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October 23, 2017

VIA: ELECTRONIC FILING

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

Re: Petition by Tampa Electric Company to Close to New Business all Existing Lighting Rates and Approve new LED Lighting Rates and Tariffs for a Street and Outdoor Lighting Conversion Program; Docket No. 20170198-EI

Dear Ms. Stauffer:

Attached are Tampa Electric Company's responses to Staff's First Data Requests (Nos. 1-26), propounded and served by electronic mail on October 10, 2017.

Thank you for your assistance in connection with this matter.

Sincerely,

James D. Beasley

JDB/pp
Attachment

cc: Sevini Guffey (w/attachment)

TAMPA ELECTRIC COMPANY
DOCKET NO. 20170198-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 1
BATES-STAMPED PAGES: 1 - 2
FILED: OCTOBER 23, 2017

1. If the DSM program proposal in Docket No. 20170199-EI is not approved by the Commission, please discuss how that would impact TECO's petition in Docket No. 20170198-EI (e.g., proceed with the conversion or withdraw the petition).

A. The proposed tariffs were developed as the vehicle for implementing the proposed program. In the absence of the proposed conservation program, which provides cost recovery for the unrecovered investment in existing lighting assets, the Company may have contemplated different timing and sequencing for the conversion to LED lighting, which may have resulted tariffs that are different than those proposed in this docket.

Because of the dynamics of the lighting market as explained in paragraphs 3, 5, 6 and 7 of the petition filed in this docket, Tampa Electric strongly believes that now is the time for broad scale conversion to LED lighting. By conducting this street and outdoor lighting conversion program now, the company will be able to continue to offer a marketable and reasonably priced lighting service to Tampa Electric customers. Moreover, the proposed conversion is consistent with the goals annunciated in the Florida Energy Efficiency and Conservation Act (FEECA). In passing the FEECA, the Florida Legislature found and declared in Section 366.81, Florida Statutes, that

> . . . it is critical to utilize the most efficient and cost-effective demand-side renewable energy systems and conservation systems in order to protect the health, prosperity, and general welfare of the state and its citizens. Reduction in, and control of, the growth rates of electric consumption and of weather-sensitive peak demand are of particular importance.

The Legislature's also expressed that the provisions in FEECA are

> > . . . to be liberally construed in order to meet the complex problems of reducing and controlling the growth rates of electric consumption and reducing the growth rates of weather-sensitive peak demand; increasing the overall efficiency and cost-effectiveness of electricity . . .

Now is the time for a cost-effective conversion of the existing lighting product to the new lighting product in order to continue providing a marketable and reasonable priced offering to Tampa Electric customers.

2. Referring to the proposed Revised Stipulation and Settlement filed in Docket No. 20170210-EI, paragraph 12 (new tariffs), please provide a discussion how the statement "only minimal, if any, billing impacts will occur as the proposed new LED rates are being designed" (emphasis added) in the instant petition relates to paragraph 12 of the Revised Stipulation and Settlement.

A. In the Revised Stipulation and Settlement Agreement, paragraph 12 reads:

> "12. New Tariffs. Nothing in this 2017 Agreement shall prelude 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."

Lighting service is an optional service to Tampa Electric's customers. No Tampa Electric customer must take lighting service from the company, lighting can be self-supplied through investment by the customer in lighting equipment or lighting equipment can be secured from contractors and lighting service suppliers. The non-energy components for the new lights are new, but so is the lighting equipment being utilized, hence there is no increase to any existing non-energy base rate component. The base energy and other clause related energy rates utilized in the revised tariffs, which a customer must secure from Tampa Electric as the jurisdictional retail energy supplier, have not been changed in the proposed tariffs. Only the amount of monthly energy for the new lights that are applied to those energy rates are changing resulting in lower monthly bills since the service is unmetered and the energy utilized is in flat.

The statement "only minimal, if any, billing impacts will occur as the proposed new LED rates are being designed" refers to the rate design which, to the maximum extent possible, tried to match the bill impact to existing non-LED lighting customers from conversion to new LED service. No such customer is being required to sign a new contract or extend their existing commitments based on the LED conversion.

Given the above, this program conforms to the language contained in the Revised Stipulation and Settlement Agreement, paragraph 12. The signatories to that agreement were informed by Tampa Electric about the LED filing and what it entailed prior to its filing. The LED filing was made prior to the signing and filing of the Revised Stipulation and Settlement Agreement.

3. Please provide a year-by-year description and breakdown of all estimated costs associated with the Street and Outdoor Lighting Conversion Program for each of the five years of the program.

A. See attached.

	2017	2018	2019	2020	2021	2022	Total
LED Conversion Forecast (Units per Year)	4000	41339	53797	50443	35412	24831	209821
Luminaire Material Costs	$ 1,145,090	$ 11,834,197	$ 15,400,539	$ 14,440,360	$ 10,137,497	$ 7,108,315	$ 60,065,999
NLC Material Costs	$ -	$ 344,494	$ 9,569,114	$ 5,044,269	$ 3,541,204	$ 2,483,058	$ 20,982,141
Internal Field Labor	$ 104,052	$ 1,117,236	$ 1,150,753	$ 1,185,275	$ 1,220,833	$ 1,257,458	$ 6,035,607
Contract Field Labor	$ 112,296	$ 3,346,261	$ 4,420,999	$ 4,147,770	$ 2,879,113	$ 1,989,749	$ 16,896,188
Project Mang. and Back Office	$ 84,013	$ 1,443,472	$ 1,395,145	$ 1,323,778	$ 1,276,779	$ 848,380	$ 6,371,567
Material Handling	$ 86,420	$ 1,037,043	$ 1,037,043	$ 1,037,043	$ 1,037,043	$ 1,037,043	$ 5,271,635
Fleet	$ 77,382	$ 928,586	$ 928,586	$ 928,586	$ 928,586	$ 928,586	$ 4,720,312
NLC Integration & Network	$ 116,667	$ 5,233,183	$ 2,216,667	$ -	$ -	$ -	$ 7,000,000
CGRs for NLC (Material & Labor)		$ 566,517					$ 566,517
Cont.	$ 94,926	$ 1,390,646	$ 1,986,537	$ 1,545,889	$ 1,156,158	$ 860,892	$ 7,035,048
Capital Spending	$ 1,820,846	$ 26,675,119	$ 38,105,383	$ 29,652,971	$ 22,177,213	$ 16,513,483	$ 134,945,014

4. TECO proposes to convert 209,821 non-LED fixtures to LED fixtures over a 5-year period. On page 2 of Exhibit C, TECO stated that approximately 5,000 fixtures will be converted to LED per month. At that conversion rate, please explain why it will take five years to complete all conversions and state how TECO arrived at the 209,821 number.

A. The number of non-LED luminaires that are proposed to be converted per the Lighting Conversion Program total to 209,821. This value is the number of actively billed non-LED services in Tampa Electric's service territory as of the time of the filing. As detailed in Exhibit C to the Petition, luminaires will be converted to LED through restoration and through a planned effort. The 5,000 conversions per month rate is the expected project pace across the first 18 months of the project with the monthly conversion rate reducing later in the project.

In the early years, a large quantity of non-LED luminaires on the system will be converted through restoration of outages of existing luminaires on the system. The planned conversions during this period will target high priority locations as identified by community partners or by Tampa Electric. During the past three years, between 45k and 56k of light outages have been restored annually by Tampa Electric. This is the expected volume of luminaires that would be converted to LED through restoration in the early years. The number of outages and quantity of non-LED luminaires on the system will rapidly diminish as conversions are completed resulting in a lower monthly conversion pace as the project nears completion.

5. Please discuss why the petition proposes to close the existing LED tariffs to new customers (as opposed to leaving the existing LED tariffs open) and discuss the differences between the existing LED fixtures and associated rates and the LED fixtures and associated rates included in the proposed new tariffs.

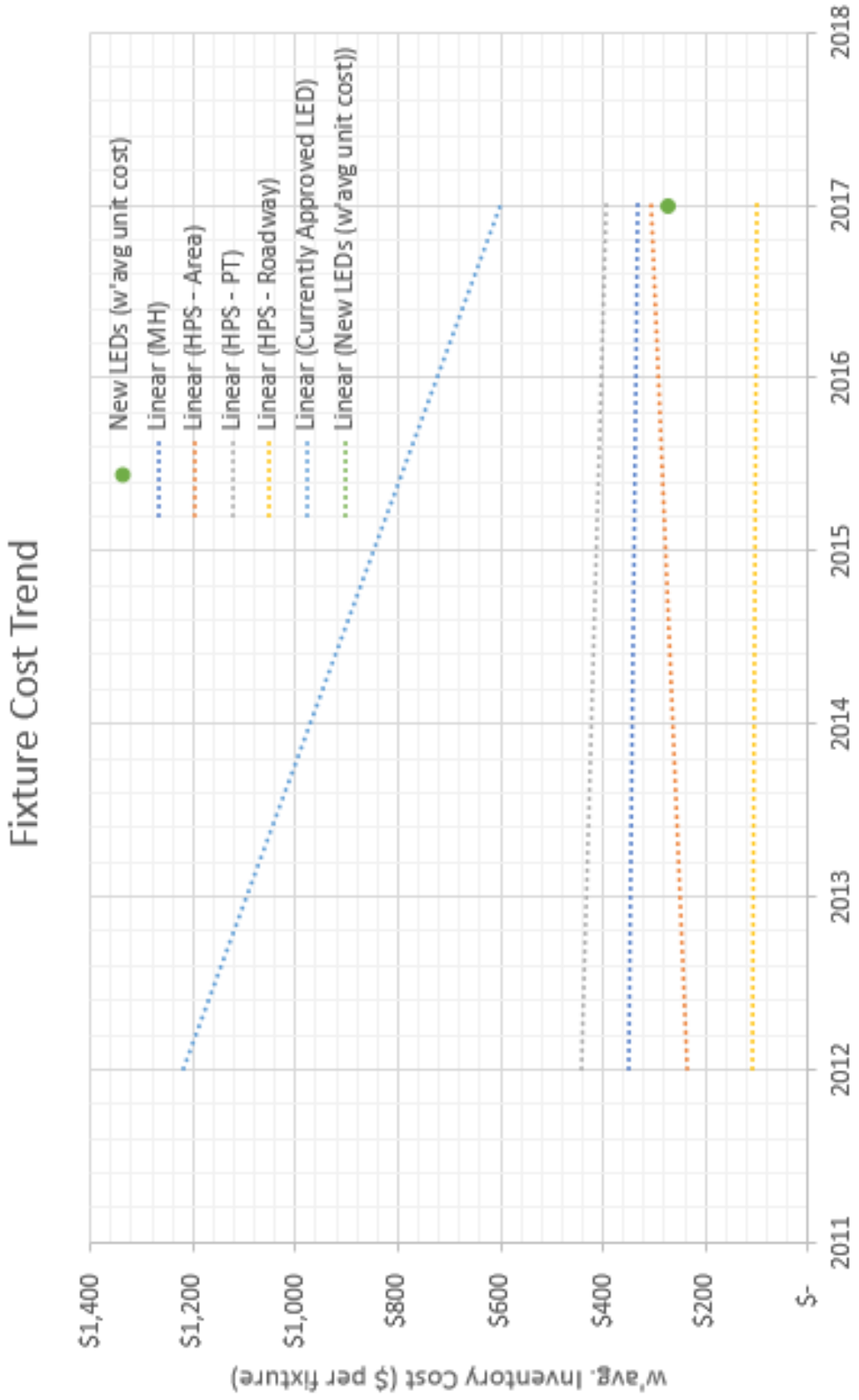
A. The currently approved LED rates were developed based upon LED material costs from 2012. As described in the response to Question No. 6 of this set, the material costs for LED fixtures have greatly decreased across the last few years while their efficiency has improved. As a result, the rates proposed as a part of the Lighting Conversion Program are lower while lumens are delivered with less energy. Tampa Electric has proposed to close the existing rates to new business to ensure customer selections for lighting services deliver the best value available. Existing LED lighting customers will have their fixtures replaced by new, comparable LED fixtures when they fail.

6. Paragraph 3 of the petition states that the LED lighting costs have decreased substantially over the last five years. Please provide a cost comparison of similar lighting fixtures of High Pressure Sodium, Metal Halide, and LED for the last five years and/or any documentation to support this statement.

A. The graph attached illustrates the trends in Tampa Electric inventory costs across the type of fixture. Fluctuation in costs passed down from manufacturers are dampened by an average inventory cost as well as distributor competition to provide value to Tampa Electric. Tampa Electric has experienced more actual increases in area lighting products than in other products and materials in recent years. The general market direction and defining industry trends have been confirmed annually with each manufacturer. These trends can be summarized by the following bullets:

- LED products are cannibalizing market share previously occupied by HPS and MH products.
- The change in market share revenues effect manufacturing economies of scale and ultimately product pricing and viability

As stated in the petition, Tampa Electric has experienced many product cancellations across the past three years which is a result of the market trend described above. In some cases, equivalent non-LED products are no longer available.


Fixture Cost Trend
New LEDs (w'avg unit cost)
Linear (MH)
Linear (HPS - Area)
Linear (HPS - PT)
Linear (HPS - Roadway)
Linear (Currently Approved LED)
Linear (New LEDs (w'avg unit cost))
w'avg. Inventory Cost ($ per fixture)
$1,400
$1,200
$1,000
$800
$600
$400
$200
$-
2011
2012
2013
2014
2015
2016
2017
2018

7. Paragraph 4 of the petition states that TECO currently owns and maintains approximately 242,000 leased lighting fixtures of which 223,000 are actively billed. Please explain what are not "actively billed" fixtures and what will happen to the 19,000 fixtures that are not "actively billed".

A. Tampa Electric's lighting services are made inactive from time to time, sometimes at the customer's request. This might happen when a customer leaves service and vacates the home, or if the customer is unable to pay for the lighting service. In many cases, even after it has been made inactive, lighting service is still desirable and either the current customer or a new occupant assuming residence reactivates billing. This is why inactive lighting is often left in the field even though not actively billed.

The fixtures that are not currently actively being billed will be addressed in several ways depending on what occurs to them during the conversion period. The investment in these luminaires is not being included in the amortization schedule as they are not energized and their removal would not benefit other ratepayers in the RIM analysis, hence if the luminaire is removed after the start of the program, it will be treated in the normal accounting manner for a retirement. If the customer requests that such an existing light be put back into service, the customer will be informed that the light is being converted and before it is brought back into service the luminaire will be converted to the new LED lighting product which will then be energized. If it is damage, say in a storm, it will be physically removed and not converted. It is likely that there will be some number of the unbilled lights still in the field at the end of the conversion program. When any such lights reach a point where they need to be removed, they will be afforded the normal accounting treatment of such a retirement. When such lights are requested to be relit by a prospective customer, they will be converted to the new LED prior to resuming billed service.

8. Paragraph 10 discusses the next generation photocell (NLC) that will be part of the new LED fixtures. Please explain whether the NLC component of the new LED fixtures comes already embedded in the fixture from the manufacturer or is TECO installing the NLC network? If TECO is installing the NLC network, please state how TECO is recovering the costs associated with the NLC network.

A. The network lighting controller (NLC) will be utilized instead of the photocell that is currently installed at the top of every existing lighting fixture. The NLC is compatible to the same ANSI socket that currently receives existing photocell attachments rather than being embedded into the fixture itself. Like photocells today, the NLC will be a separate part that is procured from a vendor. The NLC will communicate with the separate mesh network that is being installed to provide communications for the new AMI meters.

The plan is for the NLCs to be installed in the fixture at the time that the existing lighting is converted to LED. If NLCs are not available at the time a fixture is being converted, then a standard photocell will be installed to enable the light to operate dusk to dawn and when the NLC becomes available the standard photocell will be replaced by the NLC.

The mesh network that will be jointly used by the LED lighting through the NLC and by the AMI meters being installed is being installed as part of the AMR conversion project by Tampa Electric. The cost of that network, for cost allocation purposes, is being shared between the lighting customers and metered service customers. For purposes of cost allocation, each NLC will be afforded equal cost responsibility for the mesh network as each AMI meter that utilizes that mesh network.

9. When replacing the non-LED fixtures with the new LED fixtures, does the exact number need to be replaced (1 to 1) because the new LED fixtures are supposed to have better lumens output or can the number of replacement fixtures be reduced? In other words, can the distance between the lights be increased?

A. IES photometrics were modeled (i.e., the light footprint pattern) for each new LED fixture proposed to replace an existing non-LED. Equivalents were selected to closely match the thrown pattern, foot-candle intensity, and foot-candle gradient across the thrown pattern. In some cases, the distance between the lights can be increased, but photometric properties were closely matched to ensure existing span lengths can stay the same for existing services to enable a simplified conversion. New lighting installations will utilize the new photometrics which may result in fewer lights per distance.

10. Please provide a diagram of a proposed typical LED fixture that includes opportunity for local, state, federal government and private entities to attach sensing equipment, video camera, GPS units, etc., that would be typically used by a municipality.

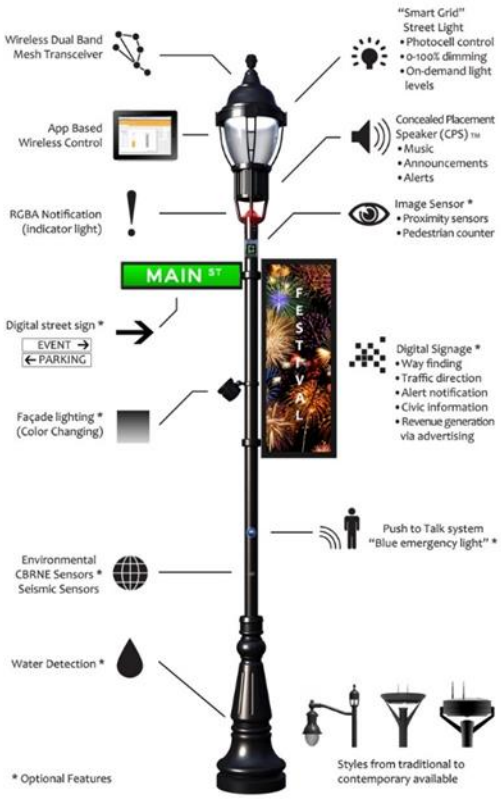
A. Tampa Electric anticipates the use of sensors and cameras capable of performing an array of functions. A typical camera or sensor installation would look similar to the examples below.

These attached devices can be metered from the NLC connection open ports or from a traditional metering feed. The power connection of the NLC can also monitor the equipment's performance and provide analytics. Any such device that utilizes Tampa Electric's mesh network will communicate through the mesh network to a collector gateway router (CGR) where information from many endpoints are collected and transmitted back to a head-end server. The systems work like a typical cellular device, but on its own private network. The devices, depending on function and interfaces, could be configured to communicate directly to governmental agencies, 911, or other entities.

GPS chips are embedded into the NLC – which always knows the exact location of controllers and fixtures to a set accuracy. The functions and controls will be monitored from an operations platform.

In the future, electric vehicle charging infrastructure may be provided through street lighting (e.g., see below) where the charging energy consumption may be metered and communicated through the NLC. At this time, Tampa Electric has no plans to do this, but provides this as a potential future application of the project.

The diagram below illustrates a more complete array of how these assets can be used


Wireless Dual Band Mesh Transceiver
App Based Wireless Control
RGBA Notification (Indicator light)
Digital street sign *
EVENT
PARKING
Façade lighting * (Color Changing)
Environmental CBRNE Sensors * Seismic Sensors
Water Detection *
* Optional Features
"Smart Grid" Street Light
• Photocell control
• 0-100% dimming
• On-demand light levels
Concealed Placement Speaker (CPS) TM
• Music
• Announcements
• Alerts
Image Sensor *
• Proximity sensors
• Pedestrian counter
MAIN ST
FESTIVAL
Digital Signage *
• Way finding
• Traffic direction
• Alert notification
• Civic information
• Revenue generation via advertising
Push to Talk system "Blue emergency light" *
Styles from traditional to contemporary available

11. Paragraph 7 of the petition states that suppliers informed TECO that all MH products are cancelled by January 1, 2017 and HPS products could be unavailable by 2022. Who are the referenced suppliers? Would the same suppliers be providing the new LED lights to TECO?

A. General Electric (GE), Holophane (now owned by Acuity), and Cooper (now owned by Eaton) have been the suppliers of Tampa Electric's streetlighting fixtures for more than 20 years. GE, Acuity, and Eaton are the suppliers for Tampa Electric's currently approved LEDs as well as the proposed new LEDs for the Lighting Conversion Program. A continuity of supplier is important to ensure a close aesthetic match to existing decorative fixtures and similarity in photometric properties. Additionally, economic development plans for downtown districts have incorporated the aesthetics of Tampa Electric's existing LEDs into master design plans. Tampa Electric has a long history of doing business with these suppliers who have demonstrated a history of product quality, business sustainability, and problem solving which ensure the lighting services received by customers are reliable and cost effective.

12. When will TECO inform its customers about the proposed changes? Please provide examples of customer letter, website information, door hanger, etc. that are methods of communication per paragraph 15.

A. Upon approval of the program, broad general communications with customers will commence, however Tampa Electric has had communications with some of its larger volume lighting customers (e.g., cities and counties) about this planned conversion. Indeed, many of those customers have been urging Tampa Electric to pursue more and better LED lighting for some time and are supportive of this effort.

Tampa Electric has also begun preparing more communication materials for use during the project some of which are attached.

<<Date>>

Dear Valued Customer:

As part of our ongoing efforts to improve our systems and offer more value to you, we're upgrading the existing outdoor area light(s) you lease from Tampa Electric to energy-efficient, smart Light-Emitting Diode (LED) technology.

Why is Tampa Electric upgrading to LEDs?
We're upgrading to LED technology to reduce energy consumption and maintenance costs, and to provide you with improved light quality. In addition, the HPS (high-pressure sodium) and/or MH (metal halide) lamps and fixtures you currently lease have become obsolete because of market and governmental regulatory conditions, making it difficult to locate replacement parts.

Your new LEDs offer many benefits, including:

- **Energy savings** – LEDs use up to 60 percent less energy and require less maintenance than conventional lighting.
- **Performance** – LEDs minimize glare and capture the authentic colors of objects lit at night. They also achieve full brightness almost instantly and offer very precise control over lighting patterns.
- **Long life** – LEDs can operate up to five times longer than conventional lighting.
- **Environmental friendly** – LEDs are dark-sky friendly because they focus light on the lighting target, generating less stray light pollution. The LED conversion will reduce greenhouse gas emissions by nearly 80,000 metric tons per year.

As a result of this upgrade, you will receive the many benefits of having LED lighting at no additional cost. This is a result of Tampa Electric's ability to negotiated bulk pricing with our lighting vendors and passing the savings along to you.

What makes it a smart LED?
Each new LED will include an advanced photocell – making it a "smart LED" – resulting in more benefits to you once upgrades are complete across West Central Florida. For example, if a light goes out, it will send a signal to Tampa Electric's lighting department making us aware that a repair is needed. This means quicker repairs to you!

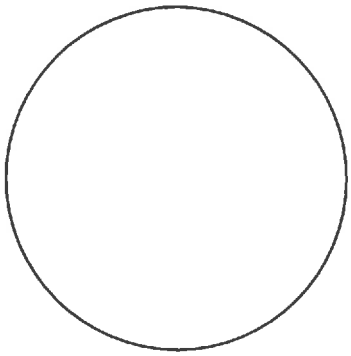
We'll be in your area soon: Tampa Electric and/or certified lighting contractor crews will be in your area from <<Date>> to <<Date>>.

For more about our upgrade to LEDs, visit **tampaelectric.com/newLEDs.** If you have questions, please email your name as it appears on your electric statement, account number and phone number to **BrightChoices@tampaelectric.com**. You may also call Tampa Electric's *One Source* team at **813-635-1500** on weekdays from 8 a.m. to 5 p.m.

Thank you for the opportunity to serve your lighting needs.

Sincerely,

Art Bosshart
Manager, Outdoor LightingTampa Electric



SORRY WE MISSED YOU

As part of our ongoing efforts to improve our systems and offer more value to you, we're upgrading the existing outdoor area light(s) you lease from Tampa Electric to energy-efficient, smart Light-Emitting Diode (LED) technology.

Tampa Electric and/or certified lighting contractor crews will be in your area from:

_____ to _____

(Date) *(Date)*

Our lighting crews have performed a pre-inspection today. If any of the following boxes are checked, please call the contractor at the number listed below as quickly as possible to discuss/resolve any outstanding concerns.

[ ] Locked gate or other object is preventing access to light(s)

[ ] Not billed/out of service and rescheduled for removal

[ ] Other: _____

_____

[ ] No concerns at this time – ***no need to call us***

Contractor Name: _____

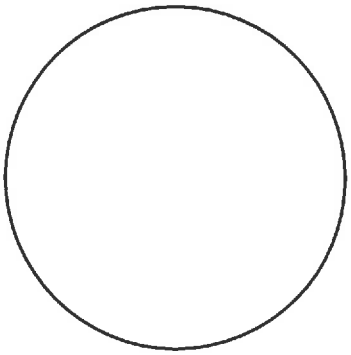
Contractor Phone: _____

Visit **tampaelectric.com/newLEDs** to learn more about our LED upgrade. If you have questions, please email your name as it appears on your electric statement, account number and phone number to **BrightChoices@tampaelectric.com.** You may also call Tampa Electric's One Source team at **813-635-1500** on weekdays from 8 a.m. to 5 p.m.

Thank you for the opportunity to serve your lighting needs.

TECO TAMPA ELECTRIC AN EMERA COMPANY

TEC072317 TBD DP



Your lighting has been upgraded to LED!

As part of our ongoing efforts to improve our systems and offer more value to you, we just upgraded the existing area light(s) you lease from Tampa Electric to energy-efficient, smart Light-Emitting Diode (LED) technology.

Your new LEDs offer many benefits, including:

Energy savings - LEDs use up to 60 percent less energy and require less maintenance than conventional lighting.

Performance - LEDs minimize glare and capture the authentic colors of objects lit at night. They also achieve full brightness almost instantly and offer very precise control over lighting patterns.

Long life - LEDs can operate up to five times longer than conventional lighting.

Environmental friendly - LEDs are dark-sky friendly because they focus light on the lighting target, generating less stray light pollution. The LED conversion will reduce greenhouse gas emissions by nearly 80,000 metric tons per year.

Visit **tampaelectric.com/newLEDs** to learn more about our LED upgrade. If you have questions, please email your name as it appears on your electric statement, account number and phone number to **BrightChoices@tampaelectric.com.** You may also call Tampa Electric's One Source team at **813-635-1500** on weekdays from 8 a.m. to 5 p.m.

Thank you for the opportunity to serve your lighting needs.

TECO
TAMPA ELECTRIC
AN EMERA COMPANY

TEC072317 TBD DP

Complete Turn-Key Service

Our trained lighting technicians are ready to help you design, install and maintain a custom lighting solution designed to meet your unique needs. With Bright Choices, you'll receive:

- Standard installation with no up-front costs
- Lighting design by trained lighting technicians
- Quality poles and fixtures in a variety of styles, sizes, and types to complement your facility or location
- Installation by experienced professionals
- Maintenance and repair for the life of the installation
- Electricity costs included as part of your monthly electric bill

TECO TAMPA ELECTRIC AN EMERA COMPANY

BRIGHT CHOICES®

To schedule a free outdoor lighting consultation, complete the online form at

tampaelectric.com/brightchoices

or call

(813) 635-1500 (residential)

(813) 228-1010 (business)

TEC062817 XM DP

Rely on us for your outdoor lighting solutions.

TECO TAMPA ELECTRIC AN EMERA COMPANY

BRIGHT CHOICES®

TAMPA ELECTRIC COMPANY
DOCKET NO. 20170198-EI
STAFF'S FIRST DATA REQUEST
FILED: OCTOBER 23, 2017

Bright Choices® offers outdoor lighting solutions for home, business and government.

Why choose Tampa Electric?

- Serving customers with affordable and reliable power for more than 120 years
- Currently maintain more than 200,000 streetlights and area lights
- You lease the lighting and poles – no up-front costs
- Hassle free maintenance and repair

LEDs offer many advantages over conventional lighting sources.

Tampa Electric offers only premium ***Light-Emitting Diode (LED)*** lamps that produce a bright, natural white light that is similar to daylight and provides the most natural color accuracy of any outdoor lamp. If you're all about "going green," LEDs are ideal for those interested in LEED® certification. Common uses: security, car dealerships, theme parks and areas where objects appearing in their natural or realistic color is important.

Energy Savings

LEDs use 30 percent to 60 percent less energy than high-intensity discharge (HID) lighting such as high-pressure sodium (HPS) and metal halide (MH) technology. And that's not all. LEDs require less maintenance which adds to overall savings.

Performance

LEDs capture the authentic colors of objects lit at night – a big advantage for car dealerships and security lighting. LEDs achieve full brightness almost instantly and offer very precise control over lighting patterns.

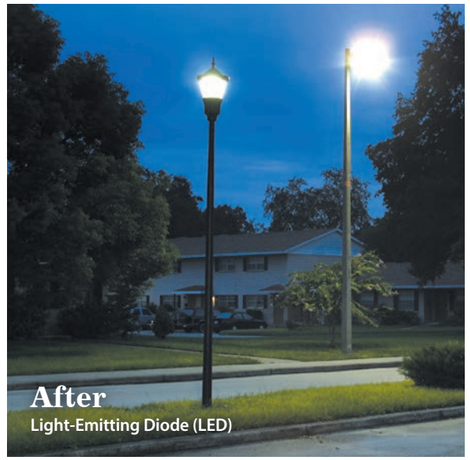
Long Life

LEDs can last 50,000 hours or more, compared to 30,000 hours for HPS and 7,000 hours for MH. LEDs are highly resistant to shock and vibration and are not sensitive to high or low external temperatures.

Environment

LEDs contain no mercury, avoiding the need for hazardous material handling and disposal. LEDs are dark-sky friendly and help preserve the night by focusing the light on the lighting target, generating less stray light pollution than some other types of lighting.

Visit **tampaelectric.com/brightchoices** to learn more about the benefits of LED lighting.



Companion Poles

1 Winston
- Aluminum
- Round
- Color: Black

Mounting Height 12′

(Height, color may vary)

2 Waterside
- Aluminum
- Round
- Up to two fixtures
- Built-in hand hole per pole
- Color: Black

Mounting Height 35′

(Height, color may vary)

3 Franklin
- Composite
- Round, Fluted Shaft
- Color: Black

Mounting Height 12′

(Height, color may vary)

4 Charleston
- Aluminum
- Round Shaft
- Fluted Decorative Base
- Color: Black

Mounting Height 12′

(Height, color may vary)

5 Waterford
- Concrete
- Octagonal
- Textured Finish
- Colors: Black and Brown

Mounting Heights 12′ or 29′

Height, color may vary)

6 Victorian
- Concrete
- Fluted Shaft
- Decorative Base
- Colors: Black and Brown

Mounting Height 13′

Height, color may vary)

7 Concrete
- Concrete
- Square
- Up to four fixtures per pole
- Color: Natural

Mounting Heights 12′, 20′, 25′, 29′, 34′ or 39′

Tenon top or bracket mount

Height, color may vary)

8 Wood
- Natural Wood
- Round
- Color: Natural

Mounting Heights 25′, 29′, 34′ or 39′

Height, color may vary)

Standard Fixtures

Enhanced Granville Post Top

Pole Options: 1 2 3 4 5 6

Wattage: 39 and 60

Voltage: Multi-tap and 480

Lighting Temp:
- 3000 K (soft white)
- 4000 K (bright white)

Fixture Color: Black

Features: Area lighting – ask about additional decorative post-top options

Underground service only. Only 60-watt available at 480-volt

Granville Post Top

Pole Options: 1 2 3 4 5 6

Wattage: 26, 39 and 60

Voltage: Multi-tap and 480

Lighting Temp:
- 3000 K (soft white)
- 4000 K (bright white)

Fixture Color: Black

Features: Area lighting – ask about additional decorative post-top options

Underground service only.

Utility Post Top

Pole Options: 1 2 3 4 5 6

Wattage: 55 and 76

Voltage: Multi-tap

Lighting Temp:
- 3000 K (soft white)
- 4000 K (bright white)

Fixture Color: Black

Features: Area lighting – ask about additional decorative post-top options

Underground service only.

Autobahn Type II

Pole Options: 2 5 7 8

Wattage: 47, 105 and 145

Voltage: Multi-tap; 480

Lighting Temp:
- 3000 K (soft white)
- 4000 K (bright white)

Fixture Color: Black, Gray

Features: Parking lots; roadways and area lighting

Only 4000 K is available in black
Only 4000 K is available at 480-volt

Autobahn Type III

Pole Options: 2 5 7 8

Wattage: 133

Voltage: Multi-tap

Lighting Temp:
- 3000 K (soft white)
- 4000 K (bright white)

Fixture Color: Gray

Features: Parking lots; roadways and area lighting

Evolve Type II

Pole Options: 2 5 7 8

Wattage: 88

Voltage: Multi-tap

Lighting Temp:
- 3000 K (soft white)
- 4000 K (bright white)

Fixture Color: Gray

Features: Parking lots; roadways and area lighting

Galleon Type II

Pole Options: 2 5 7 8

Wattage: 225 and 333

Voltage: Multi-tap and 480

Lighting Temp:
- 3000 K (soft white)
- 4000 K (bright white)

Fixture Color: Black, Gray

Features: Parking lots; roadways and area lighting

Only 225-watt is available at 480-volt

Verdeon Type IV

Pole Options: 2 5 7 8

Wattage: 182 and 247

Voltage: Multi-tap

Lighting Temp:
- 3000 K (soft white)
- 4000 K (bright white)

Fixture Color: Gray

Features: Parking lots; roadways and area lighting

APC Flood

Pole Options: 2 5 7 8

Wattage: 199 and 255

Voltage: Multi-tap

Lighting Temp:
- 3000 K (soft white)
- 4000 K (bright white)

Fixture Color: Gray

Features: Parking lots; roadways, buildings facades/signs and spot lighting

Evolve Type IV

Pole Options: 2 5 7 8

Wattage: 330

Voltage: Multi-tap and 480

Lighting Temp:
- 3000 K (soft white)
- 4000 K (bright white)

Fixture Color: Gray

Features: Parking lots; roadways, buildings facades/signs and spot lighting

Only 330-watt, 4000 K is available at 480-volt

USSL Type IV

Pole Options: 2 5 7 8

Wattage: 143

Voltage: Multi-tap

Lighting Temp:
- 3000 K (soft white)
- 4000 K (bright white)

Fixture Color: Gray

Features: Parking lots and area lighting

Watch Light

Pole Options: 7 8

Wattage: 27

Voltage: Multi-tap

Lighting Temp:
- 3000 K (soft white)
- 4000 K (bright white)

Fixture Color: Gray

Features: Area lighting

Bracket option
Double Bracket

Pole Options: 3 4 6

Color: Black

Fixture Options:
- Enhanced Granville
- Granville Post Top
- Utility Post Top

Applications: Neighborhoods, parks and street lighting

Underground service only

LED Upgrade Communications Plan
Updated 10/1/2017

Objective:

Create awareness and educate customers/citizens about Tampa Electric's upgrade to energy-efficient, smart Light-Emitting Diode (LED) technology. The lights are smart because they are installed with an advanced photocell that allows two-way communications between the light, Tampa Electric and other smart devices. Immediate customers benefits include improved lighting that is environmentally friendly. Future benefits including quicker repair times and enable other services like gunshot detection once all lights are upgraded and a mesh network of smart LEDs is complete. The upgrade project will take approximately five years.

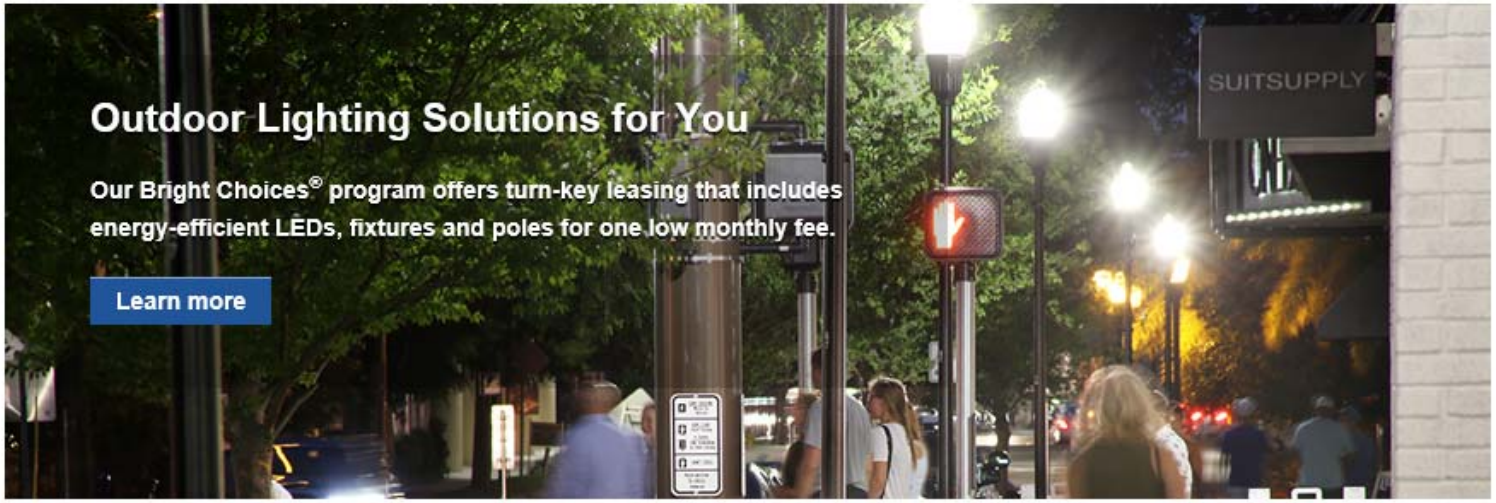
Secondary: Create awareness and educate customers about Tampa Electric's latest smart LED offerings.

Channel	Audience	Message
TEC Website	Customers/Citizens	**LED Upgrade:** Develop section that creates awareness and educates customers. Including: How updates will be rolled out, benefits of LEDs, about "smart" LEDs, maps, video, FAQs, contact information, etc. http://devtampa/newLEDs/
TEC Website	Customers/Citizens	**New LED Offerings:** Update existing Bright Choices Outdoor Lighting section to include new brochure, benefits of LEDs, link to form, pricing, etc. http://devtampa/residential/programs/
Print/PDF	Customers	**Brochure Print/PFD:** Develop new brochure that promotes TEC's new LEDs, fixtures, poles, etc. This will be printed for distribution via CS and field reps. Will also appear on website as a PDF.
Video on LED Conversion	Customers/Citizens	**Video:** Educate customers about the upgrades, benefits of LEDs and how smart LEDs will offer additional benefits in the future.

page and YouTube		
Door Hanger (Pre-install)	Customers	**Door Hanger Pre-Install:** For customers with leased area lighting. Will make them aware of LED upgrade, when it will occur, URL for additional information, request a phone call if there are any issues such as a gate blocking access to lighting.
Door Hanger (Post-install)	Customers	**Door Hanger Post-Install:** For customers with leased area lighting. Will make them aware of LED upgrade, URL for more information and contact information for any questions.
Talking Points	For CS reps to assist with customer questions	**Talking Points:** Talking points for CS reps. and field personnel.
Online form (reporting a malfunctioning light) auto email response	Customers/Citizens	**Online Form Response:** Add message to existing auto-response a customer receives after reporting a malfunctioning light via online form. The message will make them aware that the repair will result in an upgrade to a smart LED.
Phone (reporting a malfunctioning light) pre-recorded response	Customers/Citizens	**Phone Message Response:** Add message to existing auto-response a customer receives after reporting a malfunctioning light via phone. The message will make them aware that the repair will result in an upgrade to a smart LED.
Power Point	Customers	**Power Point:** This will be used by Community Relations, Account Managers and others to share with community leaders, community groups, etc.
Banner on billing statement	Customers	**Bill Statement Message (Banner):** Create messages that makes customers aware of Tampa Electric's conversion and new LED offerings.

Banner on website	Customers	**Website Home Page Banner:** Create messages that makes customers aware of Tampa Electric's conversion and new LED offerings.
Blog	Customers/Citizens	**Blog (external):** Develop article that makes customers aware of Tampa Electric's conversion and new LED offerings. Post on social media channels as well.
Media Release	Customers/Citizens	**News Release:** Create awareness and educate customers about the conversion, benefits of LEDs and how smart LEDs will offer additional benefits in the future.
e-News Update	Enrolled Customers	**e-News Update** Develop and email that makes customers aware of Tampa Electric's conversion and new LED offerings and drive them to the blog/website. Post on social media channels as well.
Social Media	Customers/Citizens	**Social Media:** Post messages that makes customers aware of Tampa Electric's conversion and new LED offerings.
Letter(s) to leased lighting customers	Customers	**Letter(s):** Customers with "leased lighting" will receive a letter XX days prior to crews arriving to convert their light(s) to LED technology. Two letters: 1) Simple notification 2) Letter to customers who will see a price increase

Website Home Page



News Release **DRAFT – Updated Oct. 10**

Tampa Electric to upgrade all streetlights and area lights with energy-efficient, smart LED technology.

TAMPA, December X, 2017

As part of its ongoing efforts to improve systems and offer more value to its customers, Tampa Electric has received approval from the Florida Public Service Commission (FPSC) to upgrade more than 210,000 streetlights and area lights across West Central Florida with energy-efficient, smart Light-Emitting Diode (LED) technology.

Beginning in early 2018, Tampa Electric and certified lighting contractor crews will embark on a five-year project to systematically upgrade each light along a planned route across the company's service area. Additionally, any malfunctioning lights reported to Tampa Electric will be upgraded to LED technology. To learn more and view a map, visit **tampaelectric.com/newLEDs**.

"In addition to providing improved lighting quality, LEDs use less energy and last much longer than traditional lighting," said **Art Bosshart**, manager, Outdoor Lighting. "Just like computers, cell phones and solar panels, it has taken years for LED technology to evolve. Today's LEDs are better than ever and cost about the same as the high-pressure sodium and metal halide luminaries they'll replace."

In addition to the benefits the LED upgrades will bring to the communities Tampa Electric serves, another driving factor in the effort is that many of the company's existing fixtures have become obsolete as a result of market and governmental regulatory conditions, making it difficult to locate replacement parts. As LEDs utilize current technologies, Tampa Electric is well positioned for future upgrades and repairs as needed.

Because Tampa Electric was able to negotiate bulk pricing and pass the savings along to its customers, only a very small percentage of customers who currently lease one or more specific types of traditional lights will see a small rate increase as a result of receiving a smart LED. Those who will see a small increase will be notified prior to the upgrade.

The light cast from an LED is similar to daylight and provides the most natural color accuracy of any outdoor lamp. Residential areas will receive LEDs that provide a softer white light with a color temperature no greater than 3000 Kelvin (K), which is approved by the American Medical Association.

Each new LED will include an advanced photocell – making it a "smart LED" – resulting in more benefits to all Tampa Electric customers. For example, if a streetlight goes out today, Tampa Electric is not aware until it is reported by a concerned citizen. However, with smart LED lights, Tampa Electric will automatically be notified when the light requires attention. This means Tampa Electric will repair the light quicker. Additional benefits may become available in the coming years once Tampa Electric installs supporting communications equipment.

Tampa Electric has been offering outdoor lighting solutions for home, business and government for more than 100 years. The company's Bright Choices outdoor lighting program offers a variety of

premium, energy-efficient LEDs and companion poles. To learn more about Tampa Electric's complete turn-key lighting program, visit **tampaelectric.com/brightchoices**.

Tampa Electric, one of Florida's largest investor-owned electric utilities, serves about 750,000 customers in West Central Florida. Tampa Electric is a subsidiary of Emera Inc., a geographically diverse energy and services company headquartered in Halifax, Nova Scotia, Canada.

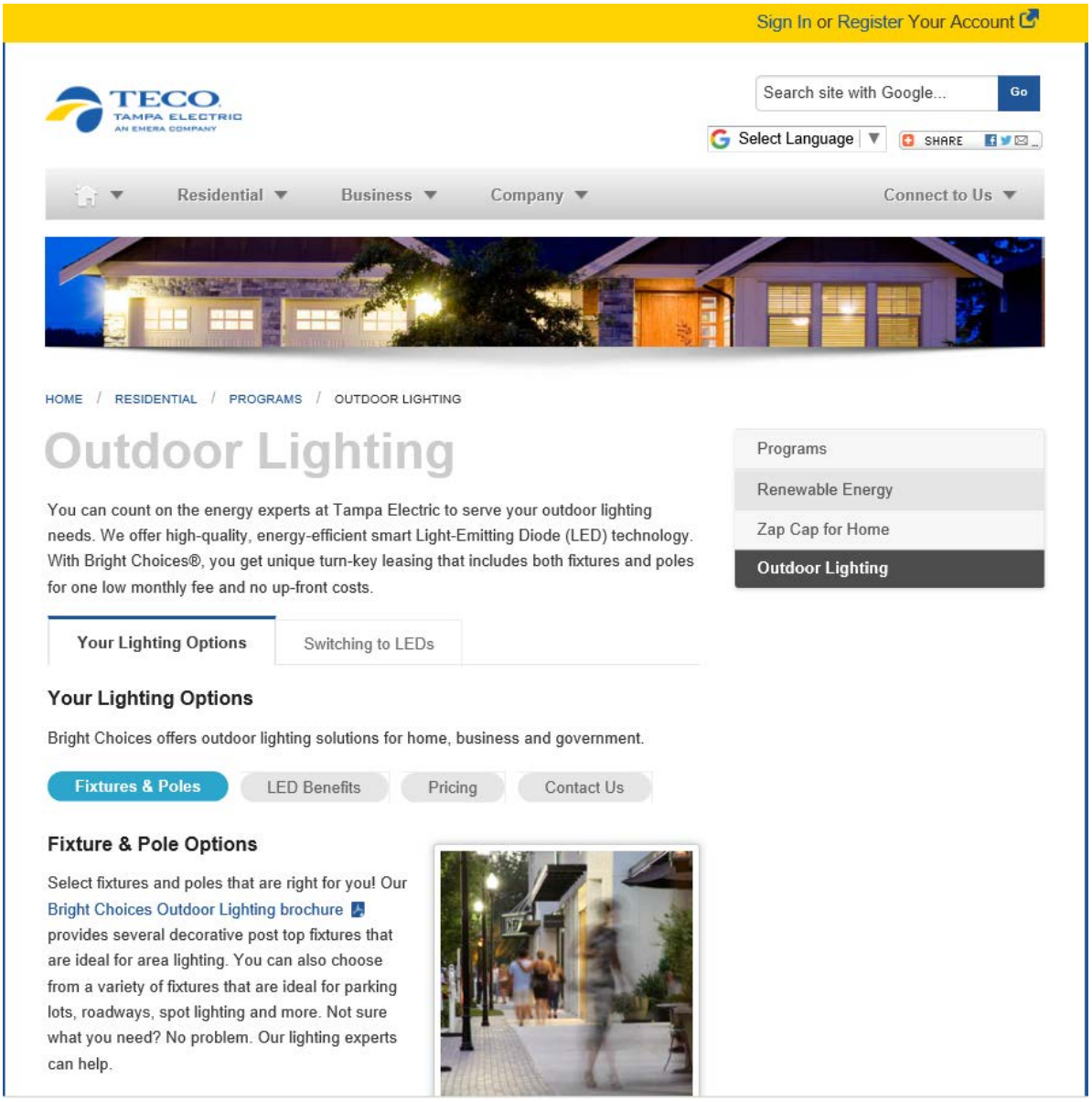
Paper Bill Messages (Banner)

LED Upgrade

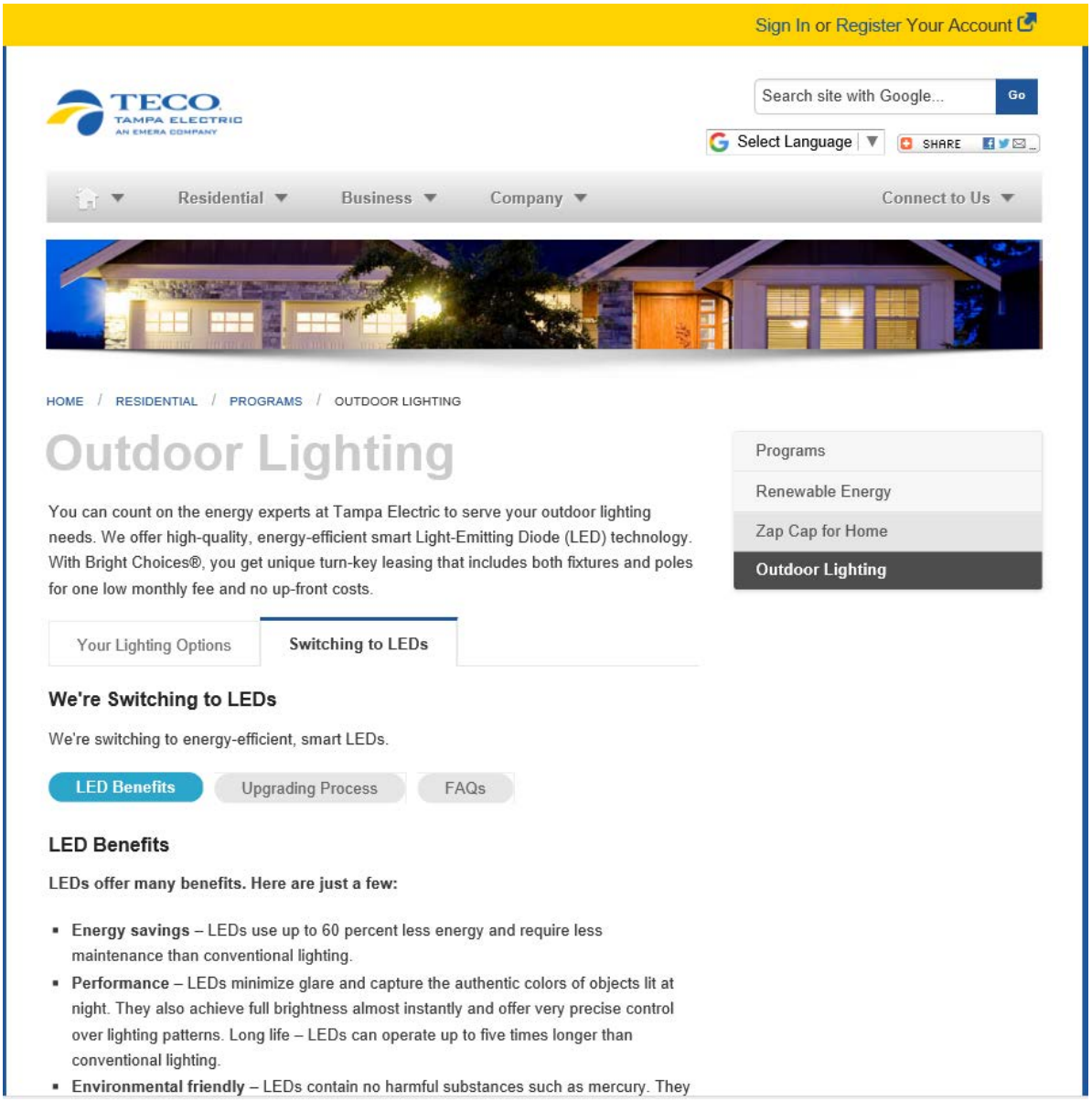
LED Solutions

We're upgrading your outdoor lights
New LED lighting will bring:
• Energy savings – up to 60% more efficient
• Performance – longer life and superior lighting
• Environmentally friendly – reduced stray light pollution
Visit tampaelectric.com/newLEDs to learn more about the benefits and when we'll be in a neighborhood near you.

Your Lighting Options (www.tampaelectric.com/brightchoices)



Switching to LEDs (www.tampaelectric.com/newLEDs)



13. Paragraph 20 states TECO is using an average wattage variance of +/-10 percent as +/- 5 percent has proven to be too narrow. Please state the reasons why TECO believes the +/- 5 percent variance is too narrow.

A. With all LED fixture manufacturers, many enhancements to the LED chips and drivers are continuously being made which is resulting in better efficiency. Each time a LED chip is changed, for example, the lumens tends to go up and the wattage tends to go down.

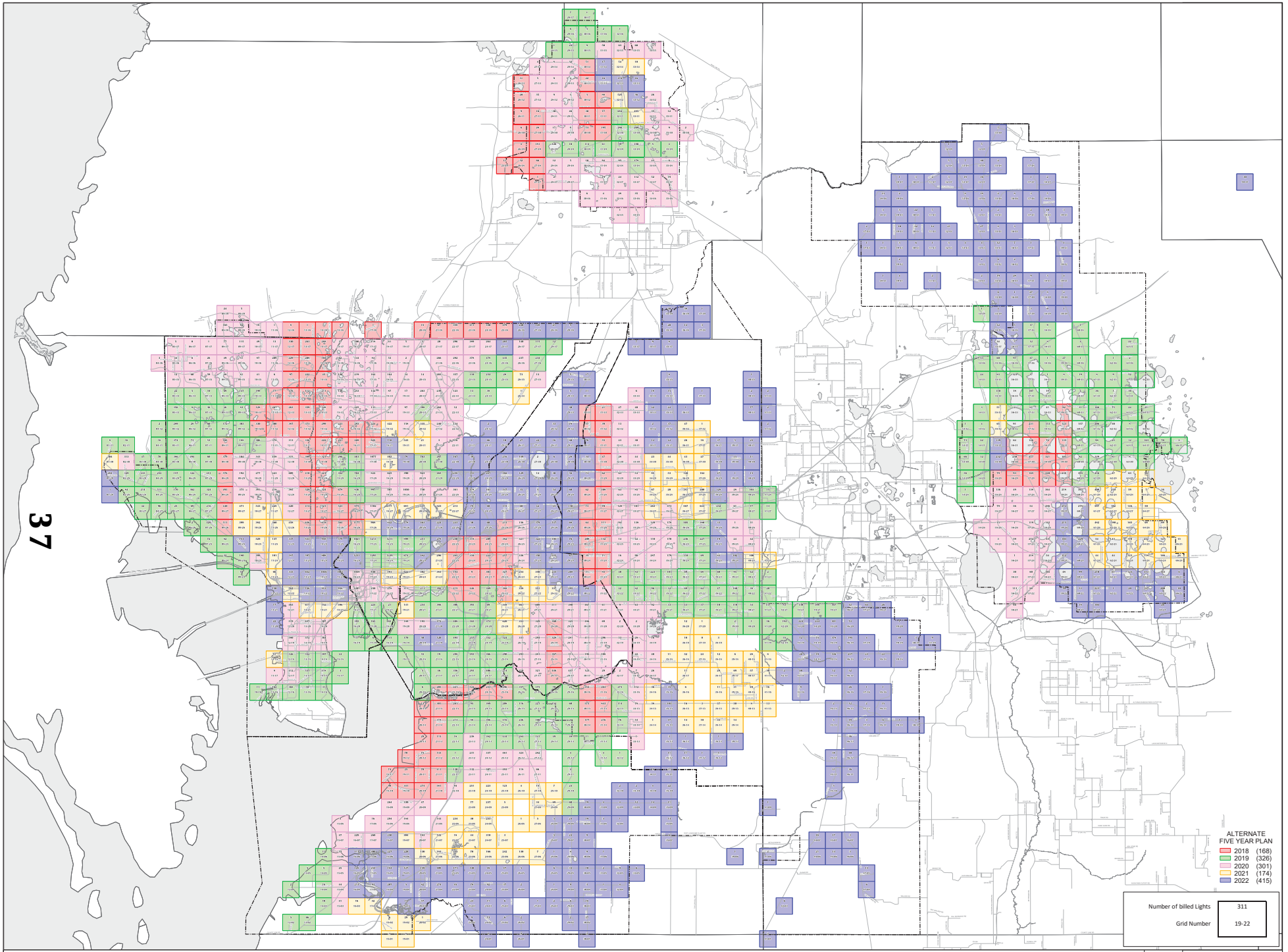
In Paragraph 20, TECO referenced Docket No. 140232-EI in order to illustrate that LED technology is continuing to develop rapidly. In that docket, Tampa Electric attempted to minimize the impact to customers by incorporating a +/- five-watt variance into the wattage used in calculating the monthly energy consumption of each fixture for billing purposes. This range of +/- 5 watts has proven to be too narrow and so a new range of +/- 10 percent is proposed.

14. Please list the community partners referred to on page 1 of 5 of Exhibit C.

A. The referenced community partners include the many municipal customers (cities and counties) within Tampa Electric's territory but specifically, the most frequent and comprehensive communications have been with the City of Tampa and Hillsborough County.

15. Please discuss and provide, if available, the “planned geographic sequence” stated in page 1 of 5 of Exhibit

A. See the attached map showing current installation plan.



TECO SERVICE TERRITORY AND A COUNT OF ALL NON-LED LIGHTS BILLED AND UN-BILLED WITHIN ONE SQUARE MILE BOUNDARIES

DRAWN BY:	MAPPING SERVICES
DATE:	10/12/2017
REQUESTED BY:	ART BOSSHART
SCALE:	N.T.S.
SHEET:	1 OF 1

TAMPA ELECTRIC COMPANY
DOCKET NO. 20170198-EI
STAFF'S FIRST DATA REQUEST
FILED: OCTOBER 23, 2017

16. Page 4 of 5 of Exhibit C states that the work in the field will require a mixture of internal and contracted labor resources. Will TECO perform the conversion, if approved, with existing labor resources or will TECO have to hire additional employees or contract with labor resources to perform the conversion program? If TECO will have to hire additional resources, please state how the incremental labor costs will be recovered.

A. Tampa Electric will utilize contracted labor in addition to internal labor to perform the scope of work associated with the proposed Lighting Conversion Program. For additional resources that Tampa Electric contracts with to facilitate efficient conversion, all incremental costs will be recovered through the proposed rate structure.

For the questions below, please refer to paragraphs 11, 21-23, and 26-27 of the petition that relate to the company's requested capital recovery schedule for recovering its undepreciated investment of the early retirement of the non-LED fixtures associated with the Lighting Conversion Program.

17. Referring to Paragraph 11, page 7 of the petition, please provide a detailed summery of the requested capital recovery schedule including, but not limited to, the following information: the dollar amount to be recovered through the schedule, the plant assets associated with such dollar amount, and the recovery period of the schedule.

A. The following summary is as of September 30, 2017, the balances will be updated at Year End.

Type	Asset	Reserve	Net Book Value
HPS	71,335,633	36,502,384	34,833,249
MH	13,886,731	6,452,554	7,434,176
LED	23,864,128	2,147,395	21,716,733
Other Assets	110,750,575	62,227,794	48,522,782
Total 37300	219,837,068	107,330,127	112,506,940

Unrecovered Amount	Unbilled	Billed	Total
HPS % of billed	3,619,175	31,214,075	34,833,249
MH % of billed	1,199,133	6,235,044	7,434,176
Total Unrecovered Amount	4,818,307	37,449,118	42,267,425

5 years recovery period for billed lighting:	2018	2019	2020	2021	2022	Total
HPS	6,242,815	6,242,815	6,242,815	6,242,815	6,242,815	31,214,075
MH	1,247,009	1,247,009	1,247,009	1,247,009	1,247,009	6,235,044
Total Accelerated Depreciation	7,489,824	7,489,824	7,489,824	7,489,824	7,489,824	37,449,118

HPS Billed %	89.61%	MH Billed %	83.87%
HPS Unbilled %	10.39%	MH Unbilled %	16.13%
	100.00%		100.00%

18. Please identify each depreciation account and subaccount that will be affected by the requested capital recovery schedule.

A. The account affected by the requested capital recovery schedule is Account 37300 Street Lighting and Signal Systems.

19. Please identify the expected date when the requested capital recovery schedule is to be implemented, and explain why such expected implementation date is reasonable and appropriate.

A. The expected date for capital recovery schedule implementation is January 2018.

20. For each affected account/subaccount identified in Question 18, and all affected accounts combined, please provide detailed information, including the following:

a. Estimated Plant in Service Balance as of the date identified in Question 18;

b. Estimated Accumulated Provision for Depreciation of Electric Plant as of the date identified in Question 18;

c. Estimated Cost of Removal as of the date identified in Question 18;

d. Total Unrecovered Costs as of the date identified in Question 18.

A. a. See response to Data Request No. 17, the balances will be updated at year end.

b. See response to Data Request No. 17, the balances will be updated at year end.

c. As of 9/30/17, the Estimated Cost of Removal is $1,318,603, the balance will be updated at year end.

d. See response to Data Request No. 17, the balances will be updated at year end.

21. Please explain how the estimated dollar amounts discussed in Question 20 were derived.

A. The dollar amounts discussed in the response to Data Request No. 20 this set were derived from actuals in the Tampa Electric Plant Accounting system as of September 30, 2017.

22. Please identify the cost recovery period TECO proposes, if any, for its requested capital recovery schedule; and explain why the length of such period is reasonable and appropriate.

A. The proposed cost recovery period is 5 years. This period is the same period as the program to convert the lights.

23. Please provide more detailed information regarding the proposed new poles discussed in paragraph 26 of the petition.

a. Why are the poles expected to provide reduced maintenance costs?

b. Why are some of these new poles expected to provide improved maintenance in area prone to flooding?

c. Describe the construction of the poles (materials, size, etc.).

d. What will be the average service life of these new poles compared with the existing poles?

e. When are these new poles expected to be placed in service?

f. What is the expected investment amount, in dollars, associated with the new poles?

g. What will be the estimated percentage of the amount discussed in Question 23. f. in terms of the estimated total plant investment amount booked in the following three accounts, respectively, for the years 2018, 2019 and 2020?

Account 35500 – Poles & Fixture,
Account 36400 – Poles, Towers & Fixtures, and
Account 37300 – Street Lighting & Signal System.

A. a. There are two new poles proposed.

The 16ft aluminum pole is the equivalent of the currently approved 16ft fiberglass pole. The existing fiberglass pole has experienced a large number of early total asset replacements as a result of a light weight construction of the fiberglass. These poles are predominantly installed in residential communities and most failures were a result of damage incurred by landscaping activities of those communities (e.g. weed-wacking).

The 35ft pole is constructed with a flanged internal compartment to allow for cabling connections to be above grade. Lighting installations that are fed underground will generally have a handhole connection

box below grade and located a few feet from the receiving pole. Over time, components physically making these connections in the new pole with an above grade compartment, are expected to have reduced water resistance. Installations in flood prone locations experience a high failure rate.

b. The new poles have been designed with a built-in hand hole (access for fused connection) at 6ft up from ground level. This allows a safe dry connection due to ground water saturation in some areas and also in areas which are prone to flooding. The current hand hole is a below ground box.

c. The 16ft aluminum DB (Direct Buried) tapered pole is buried 4ft into the ground with a fixture mounting height of 12ft and a built-in hand hole at 6ft. This pole is designed to meet 130 mph wind speeds. The 38ft 6inch aluminum DB tapered pole is buried 6ft into the ground with a fixture mounting height of 35ft and a built-in hand hole at 6ft. This pole is designed to meet 130 mph wind speeds. This second pole is also designed for single or double fixtures.

d. Both poles have a manufacturer's recommended life of 25 years.

e. When approved, they will be placed into service upon installation initiated by customer request. No poles are being converted in the program.

f. 16' Aluminum Pole: $ 194.70
38'6" Aluminum Pole: $1,079.63

g. 100 percent of the new lighting poles are classified in 37300 Street Lighting and Signal System.

24. Referring to paragraph 15 of the petition, when customers' HPS or MH fixtures are converted to LED fixtures, will the customers be informed of any price changes, and if so, how will the customers be notified?

A. Customers who will see an increase in their bill will receive specific correspondence in the form of a letter. Options for providing additional communication through email or phone number will be provided.

25. Please provide an Excel version of Exhibit D with the formulas intact and unlocked.

A. See the Excel file provided separately *(BS 49) Q25_Exhibit D*.

26. The following questions refer to the proposed tariff sheets:

a. Referring to tariff sheet 6.800 (Exhibit A, page 1), please explain why the phrase "one or more of the" was added to Term of Service.

b. Referring to tariff sheets 6.809 and 6.810 (Exhibit A, pages 3-4), please explain how each of the new rates was calculated. Please provide an Excel version of the calculations with formulas intact and unlocked.

c. Referring to tariff sheet 6.820 (Exhibit A, page 5), section 5, please explain what a "primary term" is and how that differs from "current term."

d. Referring to tariff sheet 6.821 (Exhibit A, page 7), please explain the reasons for the addition of the second and third paragraphs to section 6.

e. Referring to tariff sheet 7.201 (Exhibit A, page 10), section 7, please explain why the language concerning removal and replacement of pavement was added.

f. Referring to tariff sheet 7.202 (Exhibit A, page 12), section 8, please explain why the language in the second sentence was added ("If applicable, a final invoice or partial refund shall be issued . . . ")

g. Referring to tariff sheet 7.202 (Exhibit A, page 12) section 9, please explain why "if applicable" was added and describe the circumstances under which a customer must provide a deposit.

h. Referring to tariff sheet 7.203 (Exhibit A, page 14), please explain why section 13, Vandalism, has been deleted.

i. Referring to tariff sheet 7.204 (Exhibit A, page 16), section 16, please explain why the proposed language was added to paragraph 16, physical attachments

A. a. The phrase "one or more of the" was added to tariff sheet 6.800 (Exhibit A, page 1) because TECO will be implementing a new installation process which will enable tracking of the installation of

each individual fixture and/or light pole as it occurs. This will enable TECO to initiate billing of each light and light pole as the light is energized in the field. Accordingly, the revision to the Term of Service is proposed to enable the initial ten-year term to begin as of the date of the individual equipment install date and associated billing date.

b. Please see the Excel file provided separately in response to No. 25 *(BS 49) Q25_Exhibit D.xlsx*. The process of rate design first sought to match the new LED offering with an existing High-Pressure Sodium or Metal Halide offering that was being converted. In some cases, the same LED offering is being used to replace two or more High Pressure Sodium or Metal Halide offerings. The LED replacement was then priced out using its own projected maintenance costs which duplicated data and assumptions that justified the currently approved LED equivalent maintenance rate components and for the application of the reduced kWh consumption to the existing base energy and clause energy rates. This approach towards projected maintenance costs is applicable as most of existing lighting services delivered by LED have only been installed in recent years and failure rates are likely not reflective of maintenance required later in the asset's life. Then the fixture charge design was best fit to produce a resulting bill that was as close as possible to the comparable bill of the non-LED fixtures being replaced.

Some exceptions to the were made. When there were two or more non-LED fixtures being converted by one LED fixture, the one with the most billing units was used to design the LED rate and then that result was used for all identical LEDs. Often this meant a slight difference between the new charge and the non-LED comparable charge. In addition, some of the very large non-LED flood lights were prices substantially above market price and a substantially reduced LED conversion fixture price was set to better match market prices.

This pricing approach, while not entirely cost based, is reasonable given two things. First, to facilitate customer acceptance of the new lights and still retain appropriate cost recovery during conversion, matching of the monthly bills for the lights based on today's rates will reduce customer objections and reduce the overall cost of the conversion. Second, cost support for each of the conversion lights was prepared (which is attached to this response) that shows the final rate design was cost supported.

In addition to the standard costs included in the cost support, because the new lights will be utilizing the new mesh network being installed to support AMI replacement of the existing AMR meters at Tampa Electric, some of the cost of that mesh network is being included as cost support for these LED lights. Each LED light will have a network lighting controller which functions as a node using the mesh network for bidirectional communications, just like a billing meter will be a node for such communications. An allocation was developed where the cost of the mesh network was split on a node basis between the meter use of the network and the LED network lighting controller use of the network. Please also see the Excel file provided separately as *(BS 54) Q26b_Rate Development Calculations.xlsx*.

c. Referring to tariff sheet No. 6.820 (Exhibit A, page 5), section 5, the "Primary Term" references the first ten years of the bright choices outdoor lighting agreement as defined in tariff sheet No. 7.202. The "current term" indicated anytime in the life of the agreement, be it during or after the completion of the primary term (first ten years).

d. Referring to tariff sheet No. 6.821 (Exhibit A, page 7), the second and third paragraphs to section 6 were added to allow latitude for other services made available by the NLC, and to provide a greater level of flexibility to manage the pace of luminaire technology progression.

e. Language concerning removal and replacement of pavement was added to address ancillary site restoration tasks associated with the performance of non-standard activities such as directional boring.

f. Contribution in Aid of Construction payments are received from the customer prior to the performance of work. As the work scope is completed, actual costs can vary from the cost estimate from which the CIAC payment was made. Depending on the direction of variance, an invoice or partial refund is appropriate.

g. Referring to tariff sheet No. 7.202 (Exhibit A, page 12) section 9, the phrase "if applicable" was added to account for situations where customers request a change in equipment and the rate associated with the new equipment does not match the existing equipment. The customer would have initially provided two months of deposit funds per the original equipment agreement. If the new equipment has a

higher rate, the customer would be required to provide the incremental difference above the original funds already deposited. If the new equipment is a lower rate, the incremental deposited difference would be refunded. A common example of this is when a customer wants a brighter or dimmer light than what the existing equipment produces.

h. Referring to tariff sheet No. 7.203 (Exhibit A, page 14), the section 13, Vandalism, has been deleted because it is duplicated in the tariff sheet No. 6.802 and was therefore considered redundant.

i. Referring to tariff sheet No. 7.204 (Exhibit A, page 16), section 16, the proposed language was added to paragraph 16, physical attachments for the same reasons outlined above in response to 26d.