

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:** November 18, 2015

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

**FROM:** Division of Economics (Wu, Stratis) *Wu Stratis*  
 Division of Engineering (Graves, Wooten) *Graves Wooten*  
 Office of the General Counsel (Mapp) *Mapp*  
 Office of Industry Development and Market Analysis (Clemence) *Clemence*

**RE:** Docket No. 150211-EI – Petition for approval of depreciation rates for solar photovoltaic generating units, by Tampa Electric Company.

**AGENDA:** 12/03/15 – Regular Agenda – Proposed Agency Action – Interested Persons May Participate

**COMMISSIONERS ASSIGNED:** All Commissioners

**PREHEARING OFFICER:** Brown

**CRITICAL DATES:** None

**SPECIAL INSTRUCTIONS:** None

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### Case Background

Pursuant to Rule 25-6.0436(3)(a), Florida Administrative Code (F.A.C.), electric utilities are required to maintain depreciation rates and accumulated depreciation reserve in accounts or subaccounts as prescribed in Rule 25-6.014(1), F.A.C. Rule 25-6.0436(3)(b), F.A.C., provides that “[u]pon establishing a new account or subaccount classification, each utility shall request Commission approval of a depreciation rate for the new plant category.” On September 29, 2015, Tampa Electric Company (TECO or the company) filed its petition, in accordance with this rule, to establish depreciation rates for its solar photovoltaic generating units and associated equipment. The Florida Public Service Commission (Commission) has jurisdiction in this matter pursuant to Sections 366.04, 366.05, and 366.06, Florida Statutes (F.S.).

## Discussion of Issues

**Issue 1:** Should the Commission establish subaccounts with depreciation rates for TECO's solar photovoltaic generating units and associated equipment?

**Recommendation:** Yes. Staff recommends the Commission establish the subaccounts shown in the staff analysis, with a 30-year life and a whole life depreciation rate of 3.3 percent, for TECO's solar photovoltaic generating units and associated equipment. (Wu, Clemence, Graves, Stratis, Wooten)

**Staff Analysis:** TECO is seeking the Commission's approval of depreciation rates for specified subaccounts to apply to solar photovoltaic (PV) generating units and associated equipment that it is constructing at the Tampa International Airport (TIA), and to such other solar PV generating systems expected to be constructed in the future. The TIA project involves construction of a 2 MW<sub>DC</sub> PV system located on the top floor of TIA's Economy Parking Garage. TECO will own the PV support structure, PV system and the energy output under a 25-year lease from TIA for the space. Commissioning of the generating units is expected in late December 2015. Other solar PV projects<sup>1</sup> are expected in the future.

In Order No. PSC-08-0731-PAA-EI,<sup>2</sup> the Commission adopted a 30-year life with zero net salvage for comparable solar PV generating units for Florida Power & Light Company (FPL). The resulting 3.3 percent depreciation rate was authorized in that order to be used for the following subaccounts:<sup>3</sup>

303.xx Intangible Plant

341.xx Structures and Improvements

343.xx Other Generation Plant

345.xx Accessory Electric Equipment

TECO plans to use the same subaccounts to book all the components of its solar PV generating units that are currently under construction and will be built in the future. TECO also believes that a 30-year plant life, a zero net salvage, and a 3.3 percent depreciation rate applies to these same depreciation subaccounts for the company's solar PV facilities. TECO indicates that it has very little experience with large utility scale solar PV generating facilities and their expected life and depreciation rate. TECO determined that the aforementioned subaccounts with a 3.3 percent

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<sup>1</sup> TECO's petition, page 2, indicates that the company is investigating a 25 MW<sub>DC</sub> PV system to be sited near the Big Bend Station and the Manatee Viewing Center.

<sup>2</sup> Order No. PSC-08-0731-PAA-EI, issued November 3, 2008, in Docket 080543-EI. In re: Request for approval to begin depreciating new technology solar photovoltaic plant sites for DeSoto and Space Coast Solar Energy Centers over 30-year period, effective with in-service dates of units, by Florida Power & Light Company.

<sup>3</sup> TECO intends to record solar PV generating units in subaccounts so that the investments in these assets will be separately identified within TECO's plant accounts. At this time TECO has not yet identified the specific subaccounts in which to record these investments; however, the subaccounts will be set up prior to the in-service date of any solar PV units.

depreciation rate granted to FPL's solar PV generating units by the Commission seemed appropriate for the TECO facilities.<sup>4</sup>

The major components of the solar PV generating system include PV panels, inverters and a support structure. Staff notes that Solar Electric Power Association, a solar research and education non-profit entity with electric utility and company members, and Solar Source, the TIA project turnkey construction firm, concurred with TECO's proposed 30-year plant life. In addition, National Renewable Energy Laboratory's 25 to 40 years estimated life supports TECO's estimated 30-year plant life.<sup>5</sup> Staff notes that the PV panels used for this project<sup>6</sup> have a 25-year linear performance warranty. The inverters have 15-year warranty, but the company anticipates replacing the inverters once during the life of the system. The support structure is concrete canopy which was built to meet or exceed the expected facility life.<sup>7</sup> The lease entered into between TECO and TIA for space to locate the PV generating units is for 25 years with a 5-year extension option. It is TECO's intent to exercise the option to extend the lease for an additional 5 years for a total of 30 years from the commencement date of the TIA solar PV generating units.<sup>8</sup>

TECO proposes a net salvage value of zero for the petitioned subaccounts to book its PV generating units and associated equipment. The company indicates that it does not know the salvage value this early in the development of utility scale solar PV generating stations.<sup>9</sup> The company proposes a net salvage value of zero until a better understanding of net salvage value is known. As better understanding is gained over the years, this value can be re-evaluated. Staff agrees with TECO's position. Rule 25-6.0436(8)(a), F.A.C., requires investor-owned utilities to file a comprehensive depreciation study at least once every four years from the submission date of the previous study. The values of the net salvage as well as other depreciation parameters assigned to the petitioned subaccounts in the instant case will be re-evaluated in TECO's future depreciation studies filed with the Commission.

In its petition, TECO indicates that it is currently evaluating the retirement unit structure that the company will employ and will prepare and file a site specific depreciation study for TIA. The company explains that the first couple of utility scale solar PV generating sites being considered have some substantial differences in construction and siting between them, so site-specific depreciation studies may be called for until some understanding of comparable construction and siting become apparent for future development.<sup>10</sup> The filing of the TIA site study would occur some time after the facility goes into service and all the trailing charges have been booked and unitized.

Based on the information available and the analysis above, staff believes that TECO's proposed 30-year life and zero net salvage for solar PV generating units applied to the subaccounts

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<sup>4</sup> TECO's responses to Staff's First Data Request Nos. 5.b. and 10.

<sup>5</sup> TECO's response to Staff's First Data Request No. 1.

<sup>6</sup> SW325 PV panels manufactured by SolarWorld.

<sup>7</sup> TECO's response to Staff's First Data Request No. 2.

<sup>8</sup> TECO's response to Staff's First Data Request No. 3.

<sup>9</sup> TECO's response to Staff's First Data Request No. 9.

<sup>10</sup> TECO's response to Staff's First Data Request No. 11.

identified on page 2 are appropriate at this time. This results in a whole life depreciation rate of 3.3 percent.

**Conclusion**

Staff believes it would be appropriate for the Commission establish the Subaccounts 303.xx-Intangible Plant, 341.xx-Structures and Improvements, 343.xx-Other Generation Plant, and 345.xx-Accessory Electric Equipment, with a 30-year life and a whole life depreciation rate of 3.3 percent, for TECO's solar photovoltaic generating units and associated equipment.

**Issue 2:** What should be the effective date for the implementation of the new depreciation rates for TECO's solar photovoltaic generating units and associated equipment?

**Recommendation:** Staff recommends an effective date for the implementation of the new depreciation rates for TECO's solar photovoltaic generating units and associated equipment of December 31, 2015. (Wu)

**Staff Analysis:** Depreciation is the recovery of invested capital representing equipment that is providing service to the public. This recovery is designed to take place over the related period of service to the public, which begins with the equipment's in-service date. In its petition, TECO has requested the Commission to approve the new depreciation rates for solar PV generating units and associated equipment effective December 3, 2015. TECO also indicated that the commissioning of the TIA solar PV generating units, the company's first solar PV plant, will be in late December 2015. Through discussion with the company,<sup>11</sup> staff determined that an effective date of December 31, 2015, would meet TECO's need of having approved depreciation rates for plant in-service in 2015 for reporting purposes while also recognizing the expected timing of the commissioning of the solar PV project.

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<sup>11</sup> Document No. 07071-15.

**Issue 3:** Should this docket be closed?

**Recommendation:** If no person whose substantial interests are affected by the proposed agency action files a protest within 21 days of the issuance of the order, this docket should be closed upon the issuance of a consummating order. (Mapp)

**Staff Analysis:** At the conclusion of the protest period, if not protest is filed, this docket should be closed upon the issuance of a consummating order.