

STATE OF NEW YORK  
PUBLIC SERVICE COMMISSION

In the Matter of Electric Vehicle Policies

Case 13-E-0199

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**Comments of the New York State  
Energy Research and Development Authority**

The New York State Energy Research and Development Authority (NYSERDA) hereby submits its comments in response to the New York State Public Service Commission (“Commission”) *Notice of New Proceeding and Seeking Comments* issued May 22, 2013 in Case 13-E-0199, In the Matter of Electric Vehicle Policies. A Notice of Proposed Rulemaking was also published in the *New York State Register* on May 22, 2013.

The Commission instituted this proceeding to review policies that may impact consumer acceptance and use of electric vehicles (EVs) and to further develop the Commission’s policies regarding electric vehicles and the services and infrastructure that they require. In its *Notice*, the Commission put forth a series of questions on which it is seeking comment. NYSERDA addresses some of those questions below.

As stated in the Commission’s May 2013 Notice, the State, through Governor Cuomo’s Charge NY Initiative, is committed to making the state EV-ready by 2018. This includes the development of a network of innovative electric vehicle charging stations to encourage New Yorkers to use electric vehicles while growing green industries and jobs in the State. To that end, NYSERDA has awarded \$8 million over the past year to support the installation of approximately 900 electric vehicle charging stations across the State. These stations will be at a wide variety of types of locations, including workplaces, multi-family dwellings, hotels, retail stores, public transportation facilities, and municipal parking lots. This effort will encourage and accommodate consumers in the purchase of electric vehicles, reduce emissions and stimulate economic activity.

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The type of public investment provided for by NYSERDA is designed to "seed" the development of the electric vehicle industry by demonstrating the efficacy of the technology. However, it is unrealistic to assume that government will remain the primary funder of this technology. This approach is simply not sustainable and spurring private sector investments in this technology is one key to expanding development of this promising technology. This direction is reinforced by the Governor's proposal, which the State Legislature endorsed, to provide a significant tax credit to private sector installations of electric vehicle charging stations.

While the electric vehicle industry is growing in New York, it is still in its infancy. During this phase of market development and growth, NYSERDA supports the encouragement of business models that support sustainable private sector investment. To that end, the Commission should be cautious about prematurely establishing regulatory policies that might have the unintended consequence of discouraging or making more difficult private sector investment in electric vehicle charging stations. However, that is not to say that there are not areas, such as technology standards and consumer protections, where regulation may be necessary and appropriate, as NYSERDA discusses below.

As a general resource to help inform the proceeding, NYSERDA offers the study released by the American Council for an Energy Efficiency Economy (ACEEE): *Plug-in Electric Vehicles: Challenges and Opportunities*.<sup>1</sup> This study provides a broad overview of the plug-in electric vehicle (PEV) landscape, including issues from both the transportation and utility system perspectives is presented. It explores the energy and environmental implications of PEV adoption in the United States, and whether and how their use should be promoted.

### **Jurisdiction over Charging Stations**

NYSERDA recommends that the Commission not assert direct jurisdiction over ownership of EV charging stations. Public EV charging stations are likely to be owned and operated by any entity that owns a parking lot or structure, including municipalities and private businesses. These entities may offer charging as an enticement to customers to park there, or they may look to make a return on their investment by billing people for use. In either case, these entities have little in common with the entities over which the Commission typically asserts jurisdiction. They do not have market power or natural monopolies.

Allowing entities to operate outside of Commission jurisdiction will allow the EV market to continue to develop and mature. This includes allowing different entities to bill customers in different ways, depending on their business models, including billing per kWh, per hour, per session, monthly, etc. At some point, NYSERDA believes that there may be a need to

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<sup>1</sup> The ACEEE *Plug-in Electric Vehicles: Challenges and Opportunities* Study can be found at: <http://aceee.org/research-report/t133>.

contemplate and develop certain consumer protections, which may include possible innovative rate structures to encourage off-peak charging and to guard against price gouging. Other consumer protections supported by NYSERDA include ensuring safety standards and interoperability of equipment and are discussed below.

### **Utilities as Owners or Operators of Charging Stations**

NYSERDA believes that a wide variety of innovative business models should be encouraged as the EV market continues to develop. While NYSERDA does not currently take a position on whether the Commission should allow electric distribution utilities operating in New York State to own or operate EV charging stations, it does recognize that third-party studies may be informative in shaping New York's policies. In an April 2013 report prepared for NYSERDA by Energetics Incorporated, *Compilation of Utility Commission Initiatives Related to Plug-in Electric Vehicles and Electric Vehicle Supply Equipment*,<sup>2</sup> PEV and electric vehicle supply equipment (EVSE)-related initiatives from public service commissions around the United States are summarized. In the Study, the following issues were examined: EVSE exclusion from public utility regulations; special electricity rates for PEV charging; EVSE installation notification; utility ownership of EVSE; rebates and grants; outreach and education; demand response and vehicle-to-grid services; and EV batteries for grid use.

To date, few states have taken positions on this issue, but two that have, California and Oregon, chose different paths on utility ownership of charging stations. The California PUC restricted utilities from owning EVSE while the PUC of Oregon concluded that utilities should be able to invest in EVSE and operate PEV charging stations. These two states' decisions are discussed further in *Compilation of Utility Commission Initiatives Related to Plug-in Electric Vehicles and Electric Vehicle Supply Equipment*.

### **Impact of PEV charging on Electric Infrastructure**

Working with the Electric Power Research Institute (EPRI) and Consolidated Edison Company of New York, Inc., (Con Edison), NYSERDA completed a 2011 study entitled *Transportation Electrification in New York State: Technical Update*,<sup>3</sup> which examined the impact of EV market development on utility transmission systems. The Study results found modest to little impact on transmission systems during the early stages of EV market development. Modeling performed and included in the report found that even in aggressive EV adoption scenarios, where 5% to

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<sup>2</sup> This Study can be found as an attachment to this document and at the following temporary link: [https://cmsapps.nysERDA.ny.gov/temp/Compilation\\_of\\_Utility\\_Commission\\_Initiatives\\_Energetics\\_Rept\\_for\\_NYSERDA\\_April\\_2013.pdf](https://cmsapps.nysERDA.ny.gov/temp/Compilation_of_Utility_Commission_Initiatives_Energetics_Rept_for_NYSERDA_April_2013.pdf). The report will be posted to NYSERDA's website at [www.nysERDA.ny.gov](http://www.nysERDA.ny.gov).

<sup>3</sup> The Study can be found in its entirety at: <http://www.nysERDA.ny.gov/Publications/Research-and-Development-Technical-Reports/-/media/Files/Publications/Research/Transportation/epri-phev.ashx>.

10% of all cars are electric vehicles, some of the most heavily used circuits in the New York City area would only require typical levels of transformer upgrades to handle the increased load from electric vehicle charging. This level of investment was within regular near-term horizon investment levels.

However, NYSERDA believes that distribution system issues should be carefully considered as charging station installations may be concentrated in load pockets. The Study found that the impact of PEV charging is largely found at the distribution level. At an aggregate level, the overall energy and power demands of electric vehicles are modest—nearly 80% of vehicles are driven 40 miles per day or less. When factoring in average driving habits, average charging energy per vehicle is 5.1 kWh.

The preliminary market assessment of the Study indicates that PEVs have a likelihood of ‘clustering’ and discrete locations, magnifying the impact of PEV charging on distribution transformers and other system components. Clustered Level 2 charging and DC fast charging, with power requirements of up to 50 kW, could present a significant challenge for distribution systems, especially in situations where numerous installations occur in a concentrated area. Smart charging, either through scheduling charging through individual cars, EVSE, or by using smart charging meters could potentially ameliorate some of these challenges if charging installation levels were to affect distribution systems.

With regard to the issue of co-siting PV and EV, NYSERDA’s expectation is that there will be relatively few instances, if any, where enough electric generating potential exists to exclusively pair on-site PV installations with EVSE. Often, there is insufficient rooftop or open space available near EVSE for a sufficiently-sized PV installation that would offset enough electricity demand associated with the EVSE, particularly during peak hours.

### **Utility Metering and Rate Issues**

Similar to activity in other states, NYSERDA is aware of the development of utility pilot programs in New York and believes that there is value in determining how consumer behavior is influenced by the different rate structures that may be tested. NYSERDA believes that pilot programs are the best approach in determining the value proposition of time-of-use (TOU) rates or other innovative rate structures for the EV market, particularly as, in this early stage of EV market development, residential TOU rates may not be widely adopted by EV users and are unlikely to have a major impact on electric grid peak loads. However, as the market matures, the Commission may need to consider further encouraging EV users to select innovative rate structures to encourage “smart” charging.

## **Consumer Issues**

NYSERDA has identified certain risks facing EV consumers that should be carefully considered as the market continues to evolve.

Foremost, NYSERDA believes that all charging hardware must adhere to the same strict safety standards for consumer protection. The Society of Automotive Engineers has pursued this through its standard-setting for EV hardware, but further work should be done to ensure proper installations throughout the State.

Consumers should be provided sufficient information that will provide them with transparent charging or energy costs so as to make the best economic choices and protect against price gouging. Many EVSE owners display the price of charging on the EVSE and advertise it through common EVSE mobile phone applications, but this practice could be encouraged further and made universal.

NYSERDA believes that EV charging transaction software should move toward “open architecture” and provide for interoperability. An approach to supporting open architecture may provide a level of consumer protection and avoid creating circumstances where captive consumers and EVSE owners are vulnerable to single system operators, or leave a consumer group without a viable charging option should a provider of proprietary software leave the market completely.

It is possible that at least some of these issues may ameliorate as the EV market becomes more robust and consumer options increase. However, in these critical initial stages of market development and consumer acceptance, NYSERDA believes that developing a firm foundation that protects health and safety, provides transparent pricing information, promotes healthy competition among market participants, and increases choice for consumers is necessary.

## ***The Integration of PEV and Solar PV Information***

There may ultimately be merit in integrating outreach efforts for electric vehicle and photovoltaic technologies over time as each market reaches maturity. While the demographics of EV ownership and solar PV ownership overlap significantly, the business models do not. The markets for each technology continue to rapidly evolve, but at this time, the potential applications for each technology are more separate and distinct than they are in tandem. NYSERDA believes that if in the future it is determined that integrated marketing efforts appear to be a reasonable next step, additional market research will be likely be necessary to best ensure cost-effective success.

NYSERDA appreciates the opportunity to submit these comments and looks forward to continuing its work with the stakeholders on these issues.

Dated: July 8, 2013

Respectfully submitted,

A handwritten signature in cursive script that reads "Valerie S. Milonovich".

Valerie S. Milonovich  
Senior Counsel

Attachment