



William P. Cox
Senior Attorney
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 33408-0420
(561) 304-5662
(561) 691-7135 (Facsimile)
E-mail: Will.Cox@fpl.com

June 19, 2020

-VIA ELECTRONIC FILING-

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

**RE: Docket No. 202000__ : Florida Power & Light Company's Petition for
Approval of Optional Electric Vehicle Public Charging Pilot Tariffs**

Dear Mr. Teitzman:

Please find enclosed for electronic filing Florida Power & Light Company's Petition for Approval of Optional Electric Vehicle Public Charging Pilot Tariffs.

If there are any questions regarding this filing, please contact me at (561) 304-5662.

Sincerely,

/s/ William P. Cox
William P. Cox
Fla. Bar No. 0093531

Enclosure

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Florida Power & Light Company’s)
Petition for Approval of Optional Electric)
Vehicle Public Charging Pilot Tariffs)

Docket No. _____

Filed: June 19, 2020

**FLORIDA POWER & LIGHT COMPANY’S PETITION FOR APPROVAL OF
OPTIONAL ELECTRIC VEHICLE PUBLIC CHARGING PILOT TARIFFS**

Florida Power & Light Company (“FPL” or “the Company”), pursuant to Sections 366.04, 366.05 and 366.06, Florida Statutes, and Rule 25-6.033, Florida Administrative Code, petitions the Florida Public Service Commission (“Commission”) for approval of the following new optional pilot tariffs for the purpose of studying and supporting the development of electric vehicle (“EV”) public fast charging infrastructure in FPL’s service territory:

- a) **Utility-Owned Public Charging for Electric Vehicles (Rate Schedule UEV):** An optional tariff allowing EV drivers to purchase charging services directly from FPL at certain utility-owned public fast charge stations, at a rate of \$0.30 per kilowatt-hour (“kWh”).

- b) **Electric Vehicle Charging Infrastructure Riders for General Service Demand and General Service Large Demand (Rate Schedules GSD-1EV and GSLD-1EV):** Two optional riders to FPL’s existing General Service Demand (GSD-1) and General Service Large Demand (GSLD-1) tariffs, available to qualifying providers of EV public fast charge services, that limit the amount of demand (kW) billed to these customers as a function of their energy (kWh) usage during low load factor billing periods.

In support of this petition, FPL states as follows:

1. FPL is a Florida corporation with headquarters at 700 Universe Boulevard, Juno Beach, Florida 33408. FPL is an investor-owned utility operating under the jurisdiction of this Commission pursuant to the provisions of Chapter 366, Florida Statutes. Any pleading, motion, notice, order or other document required to be served upon FPL or filed by any party to this proceeding should be served upon the following individuals:

Kenneth A. Hoffman
Vice President, Regulatory Affairs
Ken.Hoffman@fpl.com
Florida Power & Light Company
134 West Jefferson Street
Tallahassee, FL 32301
850-521-3919
850-521-3939 (fax)

William P. Cox
Senior Attorney
Will.Cox@fpl.com
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 33408
561-304-5662
561-691-7135 (fax)

2. This Petition is being filed consistent with Rule 28-106.201, Florida Administrative Code. The agency affected is the Florida Public Service Commission, located at 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399. This case does not involve reversal or modification of an agency decision or an agency's proposed action. Therefore, subparagraph (c) and portions of subparagraphs (e), (f) and (g) of Rule 28-106.201(2) are not applicable to this Petition. In compliance with subparagraph (d), FPL states that it is not known which, if any, of the issues of material fact set forth in the body of this Petition, or attachments filed herewith, may be disputed by others.

I. OVERVIEW

3. FPL believes that vehicle electrification represents an important part of Florida's energy future and offers numerous benefits to our customers and the public at large.

4. Drivers of electric vehicles benefit from the convenience of being able to choose where they charge their vehicle (whether it be at home, the workplace, commercial destinations, or other public charging stations), as opposed to making weekly trips to the gas station. With technology and battery costs continuing to improve, drivers of EVs can also expect to see economic savings by avoiding fuel costs and reduced maintenance costs, compared to those of conventional gasoline-fueled vehicles. These savings further benefit Florida's economy by giving these consumers increased spending power.

5. The benefits of vehicle electrification are not limited to owners of EVs. As revenues from EV charging increase with expanded market penetration, they will contribute to the recovery of the utility's fixed costs, putting downward pressure on rates and thus benefitting the general body of customers. Further, EVs offer significant environmental benefits due to lower air pollution and greenhouse gas emissions. The electricity used to power an electric vehicle in Florida produces less than 38% of the carbon dioxide emissions produced by a gasoline-powered equivalent,¹ and these emissions savings will become even greater as solar energy becomes a greater portion of FPL's generation portfolio.

6. Widespread growth in EV ownership is dependent on a number of factors, including the cost of purchasing an EV, the variety of vehicles available, consumer habits and mindset.

¹Based on Florida data from U.S. Department of Energy, Alternative Fuels Data Center, https://afdc.energy.gov/vehicles/electric_emissions.html.

However, perhaps the most cited barrier to adoption is the issue of “range anxiety,” or the perceived risk that the vehicle will have insufficient battery charge to reach its destination. This fear is closely related to the lack of available public charging infrastructure. In fact, a study by Volvo found that “running out of power” and “low availability of charging stations” are the top two barriers to purchasing an electric vehicle, with 58% and 49% of respondents, respectively, citing these as reasons.²

7. While the majority of EV charging (84-87%) occurs at home, only a small percentage (5-13%) of EV drivers charge solely at home.³ Increased public charging would facilitate driving long distances and accommodate EV ownership by individuals who live in multi-unit dwellings that do not offer onsite charging and those who are otherwise unable to install residential charging at their home.

8. As affirmed by the recently passed Senate Bill 7018, the Florida Legislature agrees that “ensuring the prompt installation of adequate, reliable charging stations is in the public interest.”⁴ The new law calls for the Florida Department of Transportation, in consultation with the Florida Public Service Commission and the Florida Office of Energy, to develop a master plan for electric vehicle charging infrastructure.⁵

9. With the above mentioned benefits of EVs and the Legislature’s goals in mind, FPL is researching and developing models for advancing public charging infrastructure within its service territory. Areas of research include piloting FPL-owned charging stations, partnering with

² Stumpf, Rob, “Americans Cite Range Anxiety, Cost as Largest Barriers for New EV Purchases: Study,” TheDrive (February 26, 2019), <https://www.thedrive.com/news/26637/americans-cite-range-anxiety-cost-as-largest-barriers-for-new-ev-purchases-study>.

³ McFarlane, Dane, Matt Prorok, Brendan Jordan, and Tam Kemabonta, “Analytical White Paper: Overcoming Barriers to Expanding Fast Charging Infrastructure in the Midcontinent Region,” Great Plains Institute (July 2019), citing Idaho National Laboratory, “Plugged In: How Americans Charge Their Electric Vehicles” (2015).

⁴ CS for SB 7018, 1st Engrossed, “Essential State Infrastructure” (July 1, 2020), <https://www.flsenate.gov/Session/Bill/2020/07018>.

⁵ §339.287, Fla. Stat. (2020).

commercial and government customers looking to host charging stations on their premises, and designing rate structures that facilitate public fast charge infrastructure development by FPL and third-parties. The learnings gained from this research will help FPL to better meet the needs of its customers and inform the Commission as it develops policy on EVs.

10. In FPL’s current rate structure, the Company has identified two obstacles to meeting these goals, which this petition proposes to address through three new tariffs to be piloted over a 5-year period:

11. The first obstacle is that FPL currently has no tariff mechanism for collecting revenue directly from users of FPL-owned public charging stations. As a solution, FPL is proposing the new Utility-Owned Public Charging for Electric Vehicles pilot tariff (rate schedule UEV) that would allow FPL to charge users of its public fast charge stations at a volumetric rate of \$0.30 per kWh, as discussed further below.

12. A second obstacle, which has been discussed in the industry,⁶ is that commercial demand rates in standard electric utility tariffs pose a distinct challenge to the economics of third-party public fast charge stations. At low levels of utilization, the electricity bills incurred at these stations result in an uneconomic effective cost per kWh, as high demand charges are spread over a relatively low volume of energy sales. While this issue is alleviated at stations with higher utilization (and therefore greater load factors), it creates a barrier to entry during the early years of EV market development, as electricity costs for new charging stations often exceed the amount of

⁶Walton, Robert. “Is utility rate design the key to widespread electric vehicle adoption?”, *Utility Dive* (April 12, 2017), <https://www.utilitydive.com/news/is-utility-rate-design-the-key-to-widespread-electric-vehicle-adoption/440312/>; Jossi, Frank. “Minnesota utilities offer to lessen demand charges on EV fast chargers,” *Energy News Network* (November 6, 2019), <https://energynews.us/2019/11/06/midwest/minnesota-utilities-offer-to-lesser-demand-charges-on-ev-fast-chargers/>; FPSC, Office of Industry Development and Market Analysis, “Electric Vehicle Update” (September 2018), http://www.floridapsc.com/Files/PDF/Utilities/Electricgas/ElectricVehicles/2018/2018_Electric_Vehicle_Charging_Study_Update.pdf.

revenue they can expect to generate from users. As a solution, FPL proposes to pilot two optional riders to its existing GSD-1 and GSLD-1 tariffs that limit the volume of demand billed to public charging stations as a function of energy sales, in order to cap the effective demand cost per kWh. While the proposed tariffs would reduce billed demand for low utilization charging stations, the bill impacts to these customers automatically adjust back to those of standard GSD-1 and GSLD-1 tariff rates as station utilization improves and the economic challenges are alleviated.

II. BACKGROUND

A. Florida EV Market Overview

13. Florida continues to rank among the top four states⁷ in the nation for EV adoption, and more Floridians are buying electric vehicles every year. With an estimated 57,000 registered electric vehicles as of year-end 2019,⁸ Florida accounts for 4% of the U.S. market.⁹ Although EVs currently amount to less than 1% of Florida registered vehicles,¹⁰ EV registrations in the state have doubled over the last three years, growing faster than the U.S. average in both 2018 and 2019. This growth is expected to accelerate going forward. FPL estimates that there are 35,000 EVs in the utility's service territory as of year-end 2019 and forecasts this amount to approach 600,000 by 2030, eventually representing approximately 5% of total in-territory registered vehicles on the road.

⁷ Auto Alliance Advanced Technology Vehicle Sales Dashboard (Last Refresh 6/30/2019), Alternative Vehicle (ATV) category filtered by battery electric vehicle (BEV) and plug-in hybrid (PHEV), <https://autoalliance.org/energy-environment/advanced-technology-vehicle-sales-dashboard/>.

⁸ Florida Department of Motor Vehicles (FDMV), Registration data by BEV and PHEV vehicle identification numbers (VIN) as of 12/31/2019.

⁹ Edison Electric Institute, Issues & Policy: Electric Transportation EV Sales in the United States as of 12/31/2019, <https://www.eei.org/issuesandpolicy/electrictransportation/Pages/default.aspx>.

¹⁰ See *supra* note 8; Florida Department of Highway and Safety Motor Vehicles, Vehicle and Vessel Reports and Statistics, Autos & Pickups as of 1/1/2020, https://www.flhsmv.gov/pdf/vehicle-vesselreports/cvr_01_2020.pdf.

B. Direct Current Fast Charging Technology

14. EV charging is broadly categorized into three types: Level 1, Level 2, and Direct current fast charging (“DCFC”). Level 1 provides charging through a standard 120-volt AC plug and, at 1.4 kW, requires 17 to 25 hours to fully charge a 100-mile battery.¹¹ Level 2 uses up to a 240-volt connection (similar to that of a clothes dryer). Typically ranging from 6 to 8 kW, Level 2 can deliver the same 100-mile charge in 4 to 5 hours.¹²

15. DCFC stations have a higher power output per port and can bring an EV’s battery to an 80% state of charge in 30 to 60 minutes. EV battery technology and charging infrastructure are evolving, and new technologies are improving EV charging times to thirty minutes or less. While Levels 1 and 2 provide an affordable way to charge an EV at home or the workplace, where vehicles are commonly parked for extended periods of time, DCFC offers a more expeditious solution to providing convenient charging on the go.

16. In 2019, FPL began to track and evaluate its in-territory public fast charge infrastructure, station economics, and bill impacts. Station data is monitored using the Alternative Fueling Station Locator maintained by the U. S. Department of Energy.¹³ As of December 31, 2019, there were 91 fast charge site locations in FPL’s service territory, of which 41 have been identified with dedicated metered accounts. Station usage varies but preliminary findings indicate public fast charging stations have average load factors generally ranging from 1% - 23%, with most stations operating with a load factor of less than 10%.

¹¹ Doyle, Kevin. ChargePoint. “Level Up Your EV Charging Knowledge” (3/27/2017), <https://www.chargepoint.com/blog/level-your-ev-charging-knowledge/>.

¹² *Ibid.*

¹³ U.S. Department of Energy, “Alternative Fuels Data Center: Alternative Fueling Station Locator,” <https://afdc.energy.gov/stations/>.

C. Overview of FPL's EVolution Pilot

17. To support the growth of EVs in its service territory, FPL began implementation in 2019 of the new FPL EVolution pilot program ("EVolution pilot"), which is separate and distinct from the pilot tariffs proposed in this petition. Limited investments will be made in EV charging infrastructure as a part of this EVolution pilot program, with the goal to install more than 1,000 charging ports over an approximate three-year period, thus increasing the availability of public charging stations for EVs in Florida by 50%. Installations for the EVolution pilot will encompass different EV charging technologies and market segments, including level 2 workplace and fleet charging at public and/or private workplaces, destination charging at well-attended locations, residential charging at customers' homes, and DCFC in high-traffic areas, at bus depots and strategically located sites along highway corridors and evacuation routes. As of June 1, 2020, FPL has installed 166 Level 2 ports at 27 locations, with plans to deploy additional Level 2 and DCFC installations. FPL intends to seek base rate recovery of the EVolution charging stations as part of its next base rate proceeding.

18. With regard to EVs, FPL's current objective with the EVolution pilot is to examine EV use, adoption, infrastructure, potential new rate structures, power quality, and customer experience ahead of mass adoption to ensure future electric vehicle investments enhance service for electric customers who select EVs. Like the FPL EVolution pilot, this petition and proposed tariffs are designed to further that objective.

III. FPL's Proposal

A. Pilot Rate for Utility-Owned Public Charging for Electric Vehicles (UEV)

1. No tariff mechanism currently exists for EV drivers to purchase public fast charge services directly from FPL

19. Because FPL currently has no tariff for providing EV charging services directly to the public at FPL-owned fast charging stations, we hereby submit, for Commission approval, the attached tariff (UEV) allowing FPL to sell public charging services to electric vehicle drivers at a volumetric rate of \$0.30 per kWh. This tariff would facilitate research and development related to public charging infrastructure.

2. Determination of Proposed UEV Tariff Rate

20. Traditional cost-based standards for determining utility rates rely on robust historical experience and data-driven projections regarding both cost of service and sales volumes. However, due to uncertainty related to the nascent stage of the EV market and the absence of FPL data regarding actual sales volumes and operating costs at utility-owned public charging stations, attempting to develop accurate, cost-based rates would be conjectural at this time. In order to begin accumulating and studying these data, it is necessary to set a workable initial rate for the pilot period that will encourage customers to start using the service. FPL's proposed rate of \$0.30 per kWh was chosen because it is reasonable compared to various automotive fuel alternatives that are available to customers, including gasoline-powered transportation and the rates at third-party EV fast charge stations. After FPL develops experience operating public charging stations and the EV market matures, it may be appropriate to reevaluate this rate design in the future.

21. FPL's proposed UEV tariff is comparable on a cost-per-mile basis to recent gasoline prices. Based on FPL's analysis of data from the U.S. Department of Energy's Office of

Energy Efficiency and Renewable Energy, the average mileage efficiency across models of electric vehicles is 3.0 miles per kWh, while gasoline-powered vehicles in comparable classes average 23 miles per gallon. According to data from the U.S. Energy Information Agency,¹⁴ Florida’s average price of gasoline over the 52 weeks ending June 8, 2020 was \$2.34 per gallon. At this gasoline price, the electricity price that equates to the same cost per mile is \$0.31 /kWh.¹⁵

22. The \$0.30 per kWh rate is reasonable when compared to EV DCFC pricing currently offered by non-utility providers. Chart 1 below displays pricing for public fast charging advertised by Tesla, EVgo and Electrify America.

CHART 1: Comparison of Public Fast Charge Prices in Florida

Provider	Charger Max Power Level	Price Schedule ⁽¹⁾	Estimated Time to Charge 45 kWh ⁽²⁾	Estimated Equivalent Price per kWh ⁽²⁾
Tesla	250 kW	\$0.28 / kWh	24.6 min.	\$0.28 / kWh
Evgo	50 kW	\$0.35 / min.	54.0 min.	\$0.42 / kWh
Electrify America	350 kW	\$0.89 / min.	24.6 min.	\$0.51 / kWh ⁽³⁾
	125 kW	\$0.58 / min.	26.1 min.	\$0.36 / kWh ⁽³⁾
	75 kW	\$0.21 / min. +\$1.00 Fee	36.4 min.	\$0.19 / kWh ⁽³⁾ avg: \$0.35 / kWh
Average Across Three Providers				\$0.35 / kWh

1) Based on "pay-as-you-go" pricing structures

2) Assumes vehicle with 75 kWh battery charging from 20% to 80% state of charge (SOC). Rate of charge is estimated as the lesser of the charger max power level and the maximum acceptance rate of the vehicle, which is assumed to decline from 160 kW at 20-30% SOC to 70 kW at 70-80% SOC. Actual speeds and \$/kWh vary based on vehicle and other conditions.

3) Electrify America cost includes \$1.00 fee per session

23. As shown in the chart above, pricing structures vary, with some providers billing on the basis of kWh delivered and others billing on the basis of time (*i.e.*, per minute). It can be difficult to predict the cost of charging an EV under a per-minute pricing structure, because the

¹⁴ U.S. Energy Information Administration, Weekly Florida All Grades Conventional Retail Gasoline Prices (June 8, 2020), https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMM_EPM0U_PTE_SFL_DPG&f=W.

¹⁵ (\$2.34 per gallon divided ÷ 23 miles per gallon) × 3.0 miles per kWh = \$0.31 per kWh.

speed of charge will vary over the course of a charging session depending on a number of factors, including the acceptance rate of the vehicle, the state of charge of the battery, the maximum delivery power-level of the charger, temperature, and other circumstances. For this reason, FPL believes that a per-kilowatt-hour rate structure is the fairest and most transparent method to charge users of public fast charge stations for the value they receive. After using assumptions to adjust the time-based pricing to an equivalent cost per kWh, the offerings shown in Chart 1 range from approximately \$0.19 /kWh to \$0.51 /kWh, with an average across the three providers of \$0.35 / kWh.

24. Regulatory approval of tariffs for utility-owned fast charge stations has precedent in other jurisdictions.¹⁶ On January 14, 2016, Avista Utilities filed for approval of an Electric Vehicle Supply Equipment Pilot Program with the Washington Utilities and Transportation Commission, which included a pilot tariff that would allow Avista to sell public fast charge services directly to drivers at a rate comparable to those charged by other public DC fast charge stations across Washington state, given that cost of service-based rates could not be calculated when utilization rates for these new stations were unknown.¹⁷

B. Electric Vehicle Charging Infrastructure Riders (GSD-1EV and GSLD-1EV)

1. Economic challenges of DC Fast Charge Infrastructure

25. DCFC equipment for EV charging represents a unique use-case that is often characterized by high-power capacity demand and low-energy utilization. As a result, it is not uncommon for demand charges incurred by public fast charge stations to be significantly greater

¹⁶ See, e.g., *Washington Utilities and Transportation Commission v. Avista Corporation d/b/a Avista Utilities*, Docket 160082-UE, Order 01 (April 28, 2016).

¹⁷ *Ibid*, p. 3, para. 6.

than their energy charges. Correspondingly, this situation can lead to electricity bills that far exceed the revenue that these stations can receive from their customers.¹⁸

26. A typical example of this situation would be a DCFC station with metered demand of 80 kW and monthly energy usage of 1,635 kWh (load factor of 2.8%). Under FPL's current GSD-1 rates, this results in a total bill of \$1,023. Dividing this amount by the energy usage (kWh) equates to an all-in effective cost of \$0.63 per kWh. Assuming a charging price of \$0.30 per kWh, the charging station's effective cost of electricity significantly exceeds the revenue it can expect to receive from its customers.

27. Fast charge providers and potential public charging site hosts have expressed concerns over the inability to recover costs in the early years of EV market adoption. This results in challenges and potential delays in the deployment of essential charging infrastructure in anticipation of mass EV adoption. Grant programs, such as Florida's EVCI Beneficiary Mitigation Plan, provide funding to offset initial capital costs but do not address the ongoing impact of electric utility demand charges due to low utilization experienced in the early stages of deployment of DCFC stations.

28. The challenges that utility demand rates present to public EV charging stations are well recognized within the industry. Stakeholder presentations shared with the Commission during the 2017 Electric Vehicle Charging Roundtable¹⁹ highlighted the impact of demand charges on fast charge stations and requested Commission consideration for "rate programs that would reduce

¹⁸ McFarlane, Dane, Matt Prorok, Brendan Jordan, and Tam Kemabonta, "Analytical White Paper: Overcoming Barriers to Expanding Fast Charging Infrastructure in the Midcontinent Region," Great Plains Institute (July 2019)

¹⁹ Electric Vehicle Charging Roundtable (October 17, 2017), <http://www.floridapsc.com/ElectricNaturalGas/ElectricVehicles2017>.

the operating costs of EV charging and may provide other benefits from utility ratepayers.”²⁰ ChargePoint recommended the Commission “consider segment-specific barriers to EV charging deployments (*e.g.*, demand charges with DCFC).”²¹ EVgo cited the challenges of FPL’s electricity bills specifically; wherein, demand charges represented ~70% of the total bill and the effective cost per kWh ranged from \$0.45 to \$2.38/kWh.²² They requested the Commission give consideration to rate options for DCFC stations and provided an example of a scaled discount on demand charges that reduces as utilization improves,²³ similar in concept to FPL’s proposed demand limiter mechanism reflected in the GSD-1EV and GSLD-1EV tariffs attached herein. The Commission cited additional relevant stakeholder considerations from ChargePoint, Greenlots, and Siemens Digital Grid pertaining to alternative rate structures and the utility’s role for fast charging stations in its 2018 follow-up publication on Electric Vehicle Charging.²⁴ These concerns related to the financial burden created from high demand charges during early EV market adoption continues to be an area of concern regarding the viability of public EV fast charge station expansion.

29. FPL’s analysis of fast charge stations in its service territory reveals that these are valid concerns. While the average cost per kWh in 2019 for the GSD-1 and GSLD-1 rate schedules was \$0.09 per kWh, the effective cost per kWh was significantly greater for fast charge stations. Chart 2 below shows the average all-in effective cost of electricity for 40 separately-metered charging stations in 2019, with each column representing a different FPL customer. As shown, a

²⁰ FPSC, Office of Industry Development and Market Analysis, “Electric Vehicle Update” (September 2018), http://www.floridapsc.com/Files/PDF/Utilities/Electricgas/ElectricVehicles/2018/2018_Electric_Vehicle_Charging_Study_Update.pdf.

²¹ Schatz, David, “Electric Vehicle Charging: Supporting the Needs of All EV Drivers” (October 17, 2017), <http://www.floridapsc.com/Files/PDF/Utilities/Electricgas/ElectricVehicles/2017/presentations/ChargePoint.pdf>.

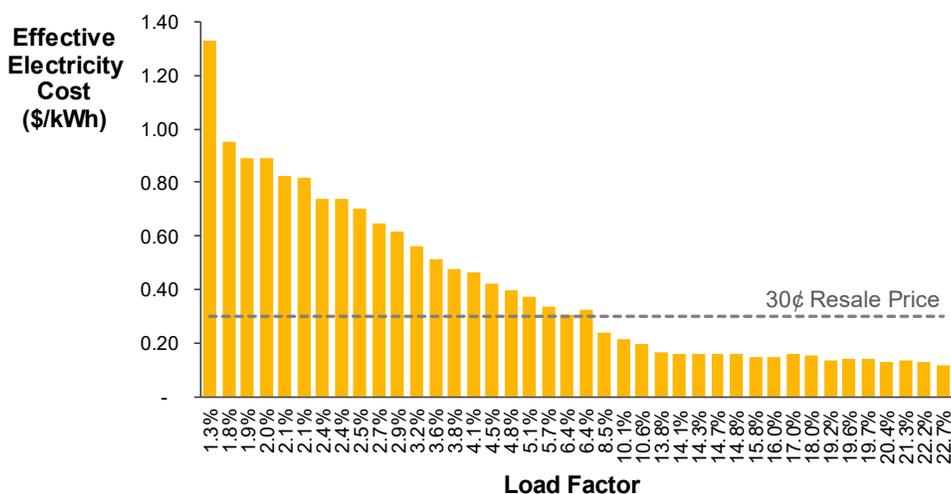
²² O’Day, Terry, “EV Charging Cost Structure; The Key to Infrastructure Growth” (October 17, 2017), <http://www.floridapsc.com/Files/PDF/Utilities/Electricgas/ElectricVehicles/2017/presentations/EVgo.pdf>.

²³ *Ibid.*

²⁴ See *supra* note 20.

large portion of DCFC stations in FPL’s service territory had an effective cost of electricity that is greater than the assumed resale price of charging services (\$0.30 /kWh). For these stations, demand charges create unfavorable operating economics. Fifty percent of stations paid between \$0.33 and \$1.33 per kWh, which put them in the top 99th percentile of GSD-1 and GSLD-1 customers with regard to energy average cost.

CHART 2: Bill Cost per kWh for Separately-Metered Fast Charge Customers (2019 Actuals)²⁵



30. Chart 2 also illustrates that the economic challenges discussed above are a function of energy utilization (load factor). At stations with greater energy utilization, demand charges are spread over a greater volume of energy sales, resulting in an effective cost per kWh that is below the retail charging price and, therefore, supports more reasonable economics to encourage expansion of EV charging infrastructure.

²⁵ Effective electricity cost per kWh is calculated as total bill (including gross receipts tax, excluding other taxes and franchise fees) divided by energy usage.

2. Description of Demand Limiter mechanism

31. In order to study a potential solution for mitigating the economic challenges that demand rates cause for public fast charge stations, FPL is requesting Commission approval to pilot two new riders, GSD-1EV and GSLD-1EV, that feature a “demand limiter” mechanism. Under these riders, the amount of demand billed to public fast charge stations will be the lesser of:

- a. measured demand, as conventionally determined; and
- b. limited demand, as calculated by dividing energy sales (kWh) by a fixed constant of 75 hours.

32. Other than this change in the amount of demand billed, all rates and charges for these riders will be the same as those for GSD-1 and GSLD-1, respectively.

33. Mathematically, the above provision has the effect of limiting the combined cost of energy and demand to the lesser of (a) that of existing GSD-1/GSLD-1 tariffs and (b) approximately \$0.20 to \$0.22 per kWh (before customer charge, taxes and fees).²⁶ Assuming a retail charging price of \$0.30 /kWh, this targeted cap will support the ability for public charging stations to recover their electricity costs while still leaving margin to contribute toward other operating expenses and capital costs.

34. FPL’s proposed demand limiter pilot is based on similar mechanisms employed by Xcel Energy Minnesota and Xcel Energy Colorado, which have been recognized as an effective solution to the problem that demand rates pose on public fast charging infrastructure.²⁷

²⁶ Based on GSD-1 rates effective June 2020, the cost of demand per kWh equates to $[(\$9.98/\text{kW base demand} + \$1.22/\text{kW capacity and conservation}) \times (\text{energy} / 75 \text{ hours})] / \text{energy} = \$0.15 / \text{kWh}$. Added to \$0.0222 /kWh base energy and \$0.024 fuel and environmental = \$0.20 energy and demand per kWh. Based on GSLD-1 rates, the cost of demand per kWh equates to $[(\$12.19/\text{kW base demand} + \$1.38/\text{kW capacity and conservation}) \times (\text{energy} / 75 \text{ hours})] / \text{energy} = \$0.18 / \text{kWh}$. Added to \$0.0175 /kWh base energy and \$0.024 fuel and environmental = \$0.22 energy and demand per kWh

²⁷ See *supra* note 18; EVgo, “Best Practices for Electric Vehicle Market Transformation” (October 23, 2019).

35. The design of the demand limiter has a number of benefits. First, because it adjusts the volume of demand billed while using existing rates, it avoids the administrative burden of determining new rates. In the event of any future revisions to base or clause rates for GSD-1 or GSLD-1, the rates applied to the proposed GSD-1EV and GSLD-1EV will be revised accordingly. Second, it provides bill relief only where it is needed: to public charging stations with low energy utilization. As determined by the 75-hour constant, the billed amount of demand is only limited at stations with a load factor lower than approximately 10%.²⁸ As station energy utilization improves above this level, the demand charges under the tariff automatically adjust back to those of applicable GSD-1 and GSLD-1 rates.

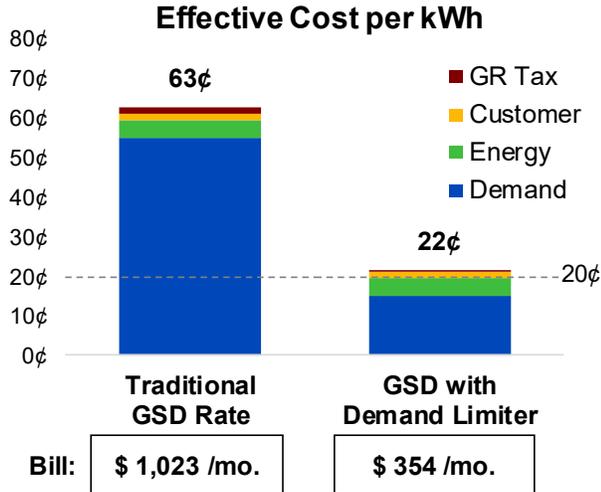
3. Illustrative examples

36. The examples below illustrate the intended effect of the proposed demand limiter within the GSD-1EV and GSLD-1EV tariffs. The first example, shown in Chart 3, displays the effect on a low-energy utilization public charging station having a load factor of 2.8%. Under the existing GSD-1 tariff, the customer would be billed for 1,635 kWh of energy and 80 kW of measured demand, resulting in a total bill of \$1,023 -- which equates to a cost per kWh of \$0.63. Under the proposed pilot tariff, the demand portion of the bill would be based on the lesser of (a) measured demand and (b) energy divided by 75 hours, which equates to 22 kW. This would result in a total bill of \$354, or \$0.22 per kWh.

²⁸ 75 hours divided by 730 hours per month equals 10.3%.

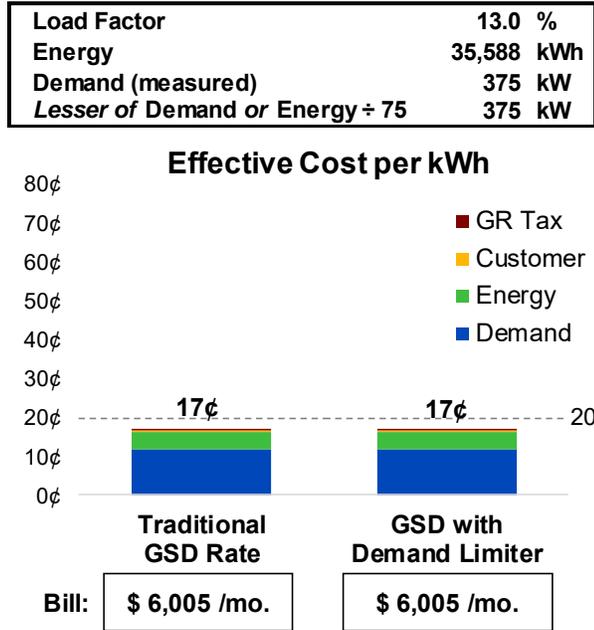
CHART 3: Effect of Demand Limiter on Low-Load Factor Station

Load Factor	2.8 %
Energy	1,635 kWh
Demand (measured)	80 kW
Lesser of Demand or Energy ÷ 75	22 kW



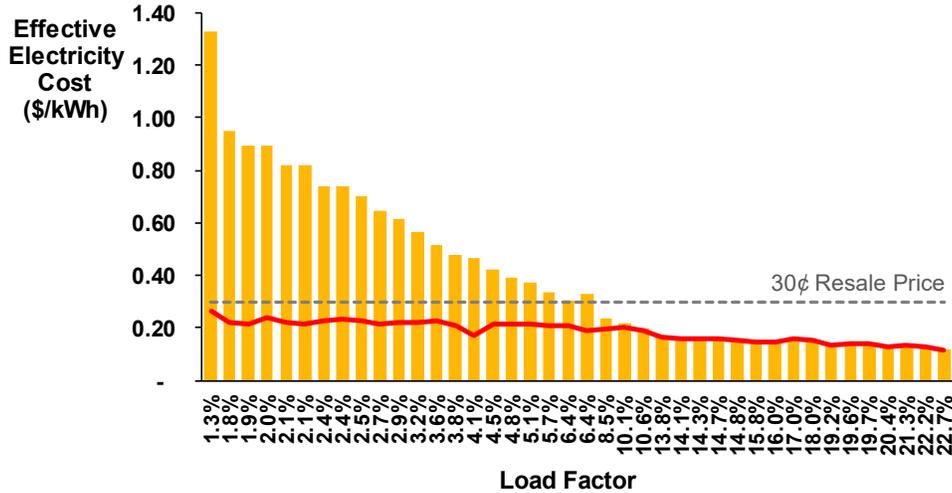
37. The second example, in Chart 4, considers a public charging station with greater energy utilization, having a load factor of 13.0%. Under the existing GSD-1 tariff, the customer would be billed for 35,558 kWh of energy and 375 kW of measured demand, resulting in a total bill of \$6,005 -- which equates to a cost per kWh of \$0.17. Because dividing this customer's energy by the 75-hour constant results in a value (475 kW) that is greater than the measured demand (375 kW), the bill under the proposed tariff is unaffected by the demand limiter.

CHART 4: Effect of Demand Limiter on Higher-Load Factor Station



38. FPL has analyzed the potential impact of offering this tariff pilot to the population of DCFC stations in its service territory by calculating the effect of the Demand Limiter on these customers’ bills, assuming usage profiles based on 2019 actuals. In Chart 5, below, the yellow columns represent these customers’ electricity cost per kWh based on June 2020 rates under the regular GSD-1 and GSLD-1 tariffs. The solid red line displays the cost per kWh assuming the Demand Limiter tariff. As shown, the Demand Limiter decreases the cost to low-energy utilization stations to below the estimated retail charging price, while having no effect on higher load factor customers.

CHART 5: Effect of Demand Limiter on Existing DCFC Stations



39. FPL’s revenues from the increased use of the new public charging stations is expected to at least partially offset the annual costs associated with these pilot tariffs. To the extent an increase in charging stations incentivizes more Floridians to purchase EVs, the annual cost impact will be further mitigated by increased revenue from residential and commercial charging. While the actual increase in revenues from the proposed pilot tariffs is difficult to predict, the learnings from these tariffs will help FPL, other Florida utilities, the Commission and the EV industry assess the potential for rate design to stimulate the EV market.

C. Proposed Pilot Tariffs

40. The proposed 5-year pilot tariffs UEV, GSD-1EV, and GSLD-1EV are reflected in Tariff Sheet Nos. 8.936, 8.106, 8.311 attached hereto as Composite Exhibit “A”, in legislative and proposed format. Attached as Exhibit “B” is the Sixty-Second Revised Tariff Sheet No. 8.010, the Index of Rate Schedules reflecting the addition of these tariffs, in legislative and proposed format.

WHEREFORE, FPL respectfully requests that the Commission enter an order approving FPL's proposed optional commercial electric vehicle tariffs UEV, GSD-1EV and GSLD-1EV, Tariff Sheets attached hereto as Exhibits A and B; and grant any such other relief as may be appropriate. FPL respectfully requests that the Commission review and approve the proposed tariffs and associated rates in time for FPL to begin offering them to customers in January 2021.

Respectfully submitted,

William P. Cox
Senior Attorney
Fla. Bar No. 0093531
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 33408
Telephone: (561) 304-5662
Facsimile: (561) 691-7135
Will.Cox@fpl.com

By: s/ William P. Cox
William P. Cox
Fla. Bar No. 0093531

EXHIBIT A

Proposed 5-Year Pilot Tariffs:
UEV - Tariff Sheet No. 8.936
GSD-1EV - Tariff Sheet No. 8.106
GSLD-1EV - Tariff Sheet No. 8.311
Legislative and proposed formats

**UTILITY-OWNED PUBLIC CHARGING FOR ELECTRIC VEHICLES (EVs)
(PILOT PROGRAM)**

RATE SCHEDULE: UEV

AVAILABLE:

Available to customers charging electric vehicles at certain FPL (“the Company”) owned public EV fast charging stations (“the stations”) with output power of 50kW or greater where FPL provides charging service and direct billing to the station user.

APPLICATION:

The stations may be accessed by any person (“user”) who resides either within or outside the Company’s service territory. EV charging service will be available at the Company-owned stations installed at Company or Host locations. The stations will be accessible to the public for charging. Service under this tariff shall terminate five years from the effective date of the tariff, unless extended by order of the Florida Public Service Commission (“FPSC”), or terminated earlier by the Company upon notice to the FPSC.

LIMITATION OF SERVICE:

The user must register an account with the Company’s mobile application or network provider, including payment information, prior to charging the EV.

BILLING AND PAYMENT TERMS:

The current rate is set at \$0.30/kWh. Charging network fees as determined by the charging station network provider may apply at certain stations. Vehicle idling fees at a rate up to of \$0.40 per minute following a ten- minute grace period may apply at certain stations located in close proximity to highway corridors or other highly trafficked areas. The rates applicable to the specific station including the rate per kWh, taxes and charging network provider and idle fees will be visible to the users via the app and/or display. Users will be notified when the charging session is complete via the display located at the charging dispenser and through the Company’s mobile application and will have the ability to obtain a detailed receipt of the charge session.

RULES AND REGULATIONS:

Service under this rider is subject to orders of governmental bodies having jurisdiction and to the currently effective “General Rules and Regulations for Electric Service” on file with the Florida Public Service Commission. In case of conflict between any provisions of this schedule and said “General Rules and Regulations for Electric Service” the provisions of this rider shall apply.

**ELECTRIC VEHICLE CHARGING INFRASTRUCTURE RIDER TO GENERAL SERVICE DEMAND
(OPTIONAL PILOT PROGRAM)**

RATE SCHEDULE: GSD-1EV

AVAILABLE:

In all territory served. Service under this rider shall terminate five years from the effective date of the tariff, unless extended by order of the Florida Public Service Commission ("FPSC"), or terminated earlier by the Company upon notice to the FPSC.

APPLICATION:

For electric service required for the purpose of commercial or industrial public electric vehicle charging with a measured Demand in excess of 20 kW and less than 500 kW. Eligible charging installations must be accessible to the public for commercial or general use.

SERVICE:

Single or three phase, 60 hertz and at any available standard distribution voltage. All service required on premises for electric vehicle charging will be furnished through a dedicated meter.

MONTHLY RATE:

All rates and charges under Rate Schedule GSD-1 shall apply.

DEMAND:

The Demand is the kW to the nearest whole kW, as determined from the Company's thermal type meter or, at the Company's option, integrating type meter for the 30-minute period of Customer's greatest use during the month as adjusted for power factor. In no month shall the billed demand be greater than the value in kW determined by dividing the kWh sales for the billing month by 75 hours per month.

TERM OF SERVICE:

Not less than one year.

RULES AND REGULATIONS:

Service under this schedule is subject to orders of governmental bodies having jurisdiction and to the currently effective "General Rules and Regulations for Electric Service" on file with the Florida Public Service Commission. In case of conflict between any provision of this schedule and said "General Rules and Regulations for Electric Service" the provision of this schedule shall apply.

**ELECTRIC VEHICLE CHARGING INFRASTRUCTURE RIDER TO GENERAL SERVICE LARGE DEMAND
(OPTIONAL PILOT PROGRAM)**

RATE SCHEDULE: GSLD-1EV

AVAILABLE:

In all territory served. Service under this rider shall terminate five years from the effective date of the tariff, unless extended by order of the Florida Public Service Commission ("FPSC"), or terminated earlier by the Company upon notice to the FPSC.

APPLICATION:

For electric service required for the purpose of commercial or industrial public electric vehicle charging with a measured demand of 500 kW and less than 2,000 kW. Eligible charging installations must be accessible to the public for commercial or general use.

SERVICE:

Single or three phase, 60 hertz and at any available standard distribution voltage. All service required on premises for electric vehicle charging will be furnished through a dedicated meter.

MONTHLY RATE:

All rates and charges under Rate Schedule GSLD-1 shall apply.

DEMAND:

The Demand is the kW to the nearest whole kW, as determined from the Company's thermal type meter or, at the Company's option, integrating type meter for the 30-minute period of Customer's greatest use during the month as adjusted for power factor. In no month, shall the billed demand be greater than the value in kW determined by dividing the kWh sales for the billing month by 75 hours per month.

TERM OF SERVICE:

Not less than one year.

RULES AND REGULATIONS:

Service under this schedule is subject to orders of governmental bodies having jurisdiction and to the currently effective "General Rules and Regulations for Electric Service" on file with the Florida Public Service Commission. In case of conflict between any provision of this schedule and said "General Rules and Regulations for Electric Service" the provision of this schedule shall apply.

UTILITY-OWNED PUBLIC CHARGING FOR ELECTRIC VEHICLES (EVs)
(PILOT PROGRAM)

RATE SCHEDULE: UEV

AVAILABLE:

Available to customers charging electric vehicles at certain FPL (“the Company”) owned public EV fast charging stations (“the stations”) with output power of 50kW or greater where FPL provides charging service and direct billing to the station user.

APPLICATION:

The stations may be accessed by any person (“user”) who resides either within or outside the Company’s service territory. EV charging service will be available at the Company-owned stations installed at Company or Host locations. The stations will be accessible to the public for charging. Service under this tariff shall terminate five years from the effective date of the tariff, unless extended by order of the Florida Public Service Commission (“FPSC”), or terminated earlier by the Company upon notice to the FPSC.

LIMITATION OF SERVICE:

The user must register an account with the Company’s mobile application or network provider, including payment information, prior to charging the EV.

BILLING AND PAYMENT TERMS:

The current rate is set at \$0.30/kWh. Charging network fees as determined by the charging station network provider may apply at certain stations. Vehicle idling fees at a rate up to of \$0.40 per minute following a ten- minute grace period may apply at certain stations located in close proximity to highway corridors or other highly trafficked areas. The rates applicable to the specific station including the rate per kWh, taxes and charging network provider and idle fees will be visible to the users via the app and/or display. Users will be notified when the charging session is complete via the display located at the charging dispenser and through the Company’s mobile application and will have the ability to obtain a detailed receipt of the charge session.

RULES AND REGULATIONS:

Service under this rider is subject to orders of governmental bodies having jurisdiction and to the currently effective “General Rules and Regulations for Electric Service” on file with the Florida Public Service Commission. In case of conflict between any provisions of this schedule and said “General Rules and Regulations for Electric Service” the provisions of this rider shall apply.

ELECTRIC VEHICLE CHARGING INFRASTRUCTURE RIDER TO GENERAL SERVICE DEMAND
(OPTIONAL PILOT PROGRAM)

RATE SCHEDULE: GSD-1EV

AVAILABLE:

In all territory served. Service under this rider shall terminate five years from the effective date of the tariff, unless extended by order of the Florida Public Service Commission ("FPSC"), or terminated earlier by the Company upon notice to the FPSC.

APPLICATION:

For electric service required for the purpose of commercial or industrial public electric vehicle charging with a measured Demand in excess of 20 kW and less than 500 kW. Eligible charging installations must be accessible to the public for commercial or general use.

SERVICE:

Single or three phase, 60 hertz and at any available standard distribution voltage. All service required on premises for electric vehicle charging will be furnished through a dedicated meter.

MONTHLY RATE:

All rates and charges under Rate Schedule GSD-1 shall apply.

DEMAND:

The Demand is the kW to the nearest whole kW, as determined from the Company's thermal type meter or, at the Company's option, integrating type meter for the 30-minute period of Customer's greatest use during the month as adjusted for power factor. In no month shall the billed demand be greater than the value in kW determined by dividing the kWh sales for the billing month by 75 hours per month.

TERM OF SERVICE:

Not less than one year.

RULES AND REGULATIONS:

Service under this schedule is subject to orders of governmental bodies having jurisdiction and to the currently effective "General Rules and Regulations for Electric Service" on file with the Florida Public Service Commission. In case of conflict between any provision of this schedule and said "General Rules and Regulations for Electric Service" the provision of this schedule shall apply.

ELECTRIC VEHICLE CHARGING INFRASTRUCTURE RIDER TO GENERAL SERVICE LARGE DEMAND
(OPTIONAL PILOT PROGRAM)

RATE SCHEDULE: GSLD-1EV

AVAILABLE:

In all territory served. Service under this rider shall terminate five years from the effective date of the tariff, unless extended by order of the Florida Public Service Commission ("FPSC"), or terminated earlier by the Company upon notice to the FPSC.

APPLICATION:

For electric service required for the purpose of commercial or industrial public electric vehicle charging with a measured demand of 500 kW and less than 2,000 kW. Eligible charging installations must be accessible to the public for commercial or general use.

SERVICE:

Single or three phase, 60 hertz and at any available standard distribution voltage. All service required on premises for electric vehicle charging will be furnished through a dedicated meter.

MONTHLY RATE:

All rates and charges under Rate Schedule GSLD-1 shall apply.

DEMAND:

The Demand is the kW to the nearest whole kW, as determined from the Company's thermal type meter or, at the Company's option, integrating type meter for the 30-minute period of Customer's greatest use during the month as adjusted for power factor. In no month, shall the billed demand be greater than the value in kW determined by dividing the kWh sales for the billing month by 75 hours per month.

TERM OF SERVICE:

Not less than one year.

RULES AND REGULATIONS:

Service under this schedule is subject to orders of governmental bodies having jurisdiction and to the currently effective "General Rules and Regulations for Electric Service" on file with the Florida Public Service Commission. In case of conflict between any provision of this schedule and said "General Rules and Regulations for Electric Service" the provision of this schedule shall apply.

EXHIBIT B

Sixty-Second Revised Tariff Sheet No. 8.010, Index of Rate Schedules
In legislative and proposed formats

INDEX OF RATE SCHEDULES

<u>RATE SCHEDULE</u>	<u>DESCRIPTION</u>	<u>SHEET NO.</u>
BA	Billing Adjustments	8.030
SC	Storm Charge	8.040
GS-1	General Service - Non Demand (0-20 kW)	8.101
GST-1	General Service - Non Demand - Time of Use (0-20 kW)	8.103
GSD-1	General Service Demand (21-499 kW)	8.105
<u>GSD-1EV</u>	<u>Electric Vehicle Charging Infrastructure Rider Pilot</u>	<u>8.106</u>
GSDT-1	General Service Demand - Time of Use (21-499 kW)	8.107
GSL	General Service Load Management Program	8.109
NSMR	Non-Standard Meter Rider	8.120
GSCU-1	General Service Constant Usage	8.122
RS-1	Residential Service	8.201
RTR-1	Residential Time of Use Rider	8.203
CU	Common Use Facilities Rider	8.211
RLP	Residential Load Control Program	8.217
GSLD-1	General Service Large Demand (500-1999 kW)	8.310
<u>GSLD-1EV</u>	<u>Electric Vehicle Charging Infrastructure Rider Pilot</u>	<u>8.311</u>
GSLDT-1	General Service Large Demand - Time of Use (500-1999kW)	8.320
CS-1	Curtable Service (500-1999 kW)	8.330
CST-1	Curtable Service -Time of Use (500-1999 kW)	8.340
GSLD-2	General Service Large Demand (2000 kW +)	8.412
GSLDT-2	General Service Large Demand - Time of Use (2000 kW +)	8.420
HLFT	High Load Factor – Time of Use	8.425
CS-2	Curtable Service (2000 kW +)	8.432
CST-2	Curtable Service -Time of Use (2000 kW +)	8.440
CST-3	Curtable Service -Time of Use (69 kV or above)	8.542
CS-3	Curtable Service (69 kV or above)	8.545
GSLD-3	General Service Large Demand (69 kV or above)	8.551
GSLDT-3	General Service Large Demand - Time of Use (69 kV or above)	8.552
OS-2	Sports Field Service	8.602
MET	Metropolitan Transit Service	8.610
CILC-1	Commercial/Industrial Load Control Program (Closed	8.650
CDR	Commercial/Industrial Demand Reduction Rider	8.680
SL-1	Street Lighting	8.715
SL-1M	Street Lighting Metered Service	8.718
PL-1	Premium Lighting	8.720
OL-1	Outdoor Lighting	8.725
SL-2	Traffic Signal Service	8.730
SL-2M	Traffic Signal Metered Service	8.731
LT-1	LED Lighting	8.735
RL-1	Recreational Lighting	8.743
SST-1	Standby and Supplemental Service	8.750
ISST-1	Interruptible Standby and Supplemental Service	8.760
EDR	Economic Development Rider	8.800
DSMAR	Demand Side Management Adjustment Rider	8.810
TR	Transformation Rider	8.820
SDTR	Seasonal Demand – Time of Use Rider	8.830
OSP-1	Supplemental Power Services Rider Pilot	8.845
EFEDR	Existing Facility Economic Development Rider	8.900
CISR	Commercial/Industrial Service Rider	8.910
VSP	Voluntary Solar Partnership Pilot Program	8.930
STR	FPL SolarTogether Rider	8.932
<u>UEV</u>	<u>Utility-Owned Public Charging for Electric Vehicles Pilot</u>	<u>8.936</u>

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SL-2	Traffic Signal Service	8.730
SL-2M	Traffic Signal Metered Service	8.731
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