

December 14, 2018

**VIA ELECTRONIC FILING**

Kathleen H. Burgess, Secretary  
New York State Public Service Commission  
Empire State Plaza, Agency Building 3  
Albany, New York 12223-1350

Re: Proposal to Encourage Statewide Deployment of Direct Current Fast Charging Facilities for Electric Vehicles

Dear Secretary Burgess:

Please find attached the comments of the Natural Resources Defense Council, Sierra Club, and Acadia Center on the above-referenced proceeding concerning the proposal to encourage Direct Current Fast Charging stations for electric vehicles.

Respectfully submitted:

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**NEW YORK STATE  
PUBLIC SERVICE COMMISSION**

**Proceeding on Motion of the Commission**

**Regarding Electric Vehicle Supply Equipment Case 18-E-0138**

**COMMENTS OF THE NATURAL RESOURCES DEFENSE COUNCIL, SIERRA CLUB,  
AND ACADIA CENTER ON CONSENSUS PROPOSAL TO ENCOURAGE  
STATEWIDE DEPLOYMENT OF DIRECT CURRENT FAST CHARGING  
FACILITIES FOR ELECTRIC VEHICLES**

The Natural Resources Defense Council (NRDC), Sierra Club, and Acadia Center (Clean Energy Parties) thank the Public Service Commission for the opportunity to comment on the Consensus Proposal to Encourage Statewide Deployment of Direct Current Fast Charging (DCFC) Facilities for Electric Vehicles (Consensus Proposal) filed by Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York Power Authority (NYPA), New York State Department of Environmental Conservation, New York State Department of Transportation, New York State Electric & Gas Corporation, New York State Energy Research and Development Authority, New York State Thruway Authority, Niagara Mohawk Power Corporation, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation (Parties) on November 21, 2018 in Case 18-E-0138.

Overcoming barriers to the widespread deployment of DCFC stations is critical to advance transportation electrification in a manner that achieves state climate goals and protects the health and welfare of all New Yorkers. The Clean Energy Parties agree with the need for swift action to address these barriers in New York and support the expeditious approval of the Consensus Proposal to jumpstart new, additional DCFC station investment coupled with initiation of an investigation into more sustainable rate structures that support the state's long-term policy goals.

To enable widespread electric vehicle (EV) adoption, New Yorkers need to be confident in their ability to reliably access electricity as a transportation fuel where they live, work, and play; DCFC stations are critical to support drivers without dedicated access to home or workplace EV

charging – such as drivers that live in multi-unit dwellings or have on-street parking<sup>1</sup> – and crucial for enabling long-distance EV travel along corridors across New York State. To that end, the Clean Energy Parties appreciate the comprehensive nature of the Consensus Proposal and the recognition that all regulated utilities have a role to play in spurring the development of the DCFC market. We also commend the tailoring of the DCFC incentives to station capacity, as higher throughput stations (i.e. 75+ kW/plug) will face higher monthly demand charges than lower throughput stations; given that DCFC equipment is now capable of dispensing power at 150 kW and above, the proposed DCFC incentive should not discourage the development of this new technology. Finally, the Clean Energy Parties strongly support the inclusion of regular updates on the number of new DCFC stations deployed with the incentive and the amount of remaining funding as the Consensus Proposal outlines.

Alongside these positive aspects of the proposal, there are several areas the Commission should consider:

- 1) Expanding the program size consistent with National Renewable Energy Laboratory modeling;
- 2) Building in flexibility to ensure optimal and equitable deployment of DCFC stations;
- 3) Encouraging complementary utility investments to support DCFC infrastructure; and
- 4) Considering how to support DCFC station deployment for non-qualified medium and heavy-duty vehicles to accelerate transportation electrification for the benefit of all utility customers, the grid, and the environment.

These points are more fully addressed below.

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<sup>1</sup> 53 percent of car owners in New York City park their vehicles on city streets, making it all but impossible to charge an EV at home. *New York City Mobility Report 2018* available at: <http://www.nyc.gov/html/dot/downloads/pdf/mobility-report-2018-screen-optimized.pdf>

## **1. The Program Size Should Be Expanded Consistent with the National Renewable Energy Laboratory's Modeling**

In the Consensus Proposal, the Parties state that in order to support the state's Zero Emission Vehicle goal of 800,000 EVs by 2025, approximately 1,500 DCFC plugs are needed based on estimates from the National Renewable Energy Laboratory's EVI-Pro Lite tool.<sup>2</sup> EVI-Pro Lite relies on a number of default assumptions about vehicle quantities, vehicle properties, and charging behavior to generate estimates of charging infrastructure needs – including the percentage of vehicles that have reliable access to home charging.<sup>3</sup> In order to generate an estimate of 1,500 DCFC plugs, it is likely that the Parties kept EVI-Pro Lite's default assumption that 100 percent of EV drivers have access to home charging. However, this assumption overstates the percentage of drivers that access to EV home charging in a mature New York EV market and therefore *significantly understates* the amount of DCFC plugs needed to support 800,000 EVs. E3's presentation from the Commission's July technical conference supports this claim: as shown below, E3 estimates that 43 percent of drivers in Consolidated Edison's service area, 14 percent of drivers in LIPA's service area, and 18 percent of drivers upstate do not have access to home charging and therefore would rely primarily on public (DCFC) charging.<sup>4</sup>

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<sup>2</sup> Consensus Proposal at 3. Note that these assumptions are customizable in NREL EVI-Pro Lite to better reflect the conditions or circumstances of a particular state or region.

<sup>3</sup> Home charging, in which EVs are typically charged overnight with lower capacity charging equipment, may reduce reliance on DCFC stations for intra-city trips. EVI-Pro Lite results suggest an inverse relationship between the prevalence of home charging and need for DCFC stations. Home charging access, however, is not necessarily a substitute for DCFC stations on travel corridors.

<sup>4</sup> Benefit-Cost Analysis of Electric Vehicle Deployment in New York State, E3, July 18, 2018.

**Table 1 New York Driver Charging Access by Region**

Work Charging	Home Charging	Primary Charging	Secondary Charging	NY Metro	Long Island	Upstate
Yes	None	Work	Public	10%	6%	8%
	L1	Home	Work	8%	16%	17%
	L2	Home	Work	6%	20%	20%
No	None		Public	33%	8%	10%
	L1	Home	Public	25%	22%	20%
	L2	Home	Public	17%	28%	24%

Source: Energy and Environmental Economics, Inc.

Taking a simple average of the three sub-regions illustrates that roughly 25 percent of drivers do not have access to home charging, or in other words, 75 percent of drivers would have access to home charging. When using this 75 percent home access assumption instead of the 100 percent default in EVI-Pro Lite, the model finds that 4,717 DCFC plugs are needed to support 800,000 EVs in New York.<sup>5</sup> Even a more conservative 80 percent estimate yields over 4,000 DCFC plugs needed across the state. It is therefore unlikely that 1,500 DCFC plugs will be sufficient to support the state’s goals. If the Consensus proposal was intended to incentivize approximately two-thirds of the plugs believed would be needed to support 800,000 EVs statewide, we strongly recommend revising the total eligible plug count upward from 1,074 plugs and modifying incentive amounts accordingly.<sup>6</sup> Moreover, New York’s economy-wide greenhouse gas (GHG) reduction targets of 40 percent by 2030 and 80 percent by 2050 from 1990 levels will demand

<sup>5</sup> EVI-Pro Lite, National Renewable Energy Laboratory, available at: <https://afdc.energy.gov/evi-pro-lite>

<sup>6</sup> If the program was scaled up commensurately to achieve the Joint Utilities’ portion of the 4,717 plug target, it would increase to approximately 3,377 plugs from the original 1,500 estimate.

even more aggressive electrification of the transportation sector than the state's ZEV goal.<sup>7</sup> Therefore, the EVI-Pro Lite estimates should be viewed as conservative in the context of New York's commitments to mitigating GHGs.

## **2. The Program Should Allow for Flexibility to Ensure Optimal and Equitable Deployment of DCFC Stations**

The Consensus Proposal provides operational incentives for DCFC operators out to 2025. While it is likely that some stations that leverage the utilities' incentive will be economically viable in 2025 under the utilities' demand-based tariffs as station utilization increases with EV growth, some will not.<sup>8</sup> In the Consensus Proposal, the Parties state their intention "monitor program implementation to evaluate whether DCFC charging infrastructure is being sited equitably across the State, with particular attention to rural and lower income communities that have been underserved to date."<sup>9</sup> However, given that DCFC stations in rural and lower income communities will likely experience lower utilization than stations in dense urban areas, these stations may face greater challenges in becoming economically viable and could dampen overall deployment. As NYPA notes in previous comments, current utilization rates for the limited DCFC stations on the Thruway are around 0.23-0.34%.<sup>10</sup> Relatively low station utilization in these communities is not necessarily synonymous with low value stations. Rather, they are critical for facilitating equitable access to EVs and providing range confidence that is all but essential for motivating EV purchases and reducing GHG emissions consistent with state goals.

Beyond the Parties' commitments to observe DCFC charging station deployment patterns and report funding levels, the Commission should require the utilities to submit locational and properly anonymized load profile data on the plugs deployed with the incentive and no later than halfway through the life of the program (i.e. 2022) to determine whether program adjustments are needed to support optimized station deployment to meet state goals. As NRDC, Sierra Club, EVBox, EVgo, Pace Energy and Climate Center, and New Yorkers for Clean Power noted in

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<sup>7</sup> 2015 New York State Energy Plan, available at: <https://energyplan.ny.gov/>.

<sup>8</sup> While 2025 represents the final year of the state's current ZEV goal, 2025 has no particular significance in determining the financial viability of DCFC stations.

<sup>9</sup> Consensus Proposal at 10.

<sup>10</sup> New York Power Authority, RE: Case No. 18-E-0138, Joint Petition for Immediate and Long-Term Relief to Encourage Statewide Deployment of Direct Current Fast Charging Facilities for Electric Vehicles., filed July 23, 2018.

previous comments, other utilities have employed longer-term solutions that gradually phase in demand charges to ensure that a robust and viable private market for DCFC stations evolves in their service territories.<sup>11</sup> Pacific Gas & Electric recently filed a new Commercial & Industrial tariff at the California Public Utilities Commission that would significantly reduce demand-based costs via a demand subscription for operating EV charging stations while maintaining a time-of-use (TOU) rate structure that encourages drivers to charge in manner that reduces stress on the grid.<sup>12</sup> Southern California Edison has also introduced a modified tariff for customers with DCFC stations that would substitute demand charges for volumetric energy charges for the first five years and gradually raise demand charges (while lowering volumetric charges) in years 6 through 11.<sup>13</sup>

### **3. The Commission Should Encourage Utilities to Make Complementary Investments to Support DCFC Infrastructure**

The Consensus Proposal provides a pathway for DCFC operators to reduce their operational costs associated with providing EV charging services. However, significant capital costs remain, including the “make-ready” electric distribution infrastructure needed to support high-capacity stations.<sup>14</sup> These costs may include expenses related to boring and trenching pavement, laying conduit, and upgrading panels or other infrastructure: installation costs can be over \$40,000 per unit<sup>15</sup> and interconnection costs can be upwards of \$100,000 per unit in urban and rural areas of the state.<sup>16</sup> The Consensus Proposal should not limit utilities’ ability to propose this type of investment to support DCFC stations in this instant or future proceedings. Public utilities commissions in Massachusetts, Ohio, California, and other states have already approved significant utility investments to advance the fast charging deployments in their respective jurisdictions;<sup>17</sup> the Commission should seek to encourage the development of these

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<sup>11</sup> NRDC et al., Joint Responses to Staff Post-Conference Questions at 21, filed September 21, 2018.

<sup>12</sup> Application 18-11-003, Pacific Gas and Electric Company Commercial Electric Vehicle Rate Proposal Prepared Testimony, November 5, 2018, p. 1-13.

<sup>13</sup> California Public Utilities Commission, Decision on Transportation Electrification Standard Review Projects, Decision 18-05-040, May 31, 2018, p. 111.

<sup>14</sup> Make-ready infrastructure refers broadly to the electrical distribution infrastructure, up to the stub of the charging station, that is required to support EV charging.

<sup>15</sup> U.S. Department of Energy, *Costs Associated With Non-Residential Electric Vehicle Supply Equipment*, November, 2015, available at: [https://afdc.energy.gov/files/u/publication/evse\\_cost\\_report\\_2015.pdf](https://afdc.energy.gov/files/u/publication/evse_cost_report_2015.pdf).

<sup>16</sup> New York Power Authority, Comments of the New York Power Authority, filed September 21, 2018.

<sup>17</sup> NRDC et al., Joint Responses to Staff Post-Conference Questions at 4, filed September 21, 2018.

complementary investments to defray the non-trivial capital costs of installing DCFC equipment and ultimately drive adoption of EVs – including medium and heavy-duty EVs – in New York.

#### **4. The Commission Should Consider Solutions for Non-qualified Medium- and Heavy-Duty Vehicles**

Currently, the DCFC incentive is eligible to DCFC stations that are publicly accessible.<sup>18</sup> While public accessibility can be critical for providing equity and driving station utilization among light-duty, non-fleet vehicles, the DCFC incentive would appear to preclude participation of fleet vehicles – including medium and heavy-duty EVs – that are typically parked in non-publicly accessible spaces. Vehicle fueling and operational costs are pivotal in fleet operators' decisions to purchase EVs and ensuring that medium- and heavy-duty vehicles have comparable market transformation opportunities as light-duty vehicles should be a core focus of this proceeding. The Clean Energy Parties submit that although these vehicles may not park in publicly accessible areas, they provide substantial public benefits in the form reduced criteria pollutant emissions and reduced GHG emissions and provide access to electric mobility for New Yorkers who do not drive personal vehicles. We recommend the Commission consider additional ways that electric utilities can support medium- and heavy-duty electrification through incentives, load management programs, education on fuel and operational cost savings, and other market acceleration programs.

Though the Clean Energy Parties recognize the need to implement the Consensus Proposal to catalyze the deployment of DCFC stations in the near-term, we submit that an additional investigation on sustainable rate structures for different types of customers is still necessary. DCFC stations will never achieve utilization rates comparable to a factory or comparable high usage customers; if they even came close (requiring long lines and charging at inconvenient times), it would be indicative of a staggering shortfall in the availability of public DCFC stations. While the cost of high-powered fast charging may never be as low as the cost of low-powered off-peak charging, it should still generally be cheaper than gasoline in order to motivate EV purchases.<sup>19</sup> We urge the Commission to consider how rate structures can better meet the needs

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<sup>18</sup> Consensus Proposal at 10.

<sup>19</sup> California Clean Vehicle Rebate Project, EV Consumer Survey Dashboard (available at <https://cleanvehiclerebate.org/eng/survey-dashboard/ev>).

of low load-factor customers such as those with DCFC, and recognize that while EV drivers and fleet operators will almost inevitably need to use DCFC stations at limited times of the day, EVs still provide significant value to the grid via flexible charging that can occur primarily at off-peak times. *Without a baseline network of DCFC infrastructure to support EV adoption coupled with appropriate rate design, New York risks foregoing the benefits of widespread off-peak EV charging, increased system load factor, and downward pressure on electricity rates for all utility customers.*<sup>20</sup> In sum, we support a continued investigation into rate design as it relates to transportation electrification while the DCFC incentive described in the Consensus Proposal is implemented.

We thank the Commission for the opportunity to submit these comments, and we urge the Commission to adopt the recommendations above in its decision on the Consensus Proposal.

Respectfully submitted,

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<sup>20</sup> Benefit-Cost Analysis of Electric Vehicle Deployment in New York State, E3, July 18, 2018  
Slide 7 from E3's presentation shows that EV drivers' electricity bills exceed the cost of service, creating a net benefit to all utility customers, including those who do not drive EVs.