

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-**

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**DATE:** January 25, 2018

**TO:** Office of Commission Clerk (Stauffer)

**FROM:** Division of Engineering ( King, Ballinger)  
Division of Economics (Morgan, Wu) *WU*  
Office of the General Counsel (Trierweiler) *TR*

**RE:** Docket No. 20170199-EI – Petition for approval of conservation street and outdoor lighting conversion program, by Tampa Electric Company. *JDH* *WBM* *JW*

**AGENDA:** 02/06/18 – Regular Agenda – Proposed Agency Action – Interested Persons May Participate

**COMMISSIONERS ASSIGNED:** All Commissioners

**PREHEARING OFFICER:** Administrative

**CRITICAL DATES:** None

**SPECIAL INSTRUCTIONS:** Please place this item immediately before Docket No. 20170198-EI.

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### Case Background

On September 5, 2017, Tampa Electric Company (TECO or Company) filed a petition requesting approval of its Conservation Street and Outdoor Lighting Conversion Program (the program), as a Demand Side Management (DSM) program. If approved, the conversion program would allow the Company to convert all its actively billed non-Light Emitting Diode (LED) lighting facilities to LED service over the next five years. The Company also requested that the remaining unamortized costs in rate base of the non-LED facilities be recovered through the Energy Conservation Cost Recovery (ECCR) Clause. The Florida Public Service Commission

(Commission) approved DSM goals for TECO and its DSM plan, designed to achieve its DSM goals, on August 11, 2015.<sup>1</sup>

TECO currently provides tariffed outdoor lighting service utilizing three lighting technologies: Metal Halide (MH), High-Pressure Sodium (HPS) and LED. LED fixtures are currently the only lighting service provided for new customers with both HPS and MH service closed to new business. However, customers who were receiving service under HPS and MH were grandfathered in and continue to receive service. Concurrent with filing its petition in this docket, TECO also filed a petition to approve new LED lighting rates in Docket No. 20170198-EI (tariff docket). In that petition TECO notes that currently the market demand for HPS and MH lighting is declining. Additionally, federal regulations such as the Energy Independence and Securities Act of 2014, which require higher level of energy efficiency for new outdoor lighting, is also contributing to the decreased demand for HPS and MH lighting. HPS and MH manufacturers are phasing out those types of lighting rather than investing in products that are losing popularity. TECO also reported that HPS and MH manufacturers/suppliers have informed the Company that all MH products are cancelled as January 1, 2017, and that HPS will be available until 2022. Due to their low production, HPS and MH fixtures and parts costs are rising significantly.

The objective of the new DSM program is to convert the current standard MH and HPS street and outdoor luminaires to energy efficient LED luminaires, in order to reduce the quantity of electricity consumed within the Company's service area. TECO has approximately 242,000 street and outdoor lighting luminaires in operation, of which 209,821 are non-LED and are eligible for conversion under the proposed conservation program.

Staff held two informal meetings with the Company to discuss the proposed program. At those meetings staff expressed its concerns regarding several aspects of the proposed program. These concerns included: the requirement to participate, the inclusion of program advertising costs, and the cost-effectiveness calculation. Staff also gathered data via four staff data requests.

The Commission has jurisdiction over this matter pursuant to Sections 366.80 through 366.85 and 403.519, Florida Statutes (F.S.), collectively known as the Florida Energy Efficiency and Conservation Act (FEECA).

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<sup>1</sup>Order No. PSC-15-0323-PAA-EG, issued August 11, 2015, in Docket No. 150081-EG, *In re: Petition for Approval of Demand-Side Management plan of Tampa Electric Company.*

## Discussion of Issues

**Issue 1:** Should the Commission approve TECO's proposed Conservation Street and Outdoor Lighting Conversion DSM program?

**Recommendation:** Yes. While the program is not a typical demand side management program, the conversion from Metal Halide and High-Pressure Sodium street and outdoor luminaires to energy efficient Light Emitting Diode luminaires advance the policy objectives of FEECA. As such, the proposed demand and annual energy savings from the proposed program should not count towards TECO's DSM goals. The program is directly monitorable, yields measurable results, and is marginally cost-effective. Program participation standards were submitted concurrently with the program description. Staff has reviewed these standards and recommends that they are sufficient. Staff recommends costs associated with the program (estimated at \$176 per fixture or \$36,930,532, less any salvage proceeds, as of December 2017), except advertising and notification costs, be eligible for cost recovery through TECO's Energy Conservation Cost Recovery factor. (King, Ballinger)

**Staff Analysis:** The criteria used to review the appropriateness of DSM programs are: (1) whether the program advances the policy objectives of FEECA and its implementing rules; (2) whether the program is directly monitorable and yields measureable results; and (3) whether the program is cost-effective.<sup>2</sup> Staff has reviewed TECO's petition and believes it meets these criteria.

### Program Description

The Street and Outdoor Lighting Conversion Program is designed to convert non-LED (MH and HPS) street and outdoor lighting luminaires to eligible LED luminaires in a five-year program. The goal is to install energy efficient LED street and outdoor lighting technology to reduce energy consumption and reduce TECO's winter peak demand. TECO is seeking approval to recover the remaining unrecovered depreciation costs for the MH and HPS luminaires that will be converted as part of the program within the ECCR clause. The unamortized amount for eligible luminaires is estimated at \$36,930,532 or approximately \$176 per fixture as of December 2017.<sup>3</sup> The Company intends to initiate the conversion process shortly after Commission approval.

TECO's conversion program is not a typical DSM program. While the program's goal of reducing energy consumption and demand is typical, and advances the policy objectives of FEECA, other aspects of the program are not. These aspects are addressed below.

First, participation in other DSM programs is voluntary with customers choosing to participate mainly due to direct benefits. However, converting to LED lighting under this program does not appear to be voluntary in staff's view. Specifically, as discussed in detail in the tariff docket petition, existing HPS and MH fixtures will be converted in one of two ways. One, the existing HPS and MH fixtures that incur an outage will be replaced with a new LED fixture rather than

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<sup>2</sup>Order No. 22176, issued November 14, 1989, in Docket No. 890737-PU, *In re: Implementation of section 366.80-85 Florida Statutes, Conservation Activities of Electric and Natural Gas Utilities.*

<sup>3</sup>See Document No. 08926-2017 – TECO's Response to Staff's First Data Request, No. 24.

repaired. Two, in a planned and coordinated manner, non-LED fixtures in geographic areas and circuits will undergo a conversion utilizing dedicated crews until the entire service area outdoor lighting fleet has been converted. TECO expects that 45 percent of the existing HPS and MH infrastructure will be converted to LED through outage restoration conversions and 55 percent converted using dedicated crews, during the five-year period.<sup>4</sup>

Second, unlike other DSM programs, not all participants will see a reduction in bills. Information provided in the tariff docket shows that out of the approximately 209,821 lighting units, 90 percent are proposed to have no change in bills, five percent are proposed to have a lower bill and five percent are proposed to have a slightly higher bill at the start of the program.<sup>5</sup> Additionally, there are no monetary incentives (i.e., rebates) provided to end use customers with this proposed program. TECO believes that the incentive included with this program is to only capture the unrecovered cost that is remaining on the non-LED luminaires eligible for replacement under this proposed program.<sup>6</sup> TECO explained that the proposed tariffs were developed as the vehicle for implementing the program. In the absence of the proposed conversion program, which provides cost recovery for the unrecovered investment in existing lighting assets, the Company would have contemplated different timing and sequencing for the conversion to LED lighting, which would have resulted in tariffs that are different than those proposed in this docket.<sup>7</sup>

Third, cost recovery for this type of lighting service is usually done as a base rate item rather than recovered through the ECCR clause.<sup>8</sup> TECO's 2017 Amended and Restated Stipulation and Settlement Agreement prohibits increases in base rates except for under specific circumstances. As it related to new tariff filings, paragraph 12 states:

New Tariffs. Nothing in this 2017 Agreement shall preclude Tampa Electric from filing and the Commission from approving any new or revised tariff provisions or rate schedules requested by Tampa Electric, provided that any such tariff request does not increase any existing base rate component of a tariff or rate schedule, or any other charge imposed on customers during the Term unless the application of such new or revised tariff, rate schedule, or charge is optional to Tampa Electric's customers.<sup>9</sup>

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<sup>4</sup>See Document No. 07543-2017, p. 7.

<sup>5</sup>See Document No. 08926-2017 – TECO's Response to Staff's First Data Request, No. 17.

<sup>6</sup>See Document No. 08926-2017 – TECO's Response to Staff's First Data Request, No. 8.

<sup>7</sup>See Document No. 08926-2017 – TECO's Response to Staff's First Data Request, No. 6.

<sup>8</sup>Both Duke Energy Florida, LLC., and Florida Power & Light Company offer LED lighting fixtures. See Docket Nos. 20150242-EI, *In re: Petition to approve revisions to Tariff Sheets Nos. 6.2811, 6.282, and 6.284, Rate Schedule LS-1 - Lighting Service*, by Duke Energy Florida, LLC and Docket No. 20160245-EI, *In-re: Petition for approval of a new optional pilot LED streetlight tariff*, by Florida Power & Light Company.

<sup>9</sup>Order No. PSC-2017-0456-S-EI, issued November 27, 2017, in Docket No. 20170210-EI, *In re: Petition for limited proceeding to approve 2017 amended and restated stipulation and settlement agreement*, by Tampa Electric Company.

The Company notes that existing or prospective new lighting customers may install their own lighting equipment should they desire to do so. TECO also provided verification that the signatories agreed that TECO could make a request as discussed in the instant docket.

In support of recovery through the ECCR clause TECO notes that in Docket No. 800701-EG the Company sought approval to convert approximately 85,000 street and lighting area lighting fixtures from MH to HPS and sought cost recovery via the ECCR clause. After a hearing, the Commission found that all reasonable and prudently incurred unreimbursed expenditures associated with the program qualified for conservation cost recovery.<sup>10</sup>

### **Program Costs/Cost Recovery**

In its ECCR filings, the Company intends to file the requested recovery amount of unamortized cost for MH and HPS luminaires that have either been removed during the prior year and current year (i.e. true-ups) or are expected to be removed through the projection year.<sup>11</sup> There are no administrative costs related to this program for which TECO is seeking a rate adjustment. If approved, TECO will recover through ECCR factors the unrecovered plant costs (estimated at \$36,930,532 as of December, 2017), less any salvage proceeds, based upon actual luminaire replacements performed each month. Recovery of unamortized costs and associated communication expenditures discussed below would begin with the new ECCR factors in 2019. The LED luminaires being installed to replace the existing MH and HPS luminaires have bar codes. The amount of LED luminaires installed each month will be counted and reported. For each LED luminaire replaced, approximately \$176 will be accounted for against the remaining unrecovered plant balance. Based on TECO's projection, this conversion will have an estimated monthly residential rate impact of 53.3 cents for the monthly usage of 1,200 kilowatt-hours during the course of the program.<sup>12</sup>

TECO further explained, in response to staff's data request, that the proposed amount for recovery would be adjusted in value at the commencement of the conversion program and along the five-year life of the conversion program so that only the remaining net book value would be recovered in the ECCR factor. This updated net book value would be revised after the program is approved in the annual filings associated with the ECCR clause. Under normal depreciation accounting with no additions to the plant in service amounts, the depreciation reserve balance is expected to increase over time resulting in the net book value of plant in service declining. The accounting associated with this program is intended to assure that at the end of the five-year program the net book value of the MH and HPS luminaires is zero. What is being proposed is that, as luminaires are retired from Account 101 on a monthly basis, there will be a standard reserve adjustment net of salvage based on the quantity removed. The removal cost of the existing MH and HPS luminaires will be paid for out of the project costs and will not impact the ECCR factor.<sup>13</sup> The reserve adjustment will be trued up annually based on each year's

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<sup>10</sup>Order No. 11002, issued July 19, 1982, in Docket No. 800701-EG, *In re: Conservation Plan of Tampa Electric Company*.

<sup>11</sup> See Document No. 10588-2017 – TECO's Response to Staff's Third Data Request, No. 5.

<sup>12</sup> See Document No. 08926-2017 – TECO's Response to Staff's First Data Request, No. 10.

<sup>13</sup> See Document No. 10588-2017 – TECO's Response to Staff's Third Data Request, Nos. 7 and 8.

conversion and associated depreciation expense, and will be filed in the ECCR clause docket by the Company for information purposes.<sup>14</sup>

In addition to the program costs noted above, the Company plans to initiate separate communications and notifications regarding the project to the communities and customers TECO serves. The cost of this advertising will be approximately \$50,000 per year during the five-year period of the program.<sup>15</sup> The advertising/communication costs for this program was not included in the cost-effectiveness test because the messaging would also include messaging for other Commission approved DSM programs that the Company offers to customers.

Staff does not believe any advertising or notification costs should be included for recovery for the conversion program since customers are not deciding when to convert their fixture. Moreover, the Company has stated that it has been approached by numerous existing lighting service customers, including large municipalities, requesting that the Company replace the existing MH and HPS street lighting with LED streetlights. In fact, three cities have filed correspondence in the docket supporting this program.<sup>16</sup>

### **Cost-Effectiveness Review**

TECO provided a cost-effectiveness analysis of its proposed program using the Participant Test, the Rate Impact Measure (RIM) Test, and the Total Resource Cost (TRC) Test. The Participant Test analyzes the cost and benefits from a program participant's point of view. The RIM Test ensures that all ratepayers will benefit from a proposed DSM program, not just the program participants. The TRC Test measures the overall economic efficiency of a DSM Program. The RIM and TRC tests take the ratio of benefit and cost, with analysis involving assumptions used to estimate costs as well as benefits such as cost savings associated with the avoided unit. An important aspect of the review is the evaluation of these assumptions and factors that may change the cost-benefit analysis significantly.

TECO asserted that the program is cost effective, with scores of 1.05 for the RIM Test, 2.17 for the TRC Test, and a cumulative net benefit in the amount of \$61,884 in net present value. In response to staff's data request, TECO also provided a cost-effectiveness analysis that included all five years of unamortized costs resulting in scores of 1.01 for the RIM Test, .70 for the TRC Test, and a cumulative net benefit in the amount of \$24,492 in net present value.<sup>17</sup> Such results suggest the program is marginally cost-effective.

### **FEECA Policy Objectives/ Program Monitoring and Evaluation**

FEECA emphasizes reducing the growth rate of peak demand and reducing and controlling the growth rates of electricity consumption. Due to the energy efficiency of the new LED fixtures, TECO estimated a total winter peak demand savings of 29.7 megawatts and an annual energy savings of 127.9 gigawatt-hours as a result of the conversion.

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<sup>14</sup>See Document No. 10588-2017 - TECO Response to Staff's Third Data Request, No. 2.

<sup>15</sup>See Document No. 08926-2017 - TECO's Response to Staff's First Data Request, No. 13.

<sup>16</sup>See Document No. 10015-2017.

<sup>17</sup>See Document No. 10942-2017 - TECO's Response to Staff's Fourth Data Request, No. 1.

Demand and energy savings were obtained using wattage data from each existing eligible non-LED lamps and the proposed LED lamps that will be installed in its place. Operating hours were estimated using the United States Naval Observatory tables for Tampa, Florida. The analysis yielded the following expected savings per lamp conversion performed:

Summer Demand:	0.000 kW
Winter Demand:	0.133 kW
Annual Energy:	576 kWh

TECO believes that because its proposed program fully complies with the requirements of FEECA, it should be allowed to report the demand reduction and annual energy savings along with its current DSM goals. However, TECO agreed to meet its current DSM 2015-2024 goals (as approved by the Commission) using the currently approved DSM Programs only. TECO proposes that the demand and annual energy savings from the proposed conversion program be reported as additional savings over and above the savings achieved using the current approved DSM programs and that those additional savings would not be utilized for any other purpose with regard to FEECA or FEECA goal achievement.<sup>18</sup> Staff agrees, and would note that TECO is currently exceeding its current FEECA goals.

### **Customer Notification**

TECO has prepared general correspondence including a news release and letter describing the benefits of LED lighting and the conversion program to existing lighting customers, door hangers for customers whose HPS or MH fixture will be replaced with an LED fixture upon failure, and customers in planned geographical areas will receive targeted communication directly before the conversion begins. TECO stated that it has had communication with larger volume lighting customers such as cities and counties about the planned conversions. TECO also stated that customers whose bills will increase as result of the conversion, will receive a letter from the Company and will provide options for additional communications through email and phone.

### **Conclusion**

While the program is not a typical demand side management program, the conversion from Metal Halide and High-Pressure Sodium street and outdoor luminaires to energy efficient Light Emitting Diode luminaires advance the policy objectives of FEECA. As such, the proposed demand and annual energy savings from the proposed program should not count towards TECO's DSM goals. The program is directly monitorable, yields measurable results, and is marginally cost-effective. Program participation standards were submitted concurrently with the program description. Staff has reviewed these standards and recommends that they are sufficient. Staff recommends costs associated with the program (estimated at \$176 per fixture or \$36,930,532, less any salvage proceeds, as of December 2017), except advertising and notification costs, be eligible for cost recovery through TECO's Energy Conservation Cost Recovery factor.

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<sup>18</sup>See Document No. 10015-2017, p. 2.

**Issue 2:** Should this docket be closed?

**Recommendation:** Yes. This docket should be closed upon issuance of a consummating order, unless a person whose substantial interests are affected by the Commission's decision files a protest within 21 days of the issuance of the Commission's Proposed Agency Action Order. (Trierweiler)

**Staff Analysis:** This docket should be closed upon issuance of a consummating order, unless a person whose substantial interests are affected by the Commission's decision files a protest within 21 days of the issuance of the Commission's Proposed Agency Action Order.