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April 2, 2020

Via Electronic Filing

Ms. Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120

Re: Duquesne Light Company's EV ChargeUp Pilot Annual Report
Docket No. R-2018-3000124

Dear Secretary Chiavetta:

Pursuant to Paragraph 45(f) of the *Joint Petition for Approval of Settlement Stipulation*, approved in relevant part by the Pennsylvania Public Utility Commission by Order entered December 20, 2018 at the above-captioned docket, please find enclosed for filing Duquesne Light Company's EV ChargeUp Pilot Annual Report for the period January 1, 2019 through February 29, 2020.

Should you have any questions, please do not hesitate to contact me.

Respectfully Submitted,

Michael Zimmerman
Senior Counsel, Regulatory

Enclosure

EV ChargeUp Pilot Annual Report
January 2019 – February 2020

April 2, 2020

Introduction

Duquesne Light Company (the "Company") hereby submits this Report pursuant to the *Joint Petition for Approval of Settlement Stipulation* ("Settlement"), approved in relevant part by the Pennsylvania Public Utility Commission by Order entered December 20, 2018 at Docket No. R-2018-3000124 ("Settlement"). Settlement ¶ 45(f) provides that the Company will submit an annual report concerning the Company's implementation of the EV ChargeUp Pilot ("Pilot"), including: (a) charging infrastructure deployed over time, including by location, and activation date; (b) charging infrastructure installation costs by site type (broken out by capital and rebate costs); (c) for all charging stations deployed, the usage rate by site type and charger type; and (d) estimated avoided emissions resulting from the programs.

The Company's EV ChargeUp Pilot commenced on January 1, 2019. This Report covers the period January 1, 2019 through February 29, 2020.

Charging Infrastructure Deployment

Level 2 Charging Station Evaluation

The Pilot has deployed 49 Level 2 dual-port charging stations (98 plugs) at nine publically-accessible customer sites. Each site included a minimum of four Level 2 dual port charging stations. Table 1 indicates the date of site electrification for each of the Level 2 charging station evaluation sites.

Table 1: Level 2 Charging Station Evaluation (as of 2/29/2020)

Customer Site	Site Electrification Date	Number of Plugs	DLC Installation Costs (Up to and Including Meter)	DLC Installation Costs (Rebate)	Electricity consumed (kWh)	CO_2 Avoided (Tons)
1	10/11/2019	16	$977	$69,149	2,116	2.49
2	11/20/2019	10	$1,572	$18,650	1,393	1.64
3	12/19/2019	8	$1,545	$52,819	2,511	2.96
4	12/30/2019	8	$1,627	$32,342	2,153	2.54
5	12/30/2019	8	$624	$24,056	685	0.81
6	1/14/2020	8	$1,872	$55,514	3,017	3.56
7	1/14/2020	8	$2,103	$29,550	496	0.58
8	1/21/2020	8	$1,959	$32,740	203	0.24
9	2/28/2020*	24	$343	$100,000	0	0

**Charging stations installed but site not yet electrified*

This table depicts only Duquesne Light's costs. As the table shows, Duquesne Light incurred relatively low front-of-meter costs associated with each installation. This indicates that Duquesne Light is able to serve these charging station installations mainly through pre-existing distribution grid capacity.

Participating customers have demonstrated a high level of "buy-in" with respect to charging station installation. Duquesne Light worked closely with customers as part of the Pilot, including assisting customers in leveraging the Pilot to obtain other sources of project funding. Customer-reported project cost data (including costs related to charging station installation, charging station hardware, service fees, signage, etc.) indicates that the Company's rebate covered about 1/3 of project costs, customers themselves covered 1/3 of project costs, and the state's Driving PA Forward rebate program covered 1/3 of project costs.

DC Fast Charging Station Evaluation

The Pilot deployed two DC fast charging stations at one Port Authority of Allegheny County location for electric buses and Company fleet vehicles. The DC fast charging stations were activated on February 20, 2020, and the Port Authority's electric buses were placed into service on March 30, 2020.

Table 2: DC Fast Charging Station Evaluation (as of 2/29/2020)

Customer Site	Site Electrification Date	Number of Plugs	DLC Installation Costs	Electricity consumed (kWh)	CO_2 Avoided (Tons)
1	2/20/2020	2	$715,000[1]	0	0

The Port Authority has also demonstrated success in leveraging other funding sources to support fleet electrification, including funding from the Federal Transit Administration's Low or No Emission Vehicle Program for the incremental cost difference between its electric buses and traditional diesel buses.

[1] Consistent with Settlement ¶ 45(a), only $500,000 of this investment has been included in rate base.

Estimated Avoided Emissions

The Company has developed a framework to estimate the avoided emissions (Appendix 1). The objective of this framework is to measure the difference in emissions from the use of electricity as a transportation fuel resulting from the Pilot relative to a business-as-usual scenario in which petroleum-based transportation fuels are used for vehicle travel.

The Pilot has resulted in total estimated avoided emissions of 14.8 Tons CO_2 as of 2/29/2020. Table 1 indicates estimated avoided emissions (CO_2) of the Level 2 charging stations for each of the Level 2 charging station evaluation sites. No avoided emissions have been recorded as a result of the DC fast charging station evaluation as of 2/29/2020.

Conclusion

The Company is encouraged by the positive overall response to the Pilot to date, particularly with respect to the high degree of “buy-in” demonstrated by participants. This response affirms the Company’s continued support for transportation electrification. With strategic planning, transportation electrification can provide benefits to all utility customers, the electricity system, and the environment. The Company is uniquely positioned to realize these benefits by supporting the deployment of critical electrical infrastructure, spurring the deployment of innovative technologies, generating customer awareness of transportation electrification, and managing EV load to enhance system flexibility and reliability.

The Company continues to experience ongoing interest from customers, and foresees significant additional opportunities to accelerate the benefits of electric transportation for all Duquesne Light customers. The Company looks forward to further engaging with the Commission and stakeholders on transportation electrification in future proceedings.

Appendix 1

Level 2 Charging Station Evaluation Avoided Emissions Framework

Avoided Emissions Framework Inputs

Input	Unit	Assumption
Energy dispensed	kWh	EV Charge Rebate data
EV Fuel Economy	kWh per mile (kWh/mi)	0.3 kWh/mi[2]
Gasoline Vehicle Fuel Economy	miles per gallon (mpg)	24.9 mpg[3]
2018 Average Pennsylvania Carbon Intensity of Electricity Generation	grams of CO_2 per kWh (lb. CO_2/kWh)	.789 lb. CO_2/kWh[4]
Carbon Intensity of Gasoline	pounds of GHG per gallon (lb/gal)	23.5 lb/gal[5]

Avoided Emissions Framework Intermediate Outputs

Intermediate Output	Unit	Calculation
Electric Vehicle Miles Traveled (eVMT)	mi	Energy Dispensed / EV Fuel Economy
Electric Vehicle Total Emissions	lb. CO_2	Energy Dispensed * 2018 Average PA Carbon Intensity of Electricity Generation
Avoided Gasoline Vehicle Emissions	lb. CO_2	(eVMT / Gasoline Vehicle Fuel Economy) * Carbon Intensity of Gasoline

Avoided Emissions Framework Final Output

Final Output	Unit	Calculation
Net Avoided Emissions	Tons of CO_2	(Avoided Gasoline Vehicle Emissions – Electric Vehicle Total Emissions) / 2,000 lb.

[2] Most commercially available EVs have fuel economies between 0.25kWh/mi and 0.35kWh/mi. https://www.fueleconomy.gov/feg/PowerSearch.do?action=noform&path=3&year1=2017&year2=2018&vtype=Electric&srchtyp=newAfv&pageno=1&sortBy=Comb&tabView=0&tabView=0&rowLimit=50

[3] https://www.epa.gov/automotive-trends/highlights-automotive-trends-report

[4] Includes CO_2 emissions https://www.eia.gov/electricity/data/state/emission_annual.xls; https://www.eia.gov/electricity/data/state/annual_generation_state.xls

[5] https://afdc.energy.gov/vehicles/electric_emissions_sources.html