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December 18, 2020

VIA ELECTRONIC FILING

Adam J. Teitzman, 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 Mr. Teitzman:

Enclosed for filing on behalf of Duke Energy Florida, LLC ("DEF") is DEF's Electric Vehicle Charging Station Pilot Program – 3rd Annual Report (December 2020), in accordance with Paragraph 17.f.ii of the 2017 Second Revised and Restated Settlement Agreement, which was approved in Order No. PSC-2017-0451-AS-EU, dated November 20, 2017.

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/cmw
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 18th day of December, 2020.

/s/ Matthew R. Bernier

Attorney

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Duke Energy Florida, LLC
Electric Vehicle Charging Station Pilot Program
3rd Annual Report

December 2020



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EXECUTIVE SUMMARY

Program Background

On November 20, 2017 the Florida Public Service Commission (“FPSC”) approved the 2017 Second Revised and Restated Settlement Agreement (“2017 RRSSA”) 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). DEF will strategically install a foundational level of EV infrastructure 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 and includes the April 2019 FL PSC approval for reallocation of ports (note there was no change to overall minimum number of 530 ports).

Table 1 – FL PSC Segments

Segment	Multi-unit dwellings (MUD)	Workplaces (WPC)	Public Level 2 Long Dwell Level 2	DC Fast Charge
EVSE Technology	Level 2	Level 2	Level 2	DC Fast Charging
Initial Minimum Allocated Ports	325 ports	100 ports	75 ports	30 Units¹
Revised Minimum Ports	210 ports	140 ports	130 ports	50 units
Explanation/Locations	Apartments Condominiums Dormitories Installed in “Commons Areas”	Small, medium and large sized businesses	Grocery, Restaurant Public Parking Museums	Interstate (I-4) Secondary (US19, US27) Evacuation Routes
<ul style="list-style-type: none"> • 10% of total ports will be installed into Income Qualified (IQ) areas defined by FL Statute Section 288.9913(3) • DEF shall coordinate with transit agencies to expand awareness of zero emission buses 				

¹ The DC Fast Charge units will have two connectors, CHAdeMO & CCS Combo, to accommodate all fast charge capable vehicles.

Summary Program Year 2020

Branded as Park & Plug (P&P), the EVSE Pilot continued to make progress towards reaching the minimum installed port goals for each segment after finishing 2019 with a total of 341 ports installed. P&P completed installations of the overall minimum port requirement of 530 ports in 2020. This progress was achieved despite impacts from COVID-19, installation activity was curtailed from the end of March through end of June – when DEF established stringent COVID-19 protocols to resume installation work. The 2020 year-end results are shown in Table 2 below:

Table 2 – Incremental Installation Progress Through 2020 (as of 11/30/2020)

Port Installation Status Through 2020					
Segment	Min port install Requirement	# port Installs end 2019	# port Installs 2020	Total port Installs	Remaining ports for segment minimums
MUD	210	116	74	190	20
Workplace	140	101	45	152	0
Public L2	130	109	53	162	0
DC Fast Chargers	50	15	21	37	13
Totals	530	341	193	541	33

Low-Income installations – 83 of 53 minimum required ports installed as of year-end 2020.

As shown in Table 2, P&P has achieved minimum port goals in the Workplace and Public L2 segments. MUD and DC Fast Charger segments are fully subscribed to the minimum port goals and P&P expects to meet those installed segment goals by year-end 2020 or early in first quarter of 2021. By the end of the third quarter of 2020, P&P had acquired enough applications to fulfill the minimum port requirements and subsequently closed the program to new applications. All remaining ports for installation have signed site host agreements that permit the installation to proceed to completion.

2020 produced the second full year of program data. The data shows charger utilization was affected by COVID-19 beginning in mid-March 2020; the program logged a low of 1,378 charge sessions in April, down from just over 4,000 sessions in January. As of the end of November 2020, charging sessions have recovered to about 80% of the January 2020 high-water mark, as shown in Table 3 below. COVID-19 impacts are most visible in the Workplace segment, which made up the majority of charging sessions before March and remains below 50% of pre-COVID levels as many companies continue remote working protocols. The Public Level 2 segment has almost regained pre-COVID levels, while the MUD and DCFC segments have exceeded those levels, as shown in Table 4 below.

Table 3 – System wide utilization in number of charging sessions last 12 months

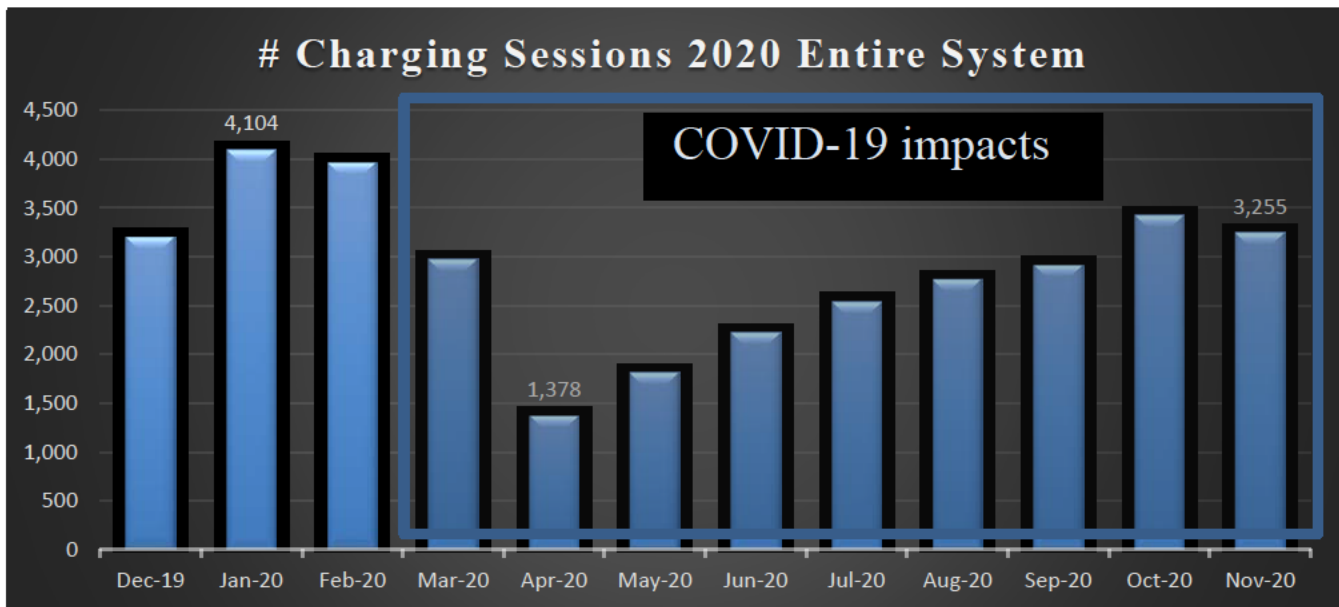
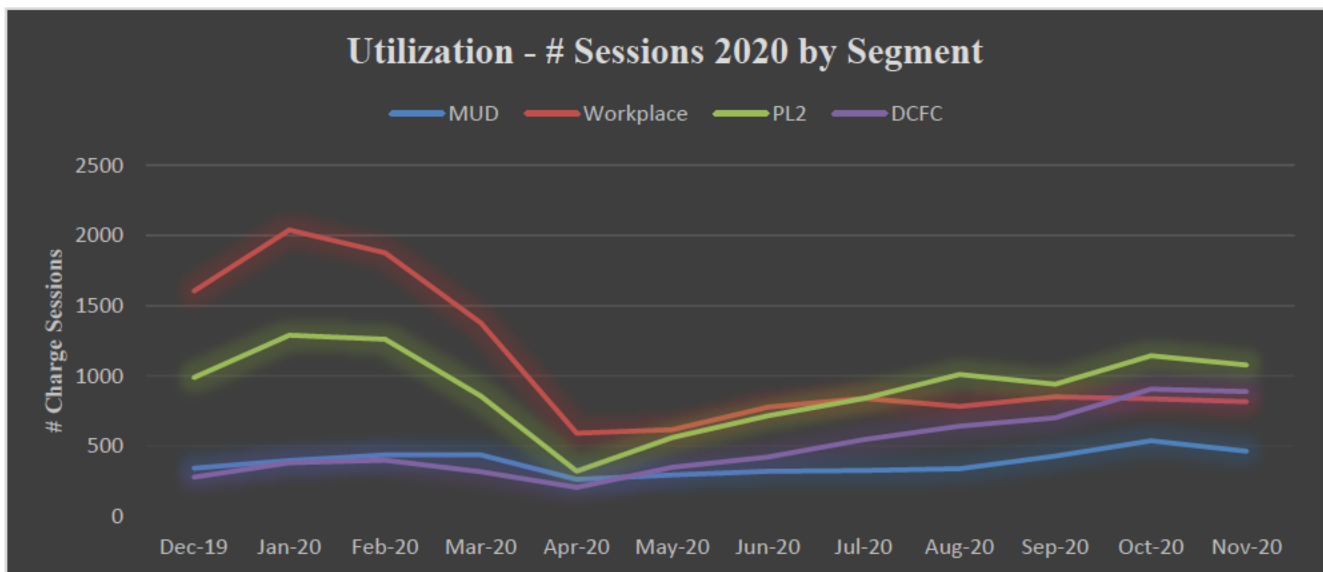


Table 4 – System wide utilization in number of charging sessions by segment last 12 months



Summary of installation Statistics/Costs

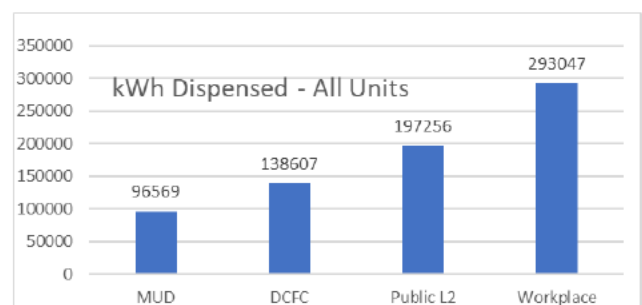
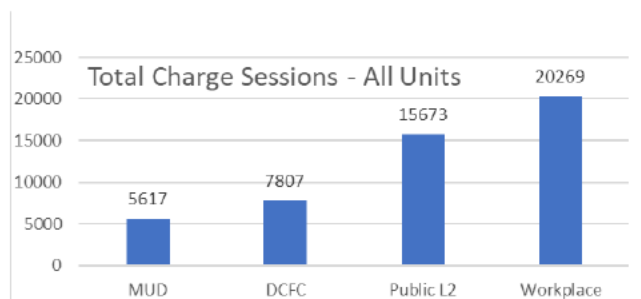
Table 4 - Port Installations/Invoiced Costs by Installation Contractor through November 2020

Level 2	# Ports	Capital	Capital/Port	O&M	O&M/Port	Total Cap+OM	Total/Port	*IQ Ports
MUD	190	\$1,033,909	\$5,441	\$334,400	\$1,760	\$1,368,309	\$7,201	10
WPC	152	\$869,074	\$5,717	\$267,520	\$1,760	\$1,136,594	\$7,477	26
Pubic Level 2	162	\$953,120	\$5,883	\$285,120	\$1,760	\$1,238,240	\$7,643	43
Total Level 2	504	\$2,856,103	\$5,666	\$887,040	\$1,760	\$3,743,143	\$7,426	79
DC Fast Charge	# Ports	Capital	Capital/Port	O&M	O&M/Port	Total Cap+OM	Total/Port	IQ Ports
DC Fast Charge Units	37	\$1,651,582	\$45,872	\$60,180	\$1,671	\$1,711,762	\$47,549	4
Total	541	\$4,507,685	N/A	\$947,220	N/A	\$5,451,905	N/A	83

*Income Qualified (IQ) Goal is 10% (53) of total 530 ports

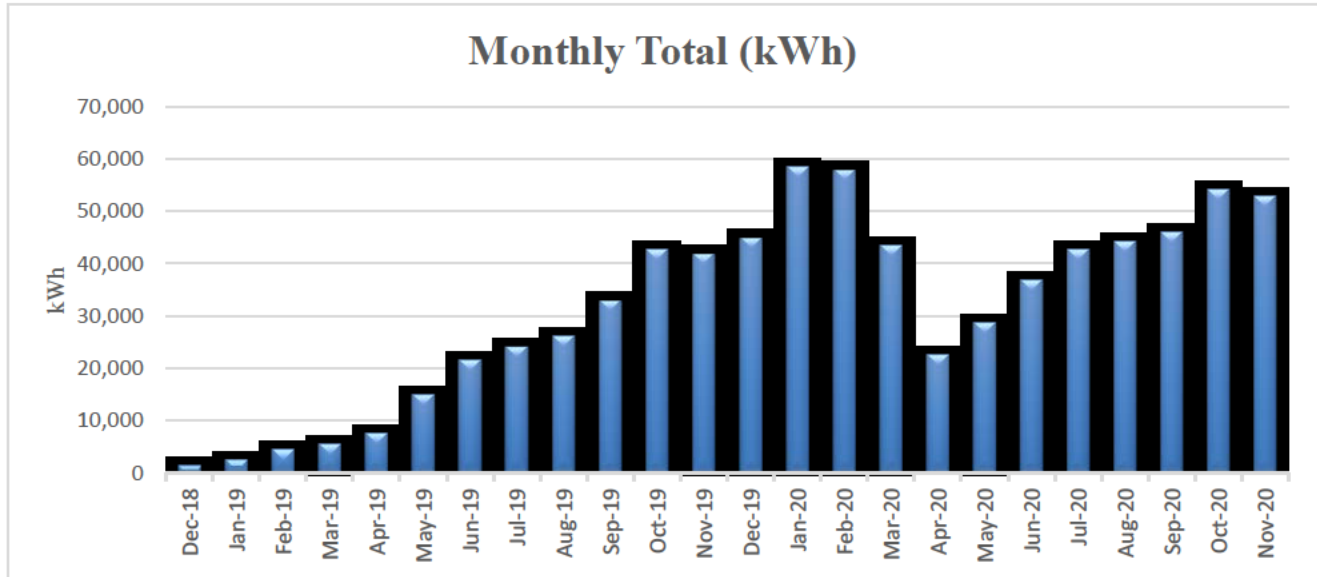
Table 5 – Charging Session Data October 2018 Through November 2020

Segment	# Ports	# Charging Sessions				kWh Dispensed			
		All	Pct of All	Income Qualified (IQ)	Pct of IQ	All	Pct of All	Income Qualified	Pct of IQ
MUD	190	5,617	11%	1123	14%	96,569	13%	19,313	15%
WPC	152	20,269	41%	2030	25%	293,047	40%	32,235	25%
Public Level 2	162	15,673	32%	4,074	50%	197,256	27%	63,121	50%
DC Fast	37	7,807	16%	849	11%	138,607	20%	12,560	10%
Totals	541	49,366		8076		725,479		127,229	

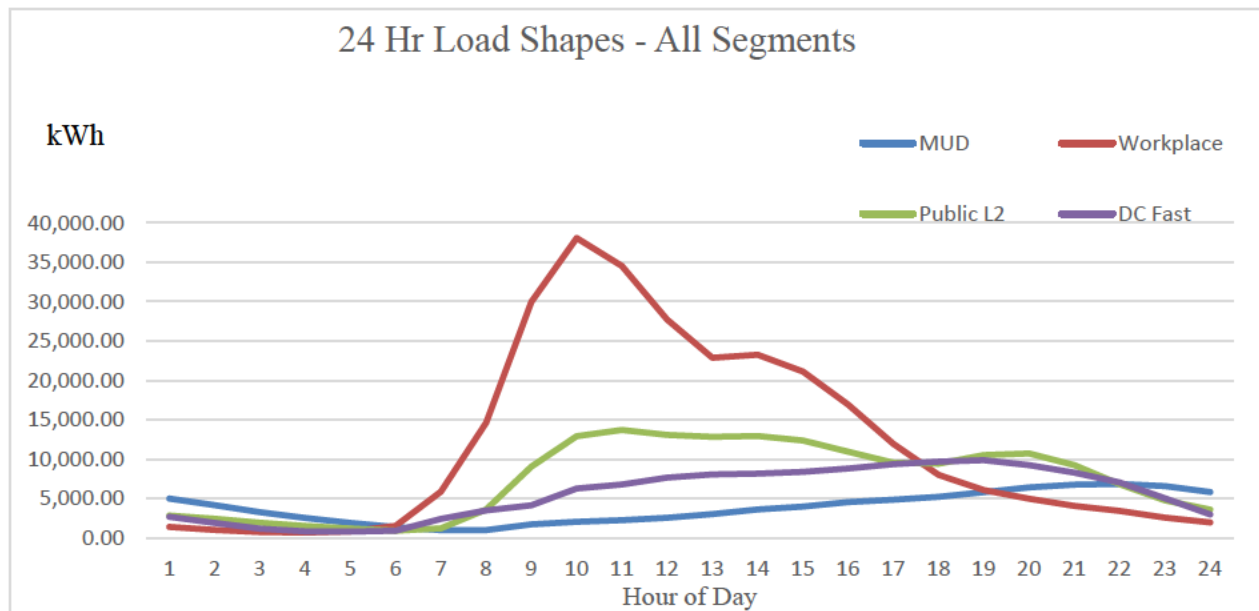


Overall System Utilization

The graph below shows monthly kWh growth of system-wide energy utilization as installations occurred since program start.



The graph below shows total hourly load by segment. This baseline from the first year of P&P shows that Workplace and Public L2 charging both peak in the morning while DC Fast Charge and MUD charging peak later in the afternoon or evening.



PARK & PLUG PILOT 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 to gather information about DEF customer charging behavior and grid impacts of increasing EV adoption.

Program Approach

Equipment Deployed and Approach for Installation

P&P will install and operate “Smart Chargers” across the DEF service territory in minimum quantities shown in Table 1 (p. 2, above) and within the \$8 million capital budget specified by the 2017 RRSSA. These Smart Chargers are units networked with cellular connections capable of remote operation that comply with Open Charge Point Protocol 1.6 (“OCPP 1.6”). This communications protocol ensures interoperability between the charging station hardware and network management systems to mitigate the risk of stranded assets. All EVSE procured by P&P will also be capable of communication via Open ADR. The Smart Chargers capture individual charge session data² that is aggregated by the Greenlots network.³ 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 selected NovaCharge,⁴ a minority owned, Florida based company to provide equipment, installation services, communications networking, and customer service support.

Network Communications - All EVSE deployed is connected to the Greenlots communications network via cellular nodes within each EVSE. The communications network allows data collection and remote management of units (i.e., price configuration, charging load management, and ability to “push” unit software upgrades). The Greenlots database captures data across the network at both individual unit level and segment level across the entire P&P system.

Park & Plug will provide monthly usage reports to site hosts to monitor utilization and inform their decisions to offer charging to drivers as an amenity or at cost to the EV driver.⁵

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

- Find available units to charge
- Enable charging sessions at the charging station

² No personally identifiable information (PII) is captured by DEF.

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

⁴ For more information on NovaCharge, visit www.novacharge.net.

⁵ The Greenlots network does not share PII.

- Pay for sessions⁶ (if applicable)
- Have visibility into charging activity for their vehicle
 - View charging sessions in real time
 - View billed amount, if applicable, for each session
 - View history of charging activity on Park & Plug network

Other phone apps available that will show the P&P stations include Plugshare.com, 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 has acquired site hosts that represent the full spectrum of its service territory. See Map of installed locations in Appendix C.

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

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

Note: By the end of the 3rd quarter of 2020, P&P had acquired enough applications to fulfill the minimum port requirements, subsequently, it closed the program for all new P&P applications.

GIS Map Tool - DEF GS services created a GIS map with overlays that combines visibility into several key program data layers. Visibility of these layers provides the project team a guide for site host selection. Some of the layers on the GIS map include:

- DEF Service Territory
- Low-Income Census Tracts that meet Section 288.9913(3), F.S., per the FL 2017 RRSSA
- P&P Applicants for locations across DEF service territory
- Existing charging stations
- Evacuation Routes

⁶ DEF established the FPSC approved prevailing GS-1 Flat rate as driver charge for those site hosts that elect to charge drivers for charging sessions.

Program Segment Observations – 2020

Multi-Unit Dwelling (“MUD”)

The MUD segment installations increased through second half of 2019 and continued through 2020. Increased interest of MUD applicants resulted from a concerted outreach effort of direct contact to MUD customers.

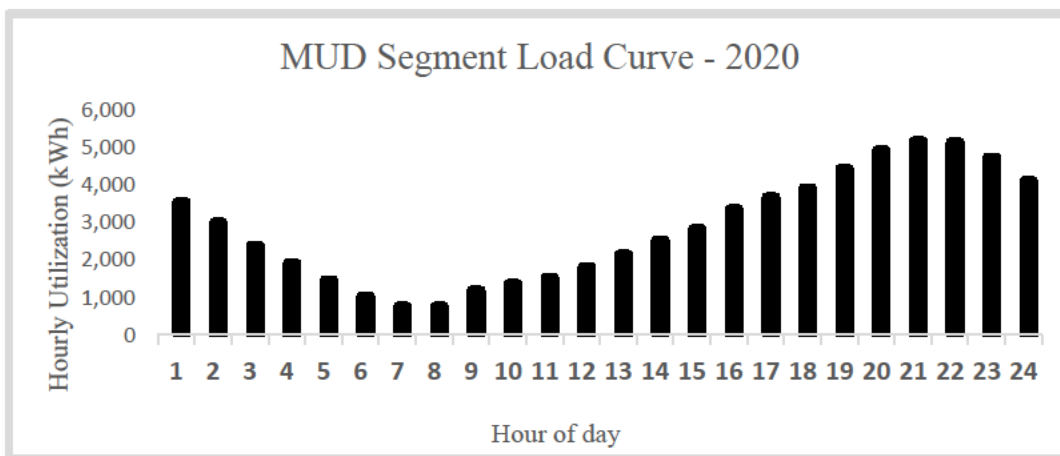
The majority of MUD site hosts who applied to the program were condominiums that involved locally elected condominium board associations in the decision-making process. Condominium parking arrangement heavily dictates both the placement and the number of EV charging ports available to each site host; this is particularly true when parking spots are deeded to owners. When spots are deeded to owners, there are typically only a few “Commons Area” parking spots potentially available for EV charging stations. Deeded or not, Commons Area parking is still very limited in MUD segment.

P&P has seen a higher percentage of condominium installs elect to charge the drivers for their usage due to limited budgets condominium associations have to meet increased electricity demand from EV chargers.

P&P has also installed MUD infrastructure into apartment complexes. Typically, apartments are owned by management firms and approvals generally flow through a central corporate structure. This process of approvals differs from condominiums and their individual board associations.

Because new stations were added to the network over the course of the year, DEF represents the load curve by showing the total hourly utilization over the course of the year in the graph below (11/1/2019-10/31/2020). The load curve for the MUD segment shows a typical residential load profile with a peak in the evening during the 9:00PM hour as residents return home from work or travel and plug in to recharge.

- MUD 190 Ports across 60 individual sites installed
- MUD Ports charging drivers for use – $106/190 = 56\%$



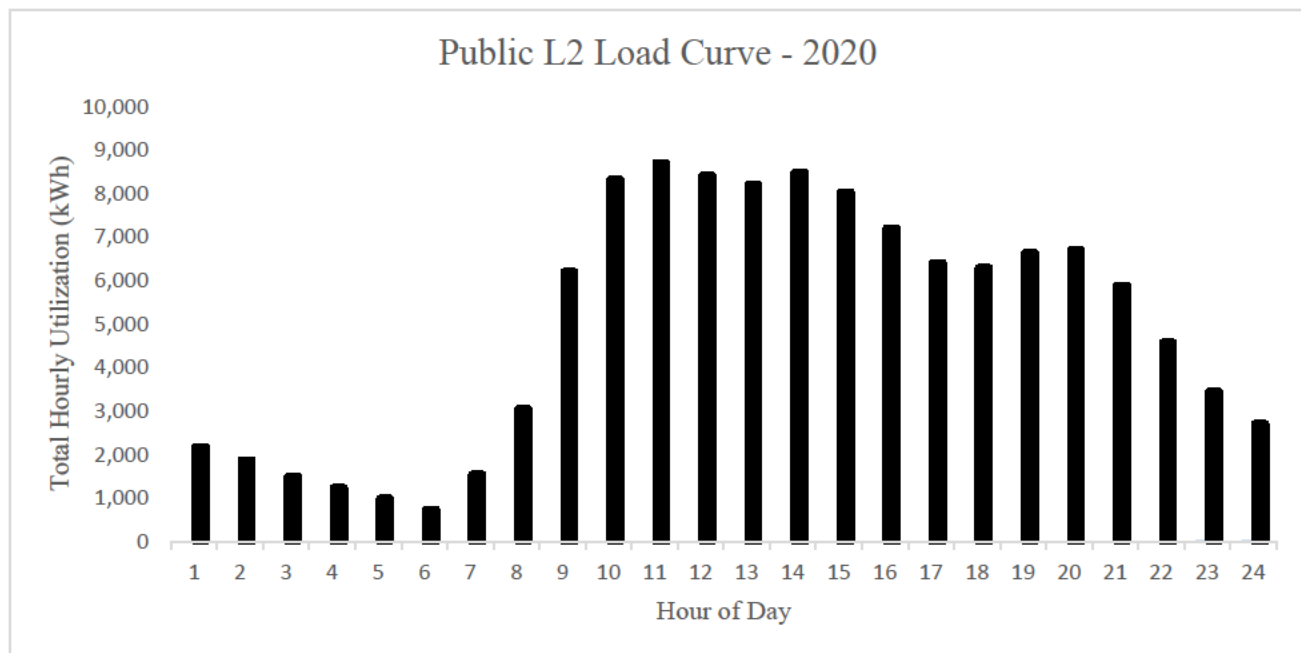
Public Level 2 (“PL2”)

Interest in PL2 charging remains very high. PL2 is popular due to having more available sites that lend themselves to longer dwell time charging locations such as: municipal parking garages, hotels, and museums. P&P satisfied the minimum installed port goal in the third quarter of 2020.

Limited Parking available to convert to EV – Parking is at premium within the core of many municipalities. This limited parking presents challenges to obtain multiple EV spots to support public EV charging needs. The P&P program did have success with multiple port installs within municipal parking garages.

The P&P load curve for PL2 shows a steady load during normal business hours from 9am to 3pm with only a slight decrease into the evening, as public garages typically stay open past 5pm and other PL2 sites may be street parking that cater to local business operations in the area (e.g., restaurants). Usage does not decrease significantly until after 9pm into the overnight hours.

- PL2 162 Ports across 74 individual sites installed
- PL2 Ports charging drivers for use – 81/162 = 50%



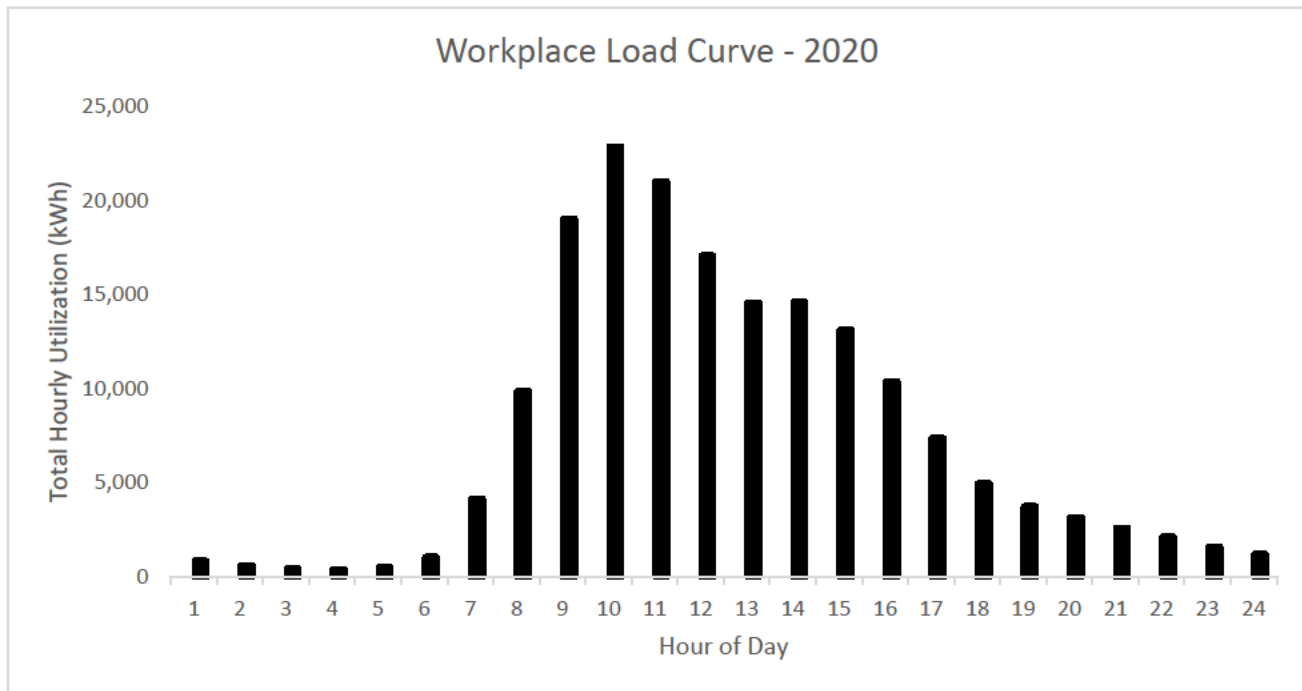
Workplace

The Workplace Charging (“WPC”) segment also reached minimum port goal requirements by the third quarter 2020. P&P has installed WPCs across businesses of all sizes, ranging from a few employees to hundreds of employees.

While WPC was the largest component of P&P utilization pre-COVID, this segment has been slowest to recover utilization since the beginning of the shift to remote work in Mid-March.

The WPC load curve shows higher usage during first half of normal workday as drivers plug in when they arrive at the workplace and starts to taper off after 10am as EV batteries reach capacity. In 2021, DEF anticipates performing demand response activities potentially aimed at the peak area of the workplace load curve (e.g., one scenario would be to reduce unit KW dispensed and study grid as well as customer impacts). (DEF anticipates development of additional Demand Response Use cases related to other segments).

- Workplace installed 146 Ports across 44 individual sites
- Workplace Ports charging drivers for use – $47/152 = 31\%$



DC Fast Charge

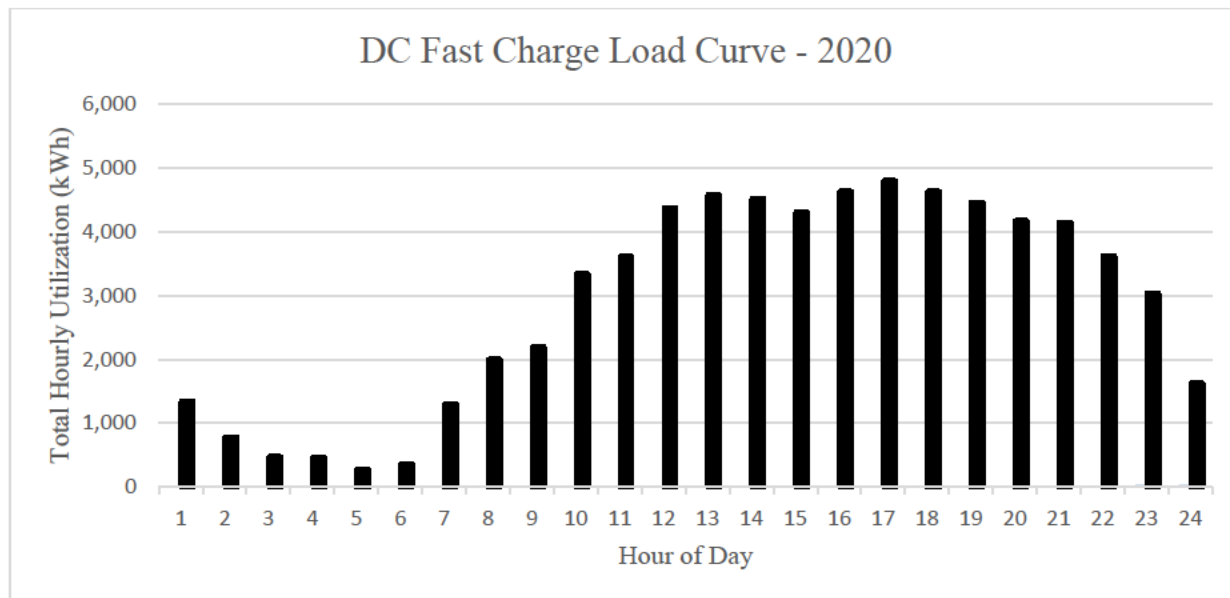
The P&P program installed 21 additional DC Fast Chargers in 2020 and utilization has steadily increased in spite of the COVID-19 pandemic. The number of charging sessions has nearly doubled YTD versus 2019 and continues to support the ability of customers to drive electric vehicles across DEF’s service territory where there were previously particularly large gaps in access to DC Fast Charging.

P&P has found success with DC Fast Charge installation at hotel chain locations as well as locally owned shopping areas. Constraints of the pilot agreement (i.e., allowable fee to charge drivers), prevented national chains from participating as they look to capture marginal revenue on charging infrastructure.

The P&P driver charge allows the site host to break even on electricity charges versus setting the fee to realize a marginal increase (gain) over electricity charges.

Another successful source for P&P DC Fast Charge siting has been within the core areas of municipalities where the units serve multiple needs of drivers from visitors to MUD residents. The average load curve shown below reflects relatively steady utilization on average over the course of the day from 12 to 9pm, dropping to lower levels of utilization in the overnight hours.

- DCFC installed 37 Ports across 23 individual sites
- DC Fast Units charging drivers for use – $15/37 = 40\%$



Major and Key Secondary Corridor P&P DC Fast Charge Installations:

P&P has also successfully connected many key evacuation routes and tourism corridors where there was previously no availability of EV fast charging (see map Appendix C).

US 19/98 Corridor – P&P has installed DC Fast Charge units in Apalachicola, Dunedin, Crystal River, and Perry to connect this official scenic Florida corridor with DC fast chargers. In addition, P&P DC Fast Charger installs provide coverage of a key Florida secondary corridor evacuation route and begins to address EV charging needs for evacuation routes beyond major interstates.

US 27 Corridor – DC Fast Charge units placed in Sebring, Avon Park, Davenport at I4, and Cagan’s Crossing just south of Clermont. US 27 is another key Florida secondary corridor and evacuation route.

I-4 Corridor – Deltona, Celebration, Championsgate, and intersection of US 27 Davenport.

Florida Turnpike & US 301 – Installation of two DC Fast Charge units at Wildwood and the City of Zephyrhills. DEF is close to agreement with the Florida Turnpike Enterprise and their service plaza management firm, Areas, to place high power (150KW) units in the Turkey Lake and Canoe Creek service plazas.

Urban DCFC Installs – P&P has installed DC Fast Charge units within urban areas of some of our municipalities with great success, including the City of Largo Performing Arts Center and USF St. Petersburg, both of which have seen very high utilization. These urban DCFC serve multiple types of EV drivers including those without access to home charging as well as travelers and tourists visiting urban areas.

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 transit buses manufactured by BYD⁷ and will receive another four BYD electric buses by end of 2020. To support charging these four E buses PSTA purchased two 80KW DC Fast Charging units that are installed at the main PSTA bus depot at 3201 Scherer Dr. in St Petersburg, FL. P&P will fund the expansion of an additional four depot chargers to support the new buses. The chargers for these buses use a proprietary connector standard.⁸ In exchange for funding the purchase and installation of these E-bus chargers, DEF and PSTA negotiated an agreement that requires PSTA to provide DEF with charging data from the four BYD depot units.

P&P has collected one year of data on the PSTA buses, though the second bus was placed in on-route service in mid-2020. Below is charging data for the two PSTA electric transit buses operational in 2020. The initial data indicates substantial cost and emissions savings associated with the buses. DEF is working with PSTA to produce a more robust analysis of the savings for future reports.

Table 6 – E Bus Statistics Dec 2018 through Nov 2020

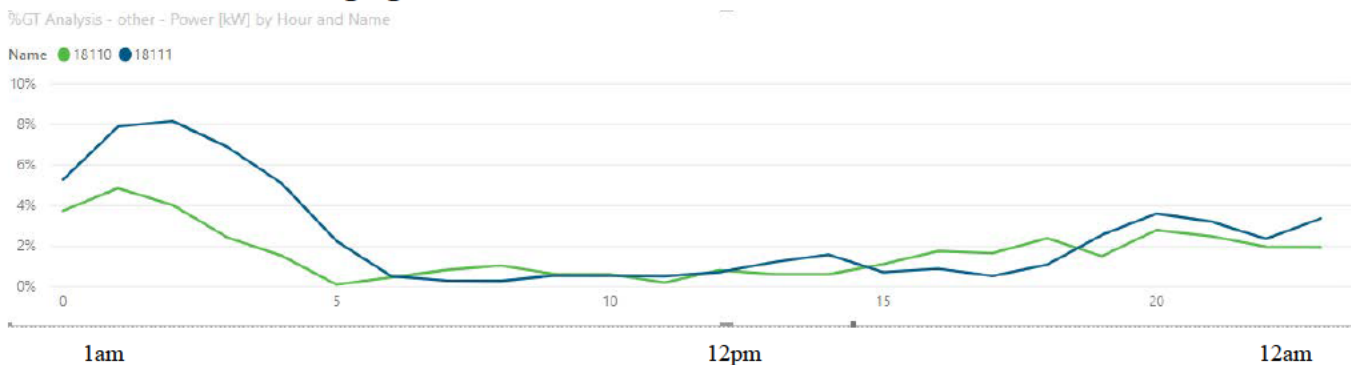
Total Miles Driven	kWh from charging	Equivalent Gals of Diesel (5 mpg average)
75,224	113,440	15,044

Cost of Electric \$ 14,747

Equivalent Diesel Cost \$ 28,284

Savings \$ 13,537

PSTA Electric Bus Charging Load Curve



⁷ BYD is the electric bus manufacturer.

⁸ For all other installations of DC Fast, Park & Plug will use DC Fast chargers that have the industry standard connectors, CHAdeMO and CCS Combo.

EDUCATION/OUTREACH

Due to the COVID-19 pandemic, 2020 has been difficult year to conduct EV outreach activities, with the bulk of events held prior to March 2020. As a result of social distancing, outreach events for the program have shifted to social media and digital ad formats when possible. The program has developed plans for 2021 outreach spend that will satisfy the remaining investment in this pilot requirement.

Table 7 – Outreach Spend 2020

Communication Method	2018 Actuals	2019 Actuals	2020 Actuals	2021 Forecast	Forecast Totals	Actual Totals
Streaming Audio	0	\$21,580	0	\$ 44,000	\$65,580	\$21,580
Out of Home (Digital Billboards)	0	\$14,664	\$42,630	\$11,370	\$68,664	\$57,294
Paid Social Media	0	\$62,006	\$23,069	\$36,645	\$121,720	\$85,075
Paid search and YouTube	0	\$29,236	0	\$47,000	\$76,236	\$29,236
Community Events	\$2,500	\$5,300	\$30,934	\$29,066	\$67,800	\$36,234
Totals	\$2,500	\$132,786	\$96,633	\$168,081	\$400,000	\$229,419

- Actuals through October 31, 2020.
- Outreach budget is up to \$400,000 per the 2017 RRSSA.

Outreach Events in 2020

- January 15, 2020 - Martin Luther King Day Parade and event downtown St Petersburg and Tropicana Field – an example of social equity outreach to the community.
- February 27, 2020 - Lunch & Learn and Ride & Drive event at major employer in St Petersburg – attended by 60 employees with over 60 EV test drives.
- August 11, 2020 - Site Host Webinar provided as mid-program check in for all P&P site hosts.

Appendix A - Terms & Conditions of Participation

General Terms & Conditions

- DEF 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, one must:

- Be a current DEF customer
- 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 (DEF 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

DEF 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

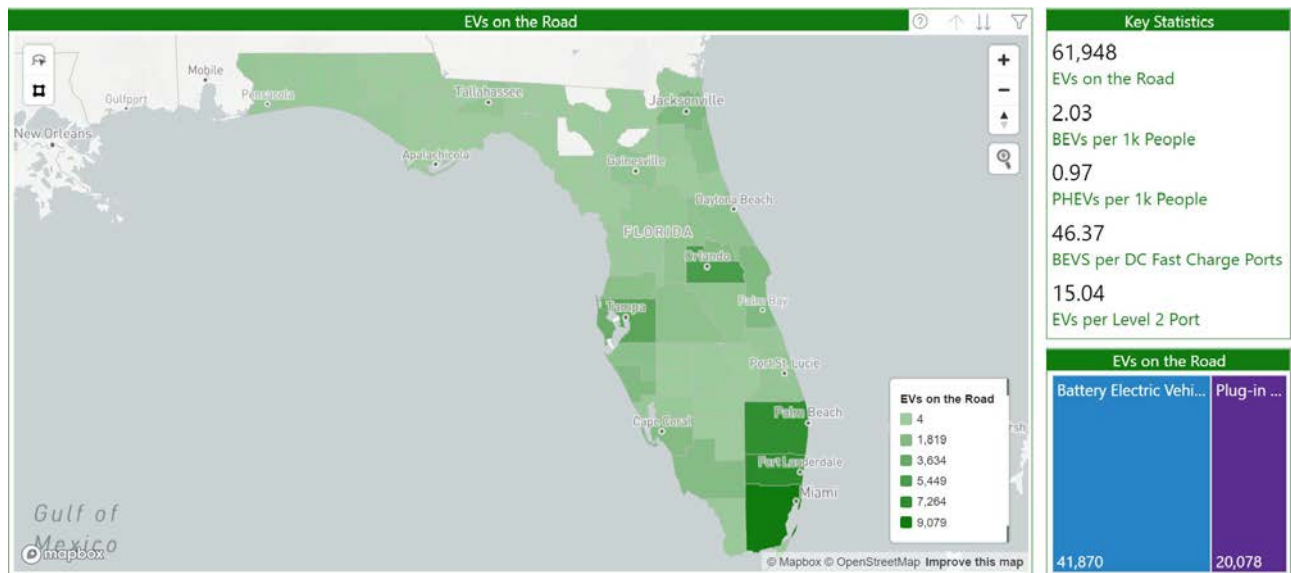
DEF reserves the right to refuse applications that may not meet the intent of the pilot program

Appendix B - The EV Market in DEF Territory and Florida

- Number of additional EVs⁹ registered in DEF service territory:
 2017 = 1,212 2018 = 1,595 2019 = 1,929 2020 = 1,625
 Registrations added each year in service territory

Florida EV Registration Data

Source: Atlas EV Hub



⁹ EVs include both plug-in hybrid and all electric vehicles

Appendix C – Map of Installed Park & Plug Locations - Municipalities

City/County Site Hosts	
Apalachicola (DC Fast Charge)	Monticello
Apopka	Oviedo (DC Fast Charge)
Clermont	Pinellas County Board Commissioners
Crystal River (DC Fast Charge)	Perry (DC Fast Charge)
Deltona (DC Fast Charge)	Safety Harbor
Dunedin (DC Fast Charge)	Sebring (DC Fast Charge)
Haines City	St Petersburg (DC Fast Charge)
Inverness	Tarpon Springs
Lake County (DC Fast Charge)	Tavares
	Zephyrhills

