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December 17, 2018

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

Re: *Duke Energy Florida, LLC's Application for limited proceeding to approve 2017 second revised and restated settlement agreement, including certain rate adjustments*; Docket No. 20170183-EI

Dear Ms. Stauffer:

Please find enclosed for filing Duke Energy Florida, LLC's 2018 Annual Electric Vehicle Charging Station Pilot Program Report. The Report is being filed pursuant to Paragraph 17(f)i., of the 2017 Second Revised and Restated Stipulation and Settlement Agreement, approved by the Commission in Order No. PSC-2017-0451-AS-EU.

Thank you for your assistance in this matter. Please feel free to call me at (850) 521-1428 should you have any questions concerning this filing.

Sincerely,

*/s/ Matthew R. Bernier*

Matthew R. Bernier

MRB/cmk  
Enclosure

**CERTIFICATE OF SERVICE**

I HEREBY CERTIFY that a true and correct copy of the foregoing has been furnished via electronic mail to the following this 17<sup>th</sup> day of December, 2018.

/s/ Matthew R. Bernier

Attorney

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**Duke Energy Report to the Florida Public Service Commission**

**Electric Vehicle Charging Station Pilot Program**

**December 2018**



## Table of Contents

Introduction .....	2
Summary of Installation Statistics/Costs through December 7, 2018 .....	4
Park & Plug Pilot - Overview of Program .....	4
Objective .....	4
Program Approach .....	4
Equipment Deployed and Approach for Installation .....	4
Site Host Acquisition .....	6
Transit Agency Coordination - Zero Emission Buses .....	6
Education and Outreach .....	7
Appendix A - Terms & Conditions of Participation .....	8
Appendix B - The EV Market in Florida and United States .....	9

**Introduction**

On November 20, 2017 the Florida Public Service Commission approved the Second Revised and Restated Settlement Agreement with Duke Energy Florida (DEF) that included a provision to allow DEF to initiate a Pilot Program to install, own and operate electric vehicle service equipment (EVSE) infrastructure within its service territory (EVSE Pilot). The Company will strategically install a foundational level of EV infrastructure in order to gather information about DEF customer charging behavior and grid impacts of increasing EV adoption within the five (5) year EVSE Pilot through December 2022. The EVSE Pilot Program prescribes installation of equipment across segments and equipment type as shown in table 1 below:

Table 1

Segment	Multi-unit dwellings (MUD)	Workplaces (WPC)	“Long dwell time” public locations	Highway corridors
EVSE Technology	Level 2	Level 2	Level 2	DC Fast Charging (DC FC)
Minimum ports to be deployed	<b>325 ports</b>	<b>100 ports</b>	<b>75 ports</b>	<b>30 Units<sup>1</sup></b>
Explanation/Locations	Apartments Condos Dormitories Installed in “Commons Areas”	small, medium and large sized businesses	Grocery, Restaurant Public Parking Museums	Interstate (I-4) Secondary (US19, US27)
<ul style="list-style-type: none"> <li>• 10% of total ports will be installed into income qualified areas defined by FL Statute Section 288.9913(3)</li> <li>• DEF shall coordinate with transit agencies to expand awareness of zero emission buses</li> </ul>				

The EVSE Pilot Program has been named Park & Plug (P&P). This first annual report from Park & Plug to the FPSC will provide program costs incurred and information on the utility’s efforts to build the program.

The bulk of year one for the EVSE Pilot has been the initial stage of the program or “start-up” phase. This phase is resource intensive as the program develops processes with key company stakeholders. In many cases EV charging infrastructure is a new concept for these stakeholders and traditional Company processes have to be adapted to the P&P program. The project team has developed the program processes from initial application through installation with all of the customer communications required along that installation path.

A limited set of charge session type metrics such as energy dispensed from equipment is included in this first FPSC program report. This charge session data is limited due to timing; the first installations were completed in September 2018 with few charge sessions recorded at the time of this report. Significant charging and grid related data will be captured and reported in 2019 as the number of network connected installed units rise.

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<sup>1</sup> The DC Fast units will have two connectors, Chademo & CCS Combo, to accommodate all fast charge capable vehicles.

**2018 P&P Milestone Activities**

- January/February 2018 – Select Equipment and Network provider via RFP process
- May 2018 - Contract negotiations and final agreement with NovaCharge and Greenlots
- April through July 2018- Program mechanics i.e. application process, craft Site Host Agreement, establish accounting processes, establish field engineering processes
- June 2018 - Launch of program, Applications of potential site hosts accepted
- September 2018 - First installation completed

**Near Term Outlook for Installations**

Launch of P&P program has been met with widespread interest among DEF customers; this interest correlates to recent market growth of and the increased public interest in EVs for personal transportation. P&P application activity shows the Public Level 2 ports are expected to be fully subscribed in the first half of 2019 followed by the WPC segment. While there has been strong interest in MUD, mostly from condominiums, that segment will require additional outreach effort to meet the minimum allotment of 325 ports. We anticipate the DC Fast charge segment will be the last segment completed as DC Fast charge units require higher power connections that are not as widespread as those required for Level 2 charging.

We forecast completed installations to climb rapidly through the first and second quarter of 2019.

**Application Highlights**

Municipality applications received - P&P is processing applications for multiple L2 and DC FC port installations from the following local governments: City of St Petersburg, City of Largo, City of Apalachicola, City of Perry, City of Deltona, City of Tarpon Springs, City of New Port Richey, Pinellas County Board of Commissioners, City of Clearwater, and City of Oviedo.

P&P has conducted outreach with several municipalities for applicants for the income qualified requirement for installations. There will also be applications that naturally fall into income qualified census tracts.

Conversations have been held with housing authorities from Pinellas county and some of the types of installations recommended include recreation centers, community centers and schools.

## Summary of Installation Statistics/Costs Through December 7, 2018

**Table 2 - Program Costs**

	MUD		WPC		Public L2		DCFC		
Capital Expenses	MUD	Per Port	Workplace	Per Port	Public L2	Per Port	DCFC	Per Unit	Total*
Capital Expenses	\$26,933	\$4,489	\$17,032	\$4,258	\$33,680	\$4,210	\$61,058	\$30,529	\$138,703
O&M Expenses	\$33,894	\$5,649	\$31,014	\$7,754	\$30,504	\$3,813	\$26,934	\$13,467	\$122,346
<b>Total Expenses</b>	<b>\$60,827</b>	<b>\$10,138</b>	<b>\$48,046</b>	<b>\$12,012</b>	<b>\$64,184</b>	<b>\$8,023</b>	<b>\$87,992</b>	<b>\$43,996</b>	<b>\$261,049</b>

\* Extended totals for each segment, not per port

**Table 3 -Charging Session Metrics**

Segment	Ports Installed	Ports Requested	# Sessions	kWh Dispensed
MUD	6	85	5	40.89
WPC	4	36	24	148.12
Public L2	8	82	63	354.1
DCFC	2	9	15	779
Income Qualified	0	6		
<b>Totals</b>	<b>20</b>	<b>218</b>	<b>107</b>	<b>1322.11</b>

## Park & Plug Pilot - Overview of Program

### Objective

The objective of the EV Charging Station Pilot Program is to install a foundational level of EV infrastructure within the DEF service territory in order to gather information about DEF customer charging behavior and grid impacts of increasing EV adoption.

DEF will annually report program metrics to the FPSC and initiate proceeding with FPSC in 2021 to determine if the program can become a permanent DEF program offer or to withdraw the program.

### Program Approach

#### Equipment Deployed and Approach for Installation

Park & Plug will install and operate “Smart Chargers” installed across the Duke Energy Florida service territory in the quantities shown in table 1. These Smart Chargers are units networked with cellular connections capable of remote operation that comply with open communications protocol OCPP 1.6. This communications protocol ensures interoperability between the charging station hardware and network management systems in order to mitigate the risk of stranded assets. All EVSE procured by P&P will also comply with the Open ADR standard. The Smart Chargers capture individual charge session

data<sup>2</sup> that is aggregated to the communications network, Greenlots.<sup>3</sup> DEF has 24/7 access to the Greenlots web portal to view unit status and download session data as needed.

**DEF Contractor** - Through an open RFP process, DEF conducted a competitive bid to secure a turn-key installation contractor for duration of the EVSE Pilot period. DEF chose NovaCharge,<sup>4</sup> a minority owned, Florida based company to provide equipment, installation services, communication network, and customer service support -

- NovaCharge represents various manufacturers of EVSE
- NovaCharge will be responsible for electrical work via Florida based-licensed electrical contractors
- NovaCharge will utilize the Greenlots network management web-based platform
- DEF will maintain a network agreement with Greenlots to access the program on-line portal for installed base of EVSE.
- Novacharge will provide manufacturer's extended warranties EVSE through at least the pilot period.
- Novacharge and Greenlots will provide 24-hour customer support to both DEF, DEF charging station customers and site hosts

**Network Communications** - All EVSE deployed will be connected to Greenlots communications network via cellular nodes within each EVSE. The communications network allows data collection, over-air management of units i.e. price configurations and ability to "push" unit software upgrades directly to the units. The Greenlots database captures data across the network at both individual unit level and across the entire P&P system to include but not limited to:

- Energy usage
- Revenue
- Number of driver sessions
- Charge sessions by time of day
- Total Charging time for charging sessions
- Number of unique user ID's

Park & Plug will make monthly reports available to site hosts so that they can monitor utilization and have data to inform their decisions to offer charging to drivers as an amenity or at cost to the EV driver.<sup>5</sup>

EV drivers will connect to the network via the Greenlots phone app, this phone app will allow users to:

- Find available units to charge
- Pay for sessions
- Have visibility into charging activity for their vehicle

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<sup>2</sup> No personally identifiable information is captured by Duke Energy.

<sup>3</sup> For more information <https://greenlots.com/>

<sup>4</sup> For more information on NovaCharge [www.novacharge.net](http://www.novacharge.net)

<sup>5</sup> The Greenlots network does not share Personally Identifiable Information.



Other phone apps available that will show the P&P stations are Plugshare.com and the Alternative Fuel finder on the website for the Department of Energy.

### **Site Host Acquisition**

The DEF service territory is widespread and non-contiguous. DEF will attempt to acquire site hosts that represent cross-sections of its service territory.

Our initial approach to build program awareness is to leverage present resources and supplement with targeted communications as necessitated by application need to fulfill PSC requirements within each segment. DEF has leveraged the following existing resources to build program awareness:

- Large Account Managers
- Small/Medium Business Managers
- Community Relations Managers
- Economic Development Managers
- Municipalities - Referrals for Low Income sites

**GIS Map Tool** - DEF GS services has created a GIS map with overlays that combines visibility into several key program data layers on one GIS map. Visibility of these layers provides the project team and DEF management at a glance views of the progress of the pilot study. Some of the layers on the GIS map include:

- Duke Energy Service Territory
- Low Income Census Tracts that meet FL Statute 2889913(3) for FLPSC settlement agreement
- Applied for locations across DEF service territory
- Existing charging stations
- Pilot program applied for sites
- Evacuation Routes

### **Transit Agency Coordination - Zero Emission Buses**

DEF has engaged the Pinellas Suncoast Transit Authority (PSTA) to align with PSTA's path forward to grow electric transit buses within their fleet. DEF and PSTA will work together to advance E Buses through direct investment and through strategic planning discussions that align PSTA's load requirements for additional E buses with DEF system planning.

Through a grant in 2018 PSTA received two fully electric BYD buses. To support charging these two E buses PSTA purchased two BYD 80KW DC Fast units that are installed at the main PSTA bus depot at 3201 Scherer Dr in St Petersburg, FL. The BYD chargers are proprietary units<sup>6</sup>, to place them into the Park & Plug program DEF and PSTA negotiated an agreement that requires PSTA to provide DEF with charging data on the two BYD depot units to characterize charging loads for the E Buses.

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<sup>6</sup> For all other installations of DC Fast, Park & Plug will use DC Fast chargers that have the industry standard connectors, Chademo and CCs Combo.

This is a partnership that DEF and PSTA can leverage to proactively prepare the system for the growth of additional E bus assets.

## Education and Outreach

P&P has developed a framework for outreach and education across multiple media types. The primary focus of the outreach/education will be overall awareness of the benefits of electric drive as a reliable, safe and economical method of personal transportation. It is consensus opinion in the market and has been since 2011 that Education/Awareness is still the number one barrier to EV adoption.

*A recent survey found that what's stopping car buyers from choosing electric vehicles is the perceived lack of charging stations, something 85% of respondents mentioned, followed by the high costs (83%), and concerns over the range (74%).*

*That's unsurprising, but what is more surprising is that those are not actually the main issue slowing down electric vehicle adoption. According to the same survey, 60% of the more than 2,500 American drivers surveyed said they were "unaware of electric cars". Source: Electrek.com, Jan 2017*

P&P will craft the creative messages to begin in 2019 and below is the initial draft budget that is heavier in spend over 2019 through 2020. This budget is subject to adjustment based on market feedback from the creative outreach/education efforts.

P&P Media Budget			
Communication Method	2019	2020	2021
Streaming Audio	\$ 57,991	\$21,000	\$ 23,000
Out of Home (Digital Billboards)	64,534	29,000	25,000
Paid Social Media	75,000	15,000	18,700
Paid search and YouTube	37,000	12,000	10,000
Community Events	5,000	4,000	3,000
<b>Totals</b>	<b>\$ 239,525</b>	<b>\$ 81,000</b>	<b>\$ 79,700</b>

## Appendix A - Terms & Conditions of Participation

### General Terms & Conditions

- Duke Energy will provide the equipment, installation, warranty and network connection services free of charge through December 2022 of the pilot program
- Site hosts will be responsible for the cost of electricity used by the charging station
- Site hosts can provide stations under two options:
  - Option 1: As an amenity to drivers
  - Option 2: Charge a fee to the driver enabled by a smartphone or RFID card

### To participate as a Park & Plug site host, you must:

- Be a current Duke Energy customer in Florida
- Agree to participate in the program through December 2022
- Site hosts agreement required
- If required, agree to establish a separate account, meter, and be responsible for ongoing tariff charges (Duke Energy will install the new meter at no cost)
- Meet site location requirements
- Safe, well-lit area
- Paved
- Adequate ingress/egress
- Adequate power in close proximity to chosen site
- Provide one parking space per charging port
- Provide non-discriminatory access to EV charging spots

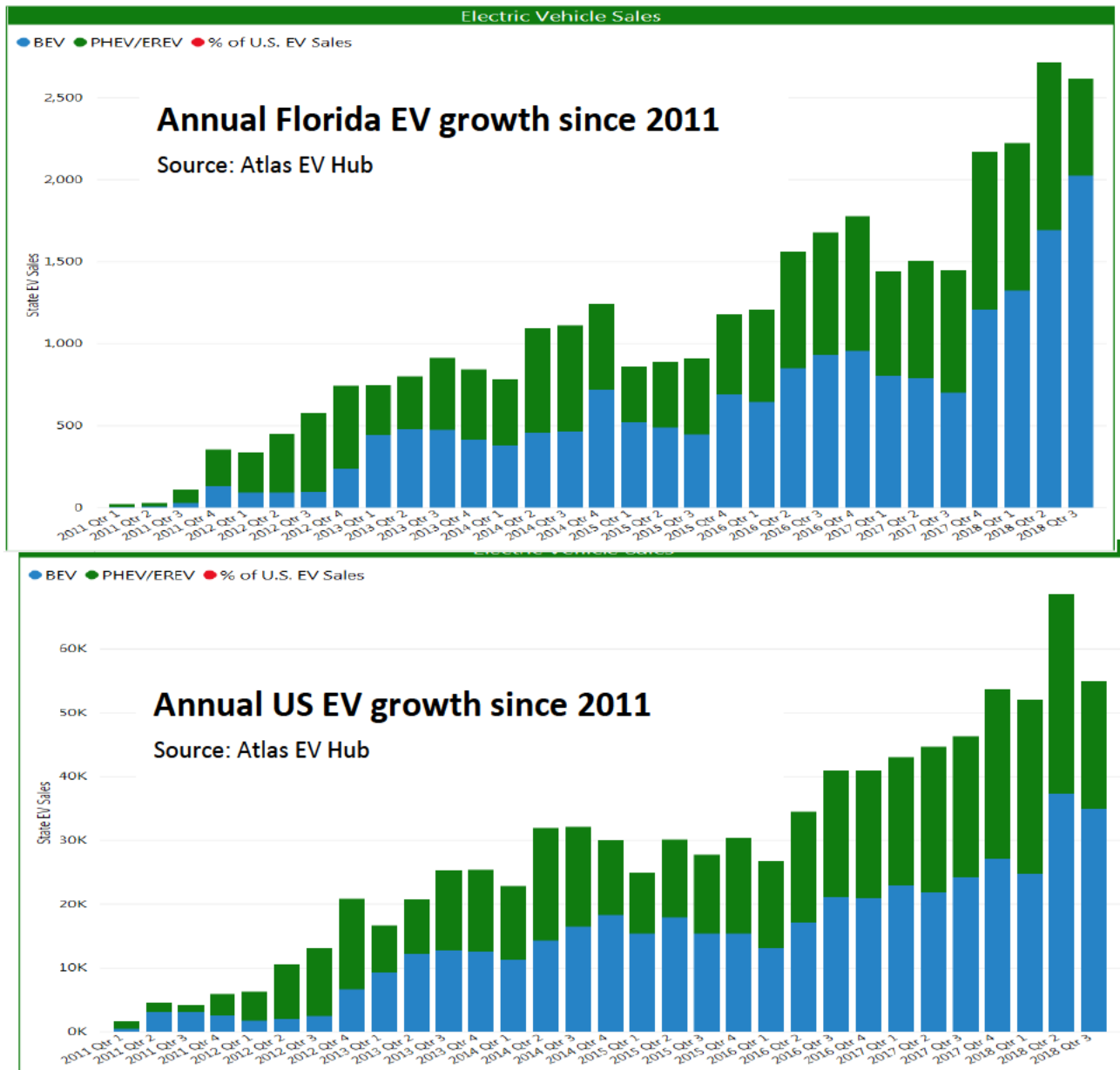
### Duke Energy will evaluate applications for site hosts that meet minimum participation requirements, along with additional qualitative factors, including:

- Potential for high utilization
- 10% of charging stations will be installed in income-qualified communities, as defined by Florida statute
- For public installation, proximity to amenities for the EV driver will be given preference

**Duke Energy reserves the right to refuse applications that may not meet the intent of the pilot program**

## Appendix B - The EV Market in Florida and United States

- Number of EVs<sup>7</sup> registered in DEF service territory 2017 = 1,212
- Number of EVs registered in DEF service territory through August 2018 = 2208 (82% increase over 2017)
- Number of registered EVs in Florida = 34,352



<sup>7</sup> EVs include both plug-in hybrid and all electric.