neighborhood Weatherization program. The company does intend to show, as a separate line item, the amount of walk-through energy audits performed under this program to ensure the amount is not counted in both programs.

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- 13.** Please explain in detail the reasons for the increases in administrative costs between TECO's current DSM plan (filed in 2015) and its proposed DSM plan for the following programs:
- a. Neighborhood Weatherization (administrative cost per participant increased from \$374 to \$814).
 - b. Energy Planner (one time administrative, installation, and setup cost increased from \$546 to \$896).
 - c. Standby Generator (annual recurring administrative cost per participant increased from \$386 to \$1,196).
- A.**
- a. The increase in Neighborhood Weatherization (administrative cost per participant increased from \$374 to \$814) was due to Tampa Electric including the updated costs of the items that are proposed to be offered in the comprehensive energy efficiency kit and inclusion of the walk-through energy audit. The updated costs for the comprehensive energy efficiency kit is \$582.70 with the largest portions being Duct Repair (\$150.00) and ceiling insulation (\$391.03) and the cost of administration and the walkthrough energy audit being \$231.30.
 - b. The increase in Energy Planner (one time administrative, installation, and setup cost increased from \$546 to \$896) was due to Tampa Electric including the costs associated with customers (participants) adding an additional device during the installation. Current typical customers of the Energy Planner program are signing up for the program and either having an additional thermostat or an extra appliance such as an electric water heater or pool pump as compared to the prior 2015-2024 DSM Plan filing. The cost increase is for the additional hardware, contractor labor, and Tampa Electric team members to support the additional equipment.
 - c. The increase in Standby Generator (annual recurring administrative cost per participant increased from \$386 to \$1,196) was due to the company replacing the legacy communication and notification equipment with a new state of the art third party communication and notification equipment that also added the ability to provide real time data to participants from any mobile or internet connected device. The recurring administrative cost increase is for the recurring annual fee charged for the full use of this software platform.

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14. Please explain in detail TECO's rationale for increasing its program costs in the Conservation Research and Development Program, in light of TECO's current DSM plan (filed in 2015) which sets a limit of \$200,000 per year, and TECO's proposed DSM plan which increases the limit to \$400,000 per year.

A. Tampa Electric has examined and analyzed several potential measures during the last five years as part of the company's Research and Development ("R&D") DSM program. These measures include the following:

- Electric vehicle education
- Commercial battery storage
- Commercial low-income weatherization

Tampa Electric listed the following as potential future R&D opportunities:

- Continued exploration of small to mid-size commercial batteries.
- Grid connected residential and/or small commercial generation used for backup in addition to demand response.
- Residential and/or commercial shared battery for load shifting, peak shaving or demand response.
- Photovoltaic smart inverter capabilities.
- Electric vehicle charging for demand response or load shifting.
- Incorporation of distributed energy resources into an existing company demand response or load management programs.
- Potential current energy education and technology demonstration benefits for reestablishing an Energy Technology Resource Center.

Tampa Electric is currently examining the following potential measures:

- Electric vehicle benefits and impacts.
- Battery storage for peak shifting.
- Heat Pump Water Heater inclusion into the Energy Planner Program.
- Large commercial electric vehicle battery storage.
- Commercial small to mid-sized business online energy audit.
- Home energy management system.

Tampa Electric is proposing to increase the amount allowable to be spent annually and the allowable not to exceed the amount to be spent during the five-year period based upon the number of potential measures the company would like to seek DSM information on and the inability to move forward on some projects due to the costs of the equipment. Tampa Electric shelved the small to mid-sized battery storage due to the incremental cost of the batteries and associated installation costs would have exceeded the cost of almost three years of the prior spend

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limitations. Because of these reasons, Tampa Electric is seeking permission to increase the allowed spend on an annual basis and during the five-year period. Tampa Electric is committed to continue to communicate to Commission Staff prior to the starting of any R&D Project and will continue to provide the results of all R&D projects via a written summary or report at the first available filing in the Energy Conservation Cost Recovery Clause in addition to being provided as part of the company's Annual DSM Report filed on March 1st of each year.

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15. Please refer to page 51 of the Utility's petition to answer the following questions:
- a. Please explain in detail how TECO projected year-to-year participation levels for the Energy and Renewable Education, Awareness, and Agency Outreach program for each year from 2020 to 2029.
 - b. Please explain the distinction between a customer and a participant for the Energy and Renewable Education, Awareness, and Agency Outreach program. As part of your response, please discuss how the Utility distributed 6,835 energy saving kits, and netted 750 customers.
 - c. Please identify the data and assumptions TECO relied on to estimate the number of program participants for this review period.
- A.
- a. Tampa Electric evaluated each program for projected participation rates as part of the development for the 2020-2029 DSM. The evaluation methodology to determine the projected participation rates was consistent amongst all DSM Programs. To evaluate the anticipated future participation levels, the Company first evaluated historical actual participation of each current DSM Program. This actual participation rate was then projected over the next ten years to establish initial future participation rates while holding the current program requirements and incentives at the prior DSM Plan levels. These future participation rates were then adjusted based upon changes to program requirements and incentive levels to obtain future potential participation rates. These participation rates were evaluated for finalization if all of the proposed DSM programs collectively would successfully achieve the Commission approved DSM goals on an annual basis.

Specifically for the Energy and Renewable Education, Awareness, and Agency Outreach program, the program participation rate was increased due to recognizing an increase of energy education is needed for renewable opportunities, technologies and options is why the company increased the participation rate per year as compared to the 2015-2024 DSM Plan filing that was included in Docket No. 20150081-EG .
 - b. In the company's 2019 ECCR Projection C-5 schedules that were filed on August 9, 2019 in Docket No. 20190002-EG, Tampa Electric reported that as of December 31, 2018 the company had distributed 6,835 energy efficiency kits as part of this program. This number of 6,835 energy

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efficiency kits is from the start of the program which occurred in 2011. The number of participants each year are those customers that meet the qualifying requirements and receive an energy efficient kit. The company counts only the participants in this program that receive an energy efficiency kit as they receive DSM measures which supports the company's DSM achievements toward meeting the Commission's approved energy and demand goals for Tampa Electric.

- c. The data and assumptions Tampa Electric relied on to estimate the number of program participants for this review period was explained in Response No. 15a above.

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- 16.** Please refer to page 54 of the Utility's petition. Please identify what actions are available to TECO that would allow the Energy and Renewable Education, Awareness, and Agency Outreach program to pass the RIM test. As part of your response, please explain what the drawbacks are of taking such actions.
- A.** Tampa Electric's Energy and Renewable Education, Awareness, and Agency Outreach Program is designed toward providing energy education to all groups and rate classes of customers. The energy efficiency kit that is provided within this program to qualifying low-income customers is what comprises the cost-effectiveness test results. To make this program, or rather these free energy efficiency kits to qualifying low-income customers, cost-effective under the RIM test would be to charge these customers a portion for the energy efficiency kit. The company does not endorse or recommend this approach for two reasons. First, it is recognized there may be times where customers may not have the financial resources to install energy efficient technologies. The company believes that if a charge were imposed to these customers for the kit, there would be a dramatic drop to the number of kits implemented. Second, since these same customers contribute to the ECCR clause in their electric bills each month, the company believes that there should be programs that these customers can participate in which is why Tampa Electric's Low Income Programs have always been a leader in Florida.

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17. Please refer to page 101 of the Utility's petition to answer the following questions:
- a. Please explain how TECO projected the year-to-year participation level for the Neighborhood Weatherization program to be 6,500 each year from 2020-2029.
 - b. Please identify the data and assumptions the Utility relied on to estimate the number of program participants for this review period.

- A. a. Tampa Electric evaluated each program for projected participation rates as part of the development for the 2020-2029 DSM. The evaluation methodology to determine the projected participation rates was consistent amongst all DSM Programs. To evaluate the anticipated future participation levels, the Company first evaluated historical actual participation of each current DSM Program. This actual participation rate was then projected over the next ten years to establish initial future participation rates while holding the current program requirements and incentives at the prior DSM Plan levels. These future participation rates were then adjusted based upon changes to program requirements and incentive levels to obtain future potential participation rates. These participation rates were evaluated for finalization if all of the proposed DSM programs collectively would successfully achieve the Commission approved DSM goals on an annual basis.

Specifically, for the Neighborhood Weatherization program, the program participation rate was slightly lowered on an annual basis for three reasons: First, with the company redesigning the program to now include a walk-through energy audit will greatly increase the energy education occurring for these customers. Second, balancing the cost of this program with the overall need of the company's Residential DSM Portfolio designed to achieve the Commission's recently approved DSM goals on an annual basis for the 2020-2024 period. Third, the company's Neighborhood Weatherization program has achieved an "Actual Cumulative Penetration Level" of 28.8 percent as reported in the company's 2019 Annual DSM Report filed on March 1, 2020. The higher the penetration rate will remove some efficiencies of the performance of the program due to the scattering of available and qualifying customers. Even with the slightly reduced participation annual rate of 6,500 as compared to 7,000, Tampa Electric will continue to be the leader in providing low-income DSM offerings.

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- b. The data and assumptions Tampa Electric relied on to estimate the number of program participants for this review period was explained in Response No. 17 a above.

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- 18.** Please refer to page 104 of the Utility's petition. Please identify what actions are available to TECO that would allow the Neighborhood Weatherization program to pass the RIM test. As part of your response, please explain what the drawbacks are of taking such actions.
- A.** Tampa Electric's Neighborhood Weatherization Program is designed toward providing energy education and a comprehensive energy efficiency kit to assist low income residential customers in becoming more energy efficient. To make this program cost-effective under the RIM test would be to charge these customers a portion for the energy education and comprehensive energy efficiency kit. The company does not endorse or recommend this approach for the same two reasons as provided in Response No. 16, with the exception that the drop off of participation would fall to close to zero or zero itself.

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19. Please explain in detail the reason(s) for the difference between the following two projections. First, in TECO's August 9, 2019, filing in Docket No. 20190002-EG, Schedule C-5, page 1 reflects a projection of 49,503 participants for energy audits for January 2020 – December 2020. Second, in TECO's petition filed in the instant Docket, pages 20, 24, and 29 show energy audit participation projections for the same period to be 34,004.

A. Tampa Electric's 2019 for 2020 participation projection amount of 49,503 was based upon the activity level for the following Residential Energy Auditing DSM Programs: Walk-Through Free Energy Check, Customer Assisted, Computer Assisted Paid and Building Energy Ratings System and assumed business as usual (i.e. the company would be continuing these DSM Programs through the full year of 2020).

Tampa Electric's participation projection amount of 34,004 within the proposed DSM Plan within this proceeding is based upon the upon the activity level for the same Residential Energy Auditing DSM Programs as above but assumes that the DSM Programs were running as proposed in the DSM Plan petition for the full year of 2020. (i.e. the company made the change as of January 1, 2020). There are two drivers within the DSM Plan for this projected participation change: First, since the inception of changing the vendor that provides the current online energy auditing tool, the company has experienced significant participation in this DSM Program and is expecting some bit of tail off of participation that has yet to occur. Second, with the addition of proposing to provide an energy audit as one of the comprehensive measures provided within the Neighborhood Weatherization Program, these audits were shifted out of the current Walk-Through Free Energy Check program. Tampa Electric's historical participation by low-income customers within the current Walk-Through Free Energy Check program was approximately 50 percent of the overall participation with these numbers (projected 6,500 per year) now being shifted to Neighborhood Weatherization program.

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20. Please refer to page 27 of the Utility's petition in this Docket to answer the following questions:

- a. Please explain why TECO assumes that the kilowatt and kWh savings from the Residential Computer Assisted Energy Audit (RCS-Paid Audit) and Residential Computer Assisted Audit programs will be the same.
- b. Please identify what data supports TECO's assumption.
- c. Please identify what the \$15 per audit charge for the Residential Computer Assisted Energy Audit (RCS-Paid Audit) covers.

A. a. To support the performance of residential energy audits efficiently, the company in parallel with the DSM goals development performs an energy and demand analysis to determine the kWh and kW savings realized from each Residential Walk-Through Audit performed. The most recent Residential Free Energy Audit Analysis was completed on August 15, 2019.

The Residential Free Energy Audit Analysis examines the kWh billing histories of customers who received the free audit were compared to the billing histories of matched customers who did not participate in the audit. In this analysis, care was given not to include customers that participated in other DSM programs. Energy consumption before and after the audit was compared for both sets of customers to estimate the impact associated with the audit. Based on load research data, the consumption impacts were then extrapolated into corresponding demand savings.

The demand and energy savings for the company's paid Residential Computer-Assisted Energy Audit is assumed to be the same as the free Residential Walk-Through Audit. This assumption was based on the limited number of paid audits historically performed and the fact that the same behavioral practices and low-cost measures are evaluated for the customer during both audits.

- b. The company utilized the 2019 Residential Free Energy Audit Analysis as the basis for the energy and demand saving numbers with the assumption that the two energy audits provide the same contribution as explained in Response No. 20a above. It is important to note that neither of these energy

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audits energy and demand achievements can be used toward meeting the company's Commission approved annual energy and demand goals.

- c. The \$15 per audit charge for the Residential Computer Assisted Energy Audit (RCS-Paid Audit) is the minimum amount to charge a customer for the performance of this energy audit. The charge is not designated to cover a certain cost incurred from the energy audit; it assists in offsetting a portion of the total cost of the energy audit.