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January 12, 2017

**FPL'S RESPONSE TO STAFF'S  
FIRST DATA REQUEST  
-VIA ELECTRONIC FILING-**

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

**RE: Docket No.: 160245-EI  
Florida Power & Light Company's Petition for Approval of New Pilot Light  
Emitting Diode (LED) Tariff**

Dear Ms. Stauffer:

Please find enclosed for electronic filing a copy of Florida Power & Light Company's responses to Staff's First Data Request in the above mentioned docket.

If there are any questions regarding this transmittal, please contact me at (561)304-5170.

Sincerely,

/s/ Kevin I.C. Donaldson  
Kevin I.C. Donaldson  
Fla. Bar No. 0833401

Enclosure

**QUESTION:**

Does FPL intend to petition the Commission at the end of the 3-year pilot term to make the proposed optional LT-1 tariff permanent, modify, or discontinue?

**RESPONSE:**

It is FPL's intention to make the optional LT-1 tariff permanent. It is possible that FPL will request modifications as the Company learns more from customers and installations over the course of the pilot program.

**QUESTION:**

Referring to Page 3, paragraph 6b, please explain how the proposed LT-1 tariff allows customers to calculate the costs and savings for LED installations and conversions more easily than the current PL-1 tariff.

**RESPONSE:**

For PL-1, the calculated charges (e.g., up front and monthly facilities, maintenance and energy charges) are project-specific and, as such, can only be determined by and obtained from FPL.

For LT-1, customers will be able to directly obtain monthly charges for the range of LED fixtures and energy tiers for different project scenarios without FPL's direct involvement or assistance. FPL's LED lighting catalog, which identifies the fixture type and associated LT-1 billing tier, and FPL's LT-1 tariff, which contains the monthly charge matrix, will both be available online at FPL.com.

**QUESTION:**

What is the approximate lifespan of LED lights and fixtures? How does it compare with HPSV lights and fixtures?

**RESPONSE:**

LED street lights and fixtures are contained in a single unit, with the unit's lifespan estimated at 12-15 years. While HPSV fixtures have a lifespan of 15-25 years, HPSV lamps typically have a lifespan of 5-7 years.

**QUESTION:**

Please discuss what construction steps are typically involved in converting from HPSV lighting to LED lighting.

**RESPONSE:**

To convert from HPSV lighting to LED lighting requires replacement of the fixture (similar to changing illumination levels for an HPSV fixture). For a typical HPSV to LED conversion the steps include: disconnecting HPSV fixtures' power feeds (2 wires/fixture); loosening HPSV mounting bolts; removing HPSV fixtures from their mounts; installing LED fixtures on their mounts; tightening mounting bolts; and reconnecting the power feeds.

**QUESTION:**

If a customer undergoes the conversion option, does the customer have to pay the monthly charge referred to on page 3, paragraph 6(a), for construction in addition to the tariffed monthly fixture, maintenance, and energy charges? Please explain.

**RESPONSE:**

Yes. When converting existing facilities to LED, if there are any remaining unrecovered costs associated with the existing facilities to be removed (i.e., original installed cost less any salvage and depreciation), the customer will also have to pay the LED Conversion Recovery monthly charge of \$0.97 per fixture (based on system-average) in addition to the tariffed monthly fixture, maintenance and energy charges associated with the newly installed LED fixtures. The LED Conversion Recovery charge in FPL's LT-1 tariff is designed to allow the customer the option to pay for these costs through a monthly charge instead of the requirement that the customer pay an up-front lump sum payment, as specified in FPL's SL-1 tariff. This is an important provision in the proposed LT-1 tariff, because the lump sum payment requirement has been a significant barrier and source of customer dissatisfaction.

**QUESTION:**

Will current customers continue to be able to take LED lighting service under the PL-1 tariff?

**RESPONSE:**

Yes, the PL-1 tariff will remain unchanged at this time, and customers can maintain their current PL-1 rates for their existing LED facilities. Customers would also have the option to switch the billing for their LED facilities from PL-1 to the LT-1 tariff if they desire to do so.

**QUESTION:**

Will new LED lighting customers be able to choose service under the PL-1 or LT-1 tariff? If yes, please state how that decision under which tariff to take service will be made.

**RESPONSE:**

Yes, new LED lighting customers will be able to choose service through either the PL-1 or LT-1 tariffs. These customers will be able to request an estimate for the costs/charges of LED lighting under PL-1 and then compare it to the LT-1 costs/charges using the LT-1 tariff and the LED lighting catalog. After evaluating the costs and benefits under each tariff, customers would then be able to choose the option that best fits their needs.



**QUESTION:**

Will the PL-1 tariff become obsolete and/or duplicate LED lighting options with the introduction of the new LT-1 tariff? Please explain.

**RESPONSE:**

No. FPL will allow customers to choose LED lighting under both the PL-1 and LT-1 tariffs. Because the PL-1 tariff provides for a number of lighting options in addition to LED, FPL does not currently anticipate that its PL-1 tariff will become “obsolete.”

Further, while the LT-1 and PL-1 tariffs both cover substantially the same range of LED lighting options, the tariffs do not duplicate each other because they provide customers flexibility for payment options. Under the PL-1 tariff, customers pay the cost of LED fixture installations up front, whereas the LT-1 tariff would allow customers to pay for the LED fixture installations over time.

**QUESTION:**

Referring to the LED lighting catalog at , please explain whether FPL will add more LED fixtures if the proposed tariff is approved, whether FPL will continuously modify/update the catalog as new fixtures become available, and why FPL is proposing to show the available fixtures on the FPL website as opposed to in the tariff.

**RESPONSE:**

Yes, if the proposed tariff is approved, FPL expects to offer more LED fixtures and continue to modify/update the catalog with FPL-approved fixtures as they become available. FPL expects this approach to be beneficial to customers because the LED lighting industry is still in its early stages of development and innovations are occurring at a rapid pace. Also, manufacturers are regularly introducing new fixtures to the market that offer improved quality, aesthetic design and costs – which FPL wants to make available to its customers as soon as practicable.

FPL is proposing to show the available fixtures in an LED lighting catalog on the FPL website as opposed to specifically listing those fixtures in the tariff to provide customers the benefits of these innovations as quickly as possible. The FPL website is specifically identified in the tariff. If the fixtures are instead published in the tariff, there could be a need to refile the tariff frequently. This could become administratively burdensome for both the Commission and FPL and could delay the availability of new fixtures to FPL's customers. Providing the listing of available fixtures on the FPL website is the fastest and most efficient way to offer customers the latest and best LED fixtures. The fixture and energy billing tiers are filed in the tariff and will not be altered without refiling. Each fixture will be assigned to the appropriate fixture tier and energy billing tier when it is added to the catalog. One goal of the pilot optional LT-1 tariff is to better understand the preferences of FPL's customers and offer enough flexibility to better satisfy their needs.

**QUESTION:**

Referring to page 7, paragraph 11, please state how many fixture replacements (one time only or multiple times if fixture breaks) are recovered under the monthly fixture charge during the term of the lighting agreement. Under what scenario would FPL charge a customer in addition to the tariffed charges for the cost of replacing a fixture?

**RESPONSE:**

The monthly fixture charge is intended to recover all fixture replacements resulting from normal failure (e.g. end of service life, weather damage, component failure, etc.) as needed. There are currently no fixture replacement costs assumed in the calculation of the pilot LT-1 monthly fixture charge, but future iterations of the LT-1 tariff would incorporate replacement costs based on FPL's experience with service lives and equipment failure at that time.

FPL would charge a customer for a fixture replacement if the customer was responsible for damaging the fixture (e.g., the customer cuts down a tree, which lands on the light) or the fixture needs to be replaced due to repeated vandalism by others and the customer chooses continued service at that location (option B under the Willful Damage section of proposed tariff sheet 8.737 - see Attachment 1 to this response).

FLORIDA POWER & LIGHT COMPANY

(Continued from Sheet No. 8.736)

Maintenance per Fixture (FPL Owned Fixture and Pole)	\$1.72
Maintenance per Fixture for FPL Fixtures on Customer Pole	\$1.20
LED Conversion Recovery	\$0.97

Notes:

The non-fuel energy charge is 2.850¢ per kWh.  
Bills rendered based on "Total" charge. Unbundling of charges is not permitted.

Charges for other FPL-owned facilities:

Wood pole used only for the street lighting system	\$4.92
Standard Concrete pole used only for the street lighting system	\$6.74
Round Fiberglass pole used only for the street lighting system	\$7.98
Decorative Tall Fiberglass pole used only for the street lighting system	\$16.81
Decorative Concrete pole used only for the street lighting system	\$13.65
Underground conductors	3.810 ¢ per foot

BILLING

During the initial installation period:  
Facilities in service for 15 days or less will not be billed;  
Facilities in service for 16 days or more will be billed for a full month.

WILLFUL DAMAGE:

Upon the second occurrence of willful damage to any FPL-owned facilities, the Customer will be responsible for the cost incurred for repair or replacement. If the lighting fixture is damaged, based on prior written instructions from the Customer, FPL will:

- a) If a commercially available and FPL approved device exists, install a protective shield. The Customer shall pay \$280.00 for the shield plus all associated costs. However, if the Customer chooses to have the shield installed before the second occurrence, the Customer shall only pay the cost of the shield; or
- b) Replace with a like unshielded fixture. For this, and each subsequent occurrence, the Customer shall pay the estimated costs of the replacement fixture; or
- c) Terminate service to the fixture. In this case, the lighting facilities will be removed from the field and from billing; the customer will pay the lighting facilities charges for the remaining period of the currently active term of service plus the cost to remove the facilities.

Option selection shall be made by the Customer in writing and apply to all fixtures which FPL has installed on the Customer's behalf on the same account. Selection changes may be made by the Customer at any time and will become effective ninety (90) days after written notice is received.

Continued on Sheet No. 8.738

QUESTION:

Referring to page 7, paragraph 11(b), please provide the calculation of the monthly \$12.00 fixture cost based on the \$942.67 installed costs showing and explaining all steps and inputs of the calculation.

RESPONSE:

The monthly fixture cost is calculated using the following inputs:

- The fixture cost of  $\$942.67 * 15.27\%$  (fixture carrying charge is based on a 15 year fixture life, which includes cost of capital, depreciation, property tax, and insurance costs) = \$143.96 per year;
- $\$143.96 * 1.00072052$  (revenue tax factor) = \$144.05 per year;
- $\$144.05 / 12$  (reduce to per month basis) = \$12.00/month

QUESTION:

Referring to page 9, paragraph 12(c), please show the calculation that arrives at the \$2.60 energy charge for a 260 watt fixture. Show each step and input for the calculation.

RESPONSE:

- The energy charge for street lights is based on an average of 353.3 hours of darkness per month (i.e., 4,240 hours of darkness per year/12 months), similar to the PL-1.
- The proposed non-fuel energy charge for LED street lighting is \$0.0285/KWH.
- $\text{KWH/Month} = \text{Watts} * 353.3/1000$
- $\text{KWH/Month for the 260 Watt fixture} = 260 * 353.3/1000 = 91.86 \text{ KWH/Month}$
- $91.86 \text{ KWH/Month} * \$0.0285/\text{KWH} = \$2.62$
- This monthly cost of \$2.62 falls into energy tier “N” which encompasses all fixtures using between \$2.50 and \$2.69 per month in non-fuel energy.
- Energy tier “N” is billed at \$2.60/month (the mid-point of the non-fuel energy cost range for these fixtures).

QUESTION:

Referring to pages 9-10, paragraph 14, please show the calculations for the \$1.20 and for the \$1.72 maintenance charge per fixture. Show each step and input for the calculations.

RESPONSE:

- a) For the \$1.72 monthly maintenance charge of FPL fixtures:
- Average yearly maintenance costs for 2014-2015 from FERC accounts 585 (Street lighting and signal system expenses) and 596 (Maintenance of street lighting and signal systems) was \$10,473,493
  - 507,896 billed fixtures
  - $(\$10,473,493 / 507,896) / 12 \text{ months} = \$1.72/\text{month}$
- b) For the \$1.20 monthly maintenance charge for FPL fixtures on customer owned poles served by customer owned conductors (Hybrid):
- Approximately 30% of the maintenance expense is related to pole, conductor, or cable repair. These specific repairs will not be required for hybrid light circuits, because the customer will remain in ownership of those facilities, and FPL will only be responsible for the fixture maintenance. Therefore the maintenance factor for these fixtures is set at 70%.
  - $\$1.72/\text{month} * 0.70 = \$1.20/\text{month}$

QUESTION:

Referring to page 10, paragraph 15, please show the calculation for the \$0.97 conversion recovery fee. Show each step and input for the calculation.

RESPONSE:

- 653,165 HPSV Street Light fixtures in service
- These fixtures have a remaining value of \$113,301,278.06
- This equates to an undepreciated value of \$173.47 per fixture
- Removal cost is 0.96 man-hours @ \$97 per man-hour = \$93.12
- Adding removal cost of \$93.12 = \$266.59 base cost
- With a depreciation factor of 4% and cost of capital of .09392% this equates to a yearly cost of \$11.66 as follows:  $\$266.59 * 1.04 * 1.09392 = 11.66$
- $\$11.66 / 12 \text{ months} = \$0.97 \text{ per month}$