



April 27, 2020

VIA ELECTRONIC FILING

Honorable Michelle L. Phillips
Secretary to the Commission
New York Public Service Commission
3 Empire State Plaza
Albany, NY 12223-1350

Re: Case No. 18-E-0138: Proceeding on Motion of the Commission Regarding Electric Vehicle Supply Equipment and Infrastructure

Dear Secretary Burgess:

Advanced Energy Economy Institute (AEE Institute) and the Alliance for Clean Energy New York (ACE NY) are pleased to submit these comments in response to the February 5, 2020 request of the Public Service Commission (Commission) for comments regarding the Department of Public Service Staff Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure Deployment filed on January 13, 2020. Included in these comments are our reflections on the impacts of the COVID-19 pandemic on the electric vehicle (EV) and EV charging industries as requested during the workshop hosted by NYSERDA and the Commission on April 10, 2020, which provided EV program updates on COVID-19.¹

Please do not hesitate to reach out to our teams if you have any questions or need additional information.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Matt Stanberry".

Matt Stanberry
Managing Director
Advanced Energy Economy

A handwritten signature in black ink, appearing to read "Anne Reynolds".

Anne Reynolds
Executive Director
The Alliance for Clean Energy New York

¹ Case No. 18-E-0138. DPS and NYSERDA Input Session Details. Filed 04/07/20.

I. Introduction

Advanced Energy Economy Institute (“AEE Institute,” “we,” or “our”) is pleased to provide the following Initial Comments on the *Department of Public Service Staff Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure* (“Whitepaper”).² AEE Institute recognizes the importance of this Whitepaper and commends the Department of Public Service Staff (“Staff”) for the significant time, effort, and care they devoted toward developing this proposal. We appreciate the opportunity to participate in this effort and to respond to the Whitepaper and to the specific questions raised in the Public Service Commission’s (“Commission”) *Notice Soliciting Comments*.

New York has long recognized the benefits that electric vehicles (EVs) can provide to New Yorkers and society at large—such as emission reductions, decreasing reliance on fossil fuels, and lower electricity rates—and has pursued a series of initiatives that are designed to encourage substantial deployment of EVs in the state. Three efforts stand out in terms of establishing the scale of the state’s EV ambitions: New York’s adoption of California’s vehicle emission standards in the early 1990s, requiring approximately 850,000 light-duty EVs to be operating in the state by the end of 2025;³ Governor Cuomo’s charging infrastructure target of 10,000 EV chargers by 2021;⁴ and the Metropolitan Transit Authority’s (MTA) commitment to convert all of its 5,700 buses to electric models by 2040.⁵

In addition to broad environmental benefits, EVs provide a range of other societal benefits, offering both substantial economic value and increased quality of life to all New Yorkers. These benefits include broad-based cost savings for all electric ratepayers regardless of whether they own an EV, fuel and operating cost savings for EV drivers, and enhanced economic development as EVs will increasingly run on clean electricity generation, most of which comes from in-state resources instead of out-of-state fossil fuel productions.

Transportation is the largest emissions sector in New York State, accounting for nearly one-third of the State’s greenhouse gas (GHG) emissions.⁶ With the passage of the Climate Leadership and

² Case No. 18-E-0138. EVSE Whitepaper. Filed 01/13/2020.

<http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={652C94FC-7669-4578-9B89-70EC65AC9C55}>

³ New York State Electric Vehicle Charging Station Market and Policy, Finance, and Market Development Solutions. NYSERDA. October 2015.

⁴ The State of the State. New York. 2018. <https://www.governor.ny.gov/sites/governor.ny.gov/files/atoms/files/2018-stateofthestatebook.pdf>

⁵ Phil McKenna, “New York City Aims for All Electric Bus Fleet by 2040,” Inside Climate News, April 26, 2018.

<https://insideclimatenews.org/news/26042018/nyc-air-pollution-electric-bus-public-transportation-mta-clean-technology>

⁶ New York State Greenhouse Gas Inventory: 1990-2014. Final Report. 2015



Community Protection Act (CLCPA), which commits New York to a 40-percent reduction in GHG emissions from 1990 levels by 2030 and an 85 percent reduction by 2050, transportation electrification (TE) is an absolute necessity.⁷

In March 2018, AEE Institute filed a letter^{8,9} supporting the *Petition for an Order Establishing a Separate Proceeding to Advance New York's Electric Vehicle Market*,^{10,11} requesting that the Commission open a separate proceeding to address EV considerations, which the Commission did in April 2018. Since then, we have been actively engaged in the proceeding. Most recently, we filed a joint letter,¹² with the Alliance for Clean Energy New York (“ACE NY”) urging the Commission to make progress in this proceeding by—at a minimum—issuing its EV Whitepaper before the end of 2019. As such, we are pleased to see the Staff release its *White Paper Regarding Electric Vehicle Supply Equipment and Infrastructure*.¹³ We now urge the Commission to issue an order in a timely manner with a focus on the flexibility required to set the program up for success. Timeliness is of the essence considering that Staff has proposed that charging stations would not be eligible for the program¹⁴ if they are currently under construction or have made commitments to take service at a location at the time a Commission Order is issued, any new infrastructure build-out will presumably slow until an order is issued.

In light of COVID-19, it is crucial that the Commission remove any elements of the proposed program that may serve as barriers to participation or may slow down the implementation process of the program. Governor’s Cuomo’s recent Executive Order,¹⁵ while necessary to address the pandemic, placed the construction of new charging infrastructure on pause, resulting in a likely back log of projects on the other side of the pause. By making sure that an Order on the make-ready program is issued in a timely manner and by making sure that the program is designed for maximum ease and participation, the Commission can ensure that there will be no unnecessary barriers that slow down implementation once charging infrastructure build-out is allowed to

⁷ It is worth noting that the state’s own 2017 progress report on the 2015 State Energy Plan noted that, “[t]he state’s climate goals cannot be achieved without a rapid transition to vehicles powered by electricity.” N.Y. State Energy Planning Bd., *The Energy to Lead: Biennial Report*, p. 56.

⁸ Case No. 14-M-0101. Comments on behalf of Advanced Energy Economy Institute. Filed 03/20/2018.

⁹ Id., Page. 3

¹⁰ Case No. 14-M-0101. Amended petition on behalf of the Sierra Club. Filed 02/22/2018.

¹¹ Case No. 16-M-0411. Amended petition on behalf of the Sierra Club. Filed 02/22/2018.

¹² Case No. 18-E-0138. AEEI-ACE Letter on EV Whitepaper. Filed 08-21-2019.

¹³ Case No. 18-E-0138. EVSE Whitepaper. Filed 01/13/20.

¹⁴ *Staff Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure*. Page 30.

¹⁵ Executive Order No. 202.6: Continuing Temporary Suspension and Modification of Laws Relating to the Disaster Emergency <https://www.governor.ny.gov/news/no-2026-continuing-temporary-suspension-and-modification-laws-relating-disaster-emergency>

resume. At the same time, the Commission needs to quickly address a few other outstanding issues identified in these comments, including addressing medium- and heavy-duty vehicle charging infrastructure and prioritizing efforts to address operating costs like New York's demand-based rate structures, which have been an impediment to charger buildout.

COVID-19 Situation

Per the letter sent on April 1, 2020, by New York State Energy and Environment agencies,¹⁶ and the subsequent workshop hosted by NYSEERDA and the Commission on April 10, 2020, which provided EV program updates on COVID-19,¹⁷ we would like to provide brief input regarding the impacts that we are seeing in the EV market due to COVID-19 and ways to address these impacts.

The COVID-19 pandemic has dramatically impacted the broader advanced energy industry, in which we have seen 100,000 workers lose their jobs nationally in March alone,^{18, 19} including the EV industry. Based on Advanced Energy Economy's recent member surveys and conversations with a number of companies in the business, we are seeing a number of different impacts.²⁰ First, construction projects, which are core to the EV charging infrastructure industry, have been delayed. The EV business is dependent upon access to customer sites, many of which now are not available due to either a work closure order from a state, a reduction in the EV business' workforce, or simply because the owner/operator of the facility wants to limit external contact at their premises for the time being. Second, many permitting agencies are either closed or are expecting a 30- to 90-day delay on permitting. Third, some utilities are not prioritizing transportation electrification projects and proposals as they focus on addressing customer issues in the economic downturn. Fourth, we are seeing manufacturing facilities for both vehicles and charging infrastructure being closed both in the U.S. and internationally, and some vehicle manufacturers are announcing delays in new model releases. Fifth, vehicle traffic has diminished from both personal use drivers as well as light-duty fleet drivers (e.g. rideshare and taxis), which has dropped charging station utilization and accentuated the challenge operators face with demand charges (even as usage has fallen, in some cases, charging operators are seeing a higher effective price per kilowatt hour on their bills.)

¹⁶ <https://www.nyserda.ny.gov/-/media/ny/CoVID-19/Letter-from-agency-heads-to-clean-energy-industries.pdf>

¹⁷ Case No. 18-E-0138. DPS and NYSEERDA Input Session Details. Filed 04/07/20.

¹⁸ <https://info.aee.net/covid-19-impact-on-advanced-energy-companies-fact-sheet>

¹⁹ <https://www.aee.net/articles/impact-of-covid-19-is-worsening-and-relief-measures-have-not-helped-advanced-energy-companies-say>

²⁰ <https://www.aee.net/articles/aee-to-u.s.-congress-white-house-advanced-energy-now-suffering-impacts-but-should-be-key-contributor-to-economic-rebound>



With the context of these and other COVID-19-induced impacts, it is important for the Commission and other New York State Energy and Environment agencies to use all the tools at their disposal to support the EV and broader advanced energy industries, which are critical partners with the State in making progress toward its energy, transportation, and environmental goals. For example, much construction and installation work can be done in a safe manner with appropriate social distancing. These types of jobs can typically be completed by a small number of people, are located outside or in large relatively empty buildings, and can be setup to allow for proper social distancing. While we believe that safety is paramount, as the health situation improves, New York should look for ways to help projects that can be done safely with the necessary precautions moving forward.

In terms of the Staff Make-Ready Proposal, at this point in time, the Commission should heed a few principles. First, simplicity of design is a virtue. Given the delays that this market is experiencing, the Commission should seek to remove any potential barriers to action, which includes complex program design. Simpler programs reduce uncertainty, allowing market participants to act more quickly. The Commission should look to other programs for ideas on how to simplify the application process and streamline the interconnection process, two processes, that if designed poorly, have the potential to add significant costs and delays to projects.²¹ For example, National Grid Rhode Island's EV Charging Station Program has a simple online application making it easier for participants to work efficiently.²² The make-ready program is designed to stimulate market activity, and stimulus is exactly what the market needs now. However, the impact will be muted if market participants require a long lead time to understand the program, and utilities have to undertake a long process of planning before projects can begin. Second, expeditious issuance of a final order is critical. With the make-ready proposal on the horizon, it is likely that market participants will delay taking on new charging infrastructure projects in order to ensure they qualify for the new incentive. The faster decisions are made; the faster work will begin. Third, along with simplicity, the Commission should seek to allow flexibility so that utilities and EV charging infrastructure companies can respond to evolving market conditions appropriately (e.g., relaxing set ratios in the program between Level 2 and DCFC chargers, simplifying application requirements and process, etc.) The current situation is unprecedented in so many ways, and the ability to adjust will be key. Fourth, the Commission should be open to utilities proposing new programs, in addition to, not in place of, the proposed make-ready program. New utility programs can address segments that are

²¹ Chris Nelder and Emily Rogers, *Reducing EV Charging Infrastructure Costs*, Rocky Mountain Institute, January 2020

²² <https://www.nationalgridus.com/RI-Business/Energy-Saving-Programs/Electric-Vehicle-Charging-Station-Program>

not covered by the make-ready program and stimulate new activity. Fifth, the Commission should commit to fundamentally address rate design on a separate track as it is critical to operational costs and the DCFC per plug incentive has not addressed the issue as has been evident by extremely low participation.

It is our belief that the Make-Ready Proposal, along with individual utility programs that will need to be brought forward, have the potential to stimulate much-needed activity in the EV infrastructure market, so long as the program design is simple and utilities have the flexibility required to make adjustments to constantly increase participation over time. We urge the Commission to steer with these principles in mind so as to maximize the chances of success for this program. Furthermore, we believe this same set of principles will help the Commission improve the performance of other current and future EV programs.

We have organized our comments below into three sections: reactions to the Make-Ready Proposal, comments on the Other Utility Roles and Issues for Further Stakeholder Comments portions of the Whitepaper, and responses to the questions in the *Notice Soliciting Comments*.

II. General Comments on the Staff Make-Ready Proposal

As Staff discussed in the Whitepaper, the lack of public charging infrastructure is a significant barrier to broad consumer adoption of EVs and in order to increase EV adoption in New York, there will need to be substantial growth in available public charging infrastructure. Current EV market metrics indicate that New York is struggling with its vehicle deployment and charging infrastructure – the state ranks 30th among U.S. states in charging stations per capita.²³ Partly in recognition of this problem, the Commission opened this proceeding with the stated goal of removing “inappropriate obstacles to adoption and ensure critical electric vehicle supply equipment & infrastructure (EVSE&I) is in place to support the state’s zero-emissions vehicle (ZEV) targets”.²⁴ As such, AEE commends the Staff for bringing forward a significant “Make-Ready Program” proposal to support the development of light-duty EVSE&I for both public Level 2 and Direct Current Fast Charger (DCFC) stations.

While the program will not fully address the state’s charging infrastructure needs, its scale is beyond any of the state’s prior efforts and appropriate given the size of the challenge at hand. We

²³ AEE analysis based on data provided by Alternative Fuels Data Center and US Census Bureau.

²⁴ *Staff Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure*. Page 1.



strongly support Staff's explicit commitment in the Whitepaper to achieving the state's ZEV and climate goals as well as their acknowledgement that transportation electrification, and thus the development of more charging infrastructure, is needed to meet the challenge. Staff correctly identifies the economic challenges facing charging infrastructure at these early stages of the market,²⁵ so we are glad to see an incentive proposal brought forward and agree with Staff that such action must be taken despite any uncertainty brought on by recent federal actions.^{26,27}

As the Benefit-Cost Analysis of EV Deployment in New York State (EV BCA) demonstrates and Staff highlight, the benefits of EVs remain undeniable, providing reduced GHG emissions, pollutants, and displaced petroleum, as well as increasing utility revenue.^{28, 29} Now is the time to bring the market to scale, moving as Staff suggests from pilots to programs at scale,³⁰ so that New York can achieve its goals, and ultimately, unlock the full range of benefits brought by EVs. With program design improvements, the proposed make-ready program has the potential to bring New York closer to attaining these goals and serve as a good foundation from which the state can build. With that context, we offer some comments on ways to improve the design of the program as laid out below.

a. Project Eligibility

As New York works to quickly make up ground on charging infrastructure in support of its 2025 goal of 850,000 EVs, there are a number of infrastructure market segments that will be critical to success, including highway corridor, workplace, urban shared, and multi-unit dwellings (MUDs), especially in a state with a metropolitan area like New York City.³¹ Given that 2025 is five short years away, we are concerned that under the current design, the state's primary infrastructure incentive program would effectively disincentivize development in major portions of, or entire, key segments.

²⁵ *Id.*, Page 6.

²⁶ <https://www.federalregister.gov/documents/2018/08/24/2018-16820/the-safer-affordable-fuel-efficient-safe-vehicles-rule-for-model-years-2021-2026-passenger-cars-and>

²⁷ <https://www.federalregister.gov/documents/2019/09/27/2019-20672/the-safer-affordable-fuel-efficient-safe-vehicles-rule-part-one-one-national-program>

²⁸ Benefit-Cost Analysis of Electric Vehicle Deployment in New York State, prepared for NYSEDA by Energy & Environmental Economics, ICF, and MJ Bradley & Associates (February 2019 EV BCA), (February 2019). Available at: <https://www.nyserda.ny.gov/-/media/Files/Publications/Research/Transportation/19-07-Benefit-Cost-Analysis-EVDeployment-NYS.pdf>.

²⁹ *Staff Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure*. Pages 22 & 23.

³⁰ *Staff Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure*. Page 43.

³¹ While we understand that Staff has chosen to focus this program on light-duty vehicles, we wish to point out another critical sector to address, medium- and heavy-duty vehicles. We provide our thoughts on this sector on pages 32-34 in the document.



In establishing rules for project eligibility, Staff has identified public accessibility as a defining criterion. As defined in the program proposal, publicly accessible chargers are ones that are accessible to the public without an access fee or restricted access, and chargers located at workplaces and urban shared and multi-unit dwellings are also excluded. Specifically, Staff proposes that both Level 2 and DCFC located at public pay-to-park lots, metered parking spaces, MUDs, and workplaces will not be considered “publicly accessible” unless the public has unlimited access to the chargers without an access fee. It is difficult to imagine a practical way to provide access to these sites without an access fee only to EVs which have used or intend to use charging. As one example, while a pay-to-park garage could theoretically waive fees for EVs that charge there, it would have to develop a separate and impractical system to identify only those specific EVs. And it may also need to track the length of time an EV parked while charging vs parked without charging to assess fees appropriately. As a result, one can reasonably conclude that the vast majority of public pay-to-park lots, metered parking spaces, MUDs, and workplaces will not be eligible for the full 90% cost coverage³² available to “publicly accessible” sites. Rather, EV charging stations at these locations will only be eligible for 50% of the costs covered by the Make-Ready Program.

Since metered parking spots and public pay-to-park lots form the majority of the public parking in New York City (and other urban areas), the unfortunate likely result is that for the first three years of the program, the incentive, as currently designed, would push development away from three of the four key market segments (i.e., workplace, urban shared, and multi-unit dwelling). Given that the next three years (Staff propose reviewing these criteria at a midpoint review in 2023) are critical to achieving the five-year ZEV goal, we are concerned that the design will result in the program not achieving its intended goal.

We strongly recommend that the Commission modify the approach to eligibility by moving away from the current “publicly accessible” criterion and instead focusing on sectors of need, including highway corridor, workplace, urban shared, and multi-unit dwellings. We believe that such an approach would greatly increase the chances of programmatic success, which would in turn significantly increase the public benefits of the program. As noted by Staff, those potential public benefits are significant, as the CO₂, particulate matter, and NO_x reduction benefits that occur with

³² As described in the Cost Containment section of the Whitepaper, the incentive by site would be capped at each utilities’ average development costs Level 2 stations. Page 36.



the uptake of EVs, benefit all customer classes³³ and all New Yorkers.³⁴ We also know that rising EV adoption can drive broad-based cost savings for all electric ratepayers.³⁵

Beyond increasing the public benefits of the program, it is our contention that moving away from current “publicly accessible” criterion in favor of sectors in need would actually be consistent with the underlying motivation behind the creation of the “publicly accessible” criterion. The objectives of the “publicly accessible” criterion are “maximizing public charging utilization to ensure efficient use of ratepayer funds invested and provide fair and equitable access and benefits to all utility customers.”³⁶ As we lay out below, the current “publicly accessible” approach would actually exclude key sectors (e.g., workplaces) that are likely to drive up utilization rates. When it comes to benefiting all utility customers, as discussed above, focusing on key sectors would increase the likelihood of programmatic success and increase the benefits for all New Yorkers. Finally, as it relates to “fair and equitable access” to chargers, we believe the key is interoperability standards that support the public accessibility of chargers, regardless of whether or not there is controlled access to the parking location where the chargers are located. AEE Institute is supportive of interoperability requirements when it comes to charging stations funded through public means. We think about interoperability in terms of the station itself and specifically payment for the charge (i.e., the ability of a driver to pay for a charge at a station without having to join a private charging network) and network communications (i.e., the ability of a charger through open communication protocols to communicate with any other charger via the cloud). The purpose is to ensure that anyone who pulls up to the charger can use the charger and that those deploying chargers are not locked into a single vendor once they deploy chargers. It is quite possible to apply these requirements within the context of locations in which there is controlled access to the parking spot itself (e.g., public pay-to-park lots, metered parking spaces, MUDs, and workplaces that do not have completely open access). Interoperable chargers in these locations allow anyone with access to the parking location to use the chargers.

If the Commission for any reason determines that it must retain use of its “publicly accessible” criterion, we strongly believe that the definition should be revised before the program begins. Our view is that the definition of publicly accessible is too restrictive and will consequently undermine

³³ Staff Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure. Page 29.

³⁴ Staff Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure Page 22.

³⁵ Synapse Energy Economics. *Electric Vehicles are Driving Electric Rates Down*. (2019) <https://www.synapse-energy.com/sites/default/files/EVs-Driving-Rates-Down-8-122.pdf>

³⁶ Staff Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure. Page 2-3.



the program's effectiveness as outlined above. Specifically, we believe that chargers for metered-parking spaces, pay-to-park lots, multi-unit dwellings, and workplaces should be considered "publicly accessible" and therefore eligible for 90% cost coverage.

Staff clearly contemplates a change in "publicly accessible" designation in proposing that program design and budgets should be reconsidered, in parallel with the DCFC per-plug incentive program mid-point review in 2023, with special consideration given to:

"The need for additional phases of the Make Ready Program, redirecting unused Make-Ready Program funding to multi-unit dwellings or redefining publicly accessible to include chargers at multi-unit dwellings, revising the definition of publicly accessible to include metered parking spaces and public pay-to-park lots..."³⁷

In our view, it does not make sense to make designation changes after three years when the state has less than five years to hit its ZEV target— this change can be made now. Public pay-to-park lots, metered parking spaces, MUDs, and workplaces that do not have completely open access are all parking locations where charging infrastructure deployment is designed not to support the charging of a specific individual or family, but rather groups or all people. As such, we believe these segments are not only critical market segments for EV charging infrastructure that New York needs to tackle quickly in order to hit its state targets but should also qualify the definition of "publicly accessible." We have provided thoughts on the specific sectors below.

Metered Parking Spaces and Pay-to-Park Lots

Metered parking spaces are simply publicly available parking spaces that are available for a fee. In some settings, e.g., urban locations like New York City, these metered spots are one of the primary forms of publicly available parking. When it comes specifically to EVs, a recent study commissioned by the New York State Energy Research and Development Authority (NYSERDA) and the New York State Department of Transportation, and concerning on-street deployment of EV charging, cataloged the range of vehicle operators using metered spots:

"Car-dependent commuters and visitors to [urban areas]; Current and future public fleet vehicles that have on-the-go charging needs, and/or that cannot be accommodated in EVSE-equipped municipal parking facilities or depots and; Current and future private fleet

³⁷ Staff Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure. Page 28.



vehicles and commercial passenger vehicles that have on-the-go charging needs and/or who store their vehicles on-street (e.g. taxis, carshare, rideshare).”³⁸

Not only are these metered parking spots available to all types of vehicle operators, but it turns out they are also good locations for the installation of EV charging infrastructure. The same report identified metered parking spaces as being a street condition that effectively optimizes Level 2 utilization. Commercial streets offer “high visibility and high turnover opportunities for [charging] station siting.” These streets are often zoned “within residential neighborhoods where there is a concentration of daytime to nighttime uses, as well as multiple user cohorts.” These zones are home to time-limited metered parking spaces, and because of this, are an attractive option for supporting high charging station turnover.

As currently proposed, for chargers at metered parking spaces to be eligible for the full 90% of cost coverage, they would have to waive the parking fee for an EV. Charging a reasonable fee at time-limited metered parking spaces is a curb management technique, meant to promote the abovementioned turnover that makes these spaces such an attractive option for EV charging infrastructure siting. These fees are not meant to exclude members of the public from using these spaces, but rather to ensure that the spaces are not monopolized by a select few users (potentially EVs that are not charging, or that have completed charging) and are available to be used by everyone. Expecting these spaces to waive the parking fee when an EV is charging (and to be able to distinguish when EVs are charging or not charging), is hard to imagine since these fees are essential to maintaining the turnover rates needed to best serve the public. Ultimately, stations at metered parking spaces not only present desirable conditions for charging station siting but, more importantly, help to serve critical market segments in urban areas and should be considered for the full 90% of coverage, without having to waive parking fees.

Just as metered parking spaces should be considered “publicly accessible,” so too should pay-to-park lots. If a parking lot is open to anyone, then it should be considered “public” whether parking is free or not. Public pay-to-park lots are even labeled frequently with signage that reads “public parking,” and they are utilized by a wide variety of drivers. Currently, like chargers at metered parking spaces, chargers at pay-to-park lots would only be eligible for the full 90% of cost coverage if they chose to waive fees for EVs. Charging a fee at pay-to-park lots is meant to promote

³⁸ https://www.wxystudio.com/uploads/2400024/1550074865953/Final_Curb_Report_Nov2018_web.pdf (Page 12)



turnover just as it is at a metered parking space, and as such, waiving that fee for EVs would work against the need to encourage turnover of chargers. As a case in point, in the early days of vehicle charging at the Los Angeles International Airport, parking and charging were initially offered for free but that approach was abandoned because a few EV drivers started to plug in their vehicles and let them sit while they flew away on trips such that EV charging spaces became a way for a few EV owners to avoid parking fees at the airport.

Any parking provider, whether it is a municipality providing metered parking or a company with a pay-to-park lot, bears a cost to provide the use of a parking space that is distinct from the cost of charging. A free parking requirement merely shifts that cost from the person using the parking to another party (whether to other customers in the lot in the form of higher parking fees or to a municipality's tax base).

Given that metered parking spaces and many pay-to-park lots are fundamentally available to all, it is our strong belief that chargers at these locations should be classified as “publicly accessible.” Since these spots are an especially important form of public parking in urban settings and are especially good locations for EV charging, the state will experience an accentuated benefit from this classification.

Multi-Unit Dwellings

New York has a large number of urban locations, most notably New York City. Urban settings have a high percentage of residents living in MUDs, in both rental and owned situations. This is important to acknowledge since the adoption of EVs looks very different for those living in MUDs, especially in rental situations. Based on the number of urban locations in the state, and thus a high number of MUDs, as well as the barriers that they present to EV charging, the deployment of chargers in this market segment is critical in order for New York to meet its goals.

It is estimated that 80% of EV charging currently occurs at the home.³⁹ However, many MUD residents do not have access to readily available charging when they are parked at home. Staff acknowledged this, saying “while charging at home is usually the most accessible and convenient charging location, residents without garages, easy access to electrical infrastructure, or the ability to make modifications to existing structures may find it difficult to conveniently charge an EV due

³⁹ <https://www.energy.gov/eere/electricvehicles/charging-home>

to the lack of non-residential charging infrastructure.”⁴⁰ For rented units in MUDs (it is important to note that rental units comprised nearly 63% of New York City’s available housing stock as of 2017⁴¹), the basic challenge is a lack of motivation from both renters and property owners. Renters are hesitant to make financial investments in a piece of immobile equipment that they could move away from in the future. At the same time, MUD property owners may not yet see EV charging as an economical enhancement that adds to the market value of their property or makes their property more attractive to renters and allows for their investment to be recovered in rents. While residents of MUDs who own their units have a somewhat simpler situation, they still face challenges in that they may not have a specific parking spot, or even if they do, they often do not own it and need to get permission for any type of changes (e.g., installation of charging infrastructure) from the owner or management group. Even if they do own their parking area, they may need to get approval, which presents significant hurdles for installing charging infrastructure. Furthermore, from a ratepayer perspective, it is likely that serving MUDs through a set of publicly accessible chargers, rather than requiring each individual tenant to install a charger at their personal parking space, is more economically efficient. Together, these challenges mean that MUD residents, who make up a large portion of New York State’s population, have significant challenges with EV charging, and are ideal candidates for the incentive provided by 90% cost coverage.

Workplaces

In addition to at-home charging, many EV owners, or those looking to purchase an EV, turn to their workplaces to provide charging options. Chargers located at workplaces offer an attractive use of ratepayer funds because their long dwell times allow for the type of flexibility that creates a good use case for managed charging. Right now, there are over 500,000 total employer establishments in New York state.⁴² Making sure that there are adequate charging options at these locations is critical to enabling widespread EV adoption. In calculating the charging station infrastructure needs associated with 850,000 EVs, Staff estimated that 79,798-workplace level 2 plugs would be needed by 2025. Just as the owners of rental MUDs are not always motivated to install charging stations, workplaces are not either, so incentives can play a critical role in lowering the threshold for action. Just as with MUDs, these sites are fundamentally meant to be used by groups of people, so we believe they should be included in the definition of “publicly accessible” and make them eligible for 90% cost coverage.

⁴⁰ *Staff Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure*. Page 56

⁴¹ http://www.cynthiamirez.nyc/uploads/1/1/8/7/118704813/2018_housing_supply_report.pdf

⁴² United States Census Bureau. <https://www.census.gov/quickfacts/fact/table/NY/BZA010217#qf-note-7022>



b. Utility Planning and Site Prioritization Requirements

AEE Institute believes that the Make Ready program's requirements, especially those around utility planning and prioritization, as proposed, are overly complex, and as such, run the risk of low participation from third-party charging service providers. That outcome would be similar to what has happened with the DCFC per-plug incentive program, which has had extremely low participation with just six applications in one year,^{43,44,45,46} due in part to the complexity of the program.

The proposal calls for utilities to take a number of actions, including building new and extremely detailed EV charging infrastructure forecasts for their service territories, creating a method for identifying potential host sites, developing new screening criteria in their capital planning process to identify hosting capacity for sites, building a new charging business case analysis approach for sites, creating new host outreach and education, developing a new mechanism for identifying non-economic but strategic locations for charging, and creating a new approach to conduct benefit cost analysis for individual charging locations. The list of new methodologies that the utilities would have to develop and then implement is lengthy, and it requires utilities to create entirely new areas of expertise from scratch. As a critical example, other than having good information on available distribution capacity, utilities simply do not have native expertise in the other elements of charging infrastructure site selection, from understanding traffic patterns to recruiting site hosts. Experienced charging providers already have this expertise and relationships with host customers; the job of the utility should be to provide tools, such as detailed capacity maps, which may help to guide – but not dictate – charger development.

While these utility prescriptions were intended to help support the market and not necessarily precede or delay developer activity, in practice, they will likely do just that. Beyond creating a tremendous amount of new work for the utilities, the proposed approach creates fundamental problems that undermine the program's likelihood of success. First, it will take utilities a long time to build the capacity and processes to execute all of this work, and as they're doing it, the private market is likely to remain dormant. Since the utility work is designed to drive site selection and target the expenditure of the make-ready incentives, the charging infrastructure companies will be

⁴³ <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={801A431C-C136-4D9B-8B91-076B6B512AEF}>
<http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={801A431C-C136-4D9B-8B91-076B6B512AEF}>

⁴⁴ <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={3C03EF31-8747-4C7E-8EB4-5401654E790F}>

⁴⁵ <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={A3DEF44A-1551-4FA2-AA7F-19752E36857A}>

⁴⁶ <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={8091CFFC-036A-4410-95A6-B926C50C7009}>

disincentivized from taking on all the site identification and application work in which many of them specialize (i.e., it would not be prudent for a company to take on time consuming work to bring forward site applications when, at a later date, the utility could bring forward information that determines those sites are not a priority). Second, by funneling all of this development activity through the utility, the approach creates a long process with numerous opportunities for bottlenecks to develop. If a utility has trouble establishing/maintaining the necessary staffing and/or contractor support for any step along the process, it would ripple through the process with the potential to drive significant delays.

Given that the State is using the make-ready program to stimulate faster development of charging infrastructure, is trying to support the EV market in the wake of COVID-19, and needs rapid action to meet its 2025 ZEV goals, we are very concerned that both of these challenges have the potential to create significant delays in charging infrastructure deployment.

Fortunately, there is a simpler approach that distributes much of the work; leverages the skills of, relationships of, and competition between private market participants; allows work to begin quickly; and aligns with other Make-Ready programs around the country. In the spirit of the REV Framework Order, the Commission should streamline the program design so that utilities can act as a platform and information provider that facilitates the work of private companies to develop and provide EV charging services. The key to making this work is ensuring that utilities provide timely and accurate data to developers. Utilities should provide the companies with hosting capacity maps and information on future distribution system projects as Staff propose and then allow the market participants to identify sites and submit applications. We recommend that the Commission streamline the program design accordingly and then have utilities work with stakeholders and Staff on corresponding implementation program guidelines.

c. Program Flexibility

AEE Institute supports taking a balanced view toward setting specific guidance for the Make Ready Program while also allowing utilities sufficient flexibility to make adjustments as they gain experience and as the market evolves. We have already discussed at length the issue of "publicly accessible" with respect to the level of reimbursement. Beyond this, we recommend that the Commission provide utilities with the ability to adjust the payment percentages and other program requirements, subject to Commission approval, prior to the mid-point review, which was recommended to occur in October 2023. Given the rapidly evolving nature of the EV market, the

challenges facing businesses in the wake of COVID-19, and the State's 2025 ZEV goals, waiting until 2023 is too long. Utilities should be allowed to adjust in response to market conditions, and should be able to, within reason, try out different approaches. In California, a Pacific Gas & Electric (PG&E) make-ready program was overly complicated initially and suffered from low participation, so the utility, based on feedback, has made several adjustments over time to improve participation; PG&E solicits this feedback in quarterly Program Advisory Council meetings, which are attended by stakeholders as well as Commission staff. The New York Commission needs to provide space in the implementation process to allow utilities the flexibility to improve the program over time and increase participation by making adjustments (e.g. changing the ratio of Level 2 and DCFC, simplifying program requirements, etc.).

With regards to the use of performance incentives,⁴⁷ we are concerned with the recommendation that utilities be expected to demonstrate enhanced resilience as a result of this program. This may take utilities down a path that is at odds with the broader goals of the program, and unnecessarily constrain the program. As we note in our response below to question 15, the fundamental purpose of this specific program is not connected to resilience. As the network of chargers in the State grows, we do believe there will be a need for charging stations in particular locations (e.g., hurricane evacuation routes) with increased resiliency requirement, but those questions should be handled separately. Addressing this issue in a program that is designed specifically to accelerate broad based deployment of charging infrastructure runs the risk of slowing program implementation and increasing charging infrastructure cost across the entire program (when the make-ready program is trying to bring costs down), therefore reducing actual deployment.

d. Coordinating Work and Timing of Payments

We understand that the whitepaper places responsibility to pay for utility-side make-ready costs on utilities to the extent they are covered by the Maximum Incentive Level (MIL), and that payments from developers to utilities for utility-side make-ready costs would only take place to the extent that those costs exceed the MIL. In other words, the MIL functions as a cost reduction for utility-side make-ready costs rather than a reimbursement to developers for those costs. However, there are two points in the section "Cost Containment" that cause uncertainty and may indicate that the developer must pay for the utility-side costs first and then be reimbursed. The table on page 37 refers to reimbursement without making a distinction between utility-side and customer-side costs.

⁴⁷ Staff Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure. Page 39-40.



Also, there is a sentence on page 37 that describes the entire incentive as a payment.⁴⁸ While we believe that the language in the “Cost Recovery” section clearly states that the MIL functions as a cost reduction for utility-side costs rather than a reimbursement to developers, we request that the Commission clearly specify that the MIL functions as a cost reduction for utility-side costs.

This is important for a few reasons. First, developers have a limited amount of capital that they can devote to projects, especially given the impact of COVID-19 on business cash flows. If their capital is tied up in utility-side make-ready costs, some developers may need to wait for reimbursement before they can pursue additional projects. This will slow the rate of EV charging deployment and progress toward state goals. Second, if there is a significant lag time for reimbursement, this will create financing costs for developers that will only add to the soft costs of charging stations. Avoiding this unnecessary transaction will help decrease the costs of charging stations and can help stretch program funding to support additional stations.

For these same reasons, the reimbursement of *customer-side* make-ready costs could also delay and create additional costs for charging station development. We recommend that the Commission consider other alternatives that would lessen the impacts of reimbursements on developer balance sheets. Some options could include an upfront payment from the utility to the developer of the available incentive (or a portion of it) for the customer-side make ready infrastructure or for the utility to pay for the customer-side work directly and then receive a reimbursement from the developer for the portion not covered by available incentive. These are ultimately small changes with *de minimis* cost to utilities but could provide a boost to the speed and cost-efficiency of development while preserving cash flow during the challenges created by COVID-19.

III. Comments on Other Utility Roles and Issues for Further Stakeholder Comment

a. Outreach and Education

Staff noted that utilities should play a critical role to encourage beneficial charging. We agree. To support and enable beneficial charging behavior, it is important for utilities to provide EV drivers with information on available charging and EVSE installation options for residential settings, public charging station locations, EV-specific and other time-varying rate options, and applicable demand response programs.

⁴⁸ “The total incentive payment would be capped at the lesser of 90% of eligible Make- Ready costs...”



However, we do not believe that is where the utility's role in consumer education stops. We believe it is in the interest of all ratepayers for the utilities to use their existing relationships with customers to educate them on the benefits of EVs and the available options for EVs and charging infrastructure. As utilities and ratepayers make investments in transportation electrification infrastructure, it is in the interest of all ratepayers for consumers to understand the benefits of switching to electric. Market data indicates this, with the overwhelming majority (69%) of survey respondents indicating that they believe that their energy provider should help them understand the benefits of EVs over conventional vehicles.⁴⁹ Just as it is appropriate for utilities and their contractors to engage in customer education regarding energy efficiency given its societal benefits, so too should utilities provide EV-focused education.

Market data indicates that one of the biggest barriers to EV adoption is lack of consumer awareness related to EVs. Despite the fact that 91% of survey respondents believe it is important to buy a car that is inexpensive to operate (lower fuel and maintenance costs), and over 60% think it is important to buy a car that has zero emissions or is eco-friendly,⁵⁰ even in California, which has the largest EV market in the country, the vast majority of car buyers are still unable to name a single EV model.⁵¹ In other words, when an individual considers a vehicle purchase, they are unlikely to even consider an EV, despite desiring the attributes provided by EVs.

Market data suggests that when consumers are armed with a simple and credible way to choose vehicle models that are zero-emission, inexpensive to operate, and do not cost more to purchase, 84% would be likely (45% extremely likely) to opt for an electric over a conventional car model.⁵² In the interest of accelerating EV adoption in pursuit of the State's ZEV targets and improving EVSE utilization, the utilities should look for ways to improve access to information and make it as easy as possible for individuals to research and purchase EVSE and EVs. As an example, some utilities, including Southern California Edison⁵³ and Consolidated Edison,⁵⁴ have deployed EV market programs that leverage energy efficiency experience and encourage market transparency and customer engagement.

⁴⁹ <https://blog.enervee.com/revving-up-the-ev-market-8c90d21610f0>

⁵⁰ *Id.* Page 17.

⁵¹ <https://www.greentechmedia.com/articles/read/consumers-lack-ev-awareness-even-in-the-nations-largest-market#gs.xknMVp8>

⁵² <https://blog.enervee.com/revving-up-the-ev-market-8c90d21610f0>

⁵³ <https://cars.sce.com/>

⁵⁴ <https://cars.coned.com/>



In terms of funding, Staff suggests that “any outreach and education to induce EV sales should not be ratepayer-funded initiatives carried out by utilities. If the Joint Utilities choose to conduct consumer outreach targeted at influencing their electric customers to become EV owners, they should use shareholder money.”⁵⁵ Given the public benefits of EVs, we strongly believe that just as utility energy efficiency programs have consumer outreach and education funded through utility rates, utility EV programs should include a consumer outreach and education component funded through rates. When these utility consumer education programs support accelerated EV adoption, they will help drive higher utilization of charging infrastructure and improve the economics of EV charging infrastructure, which is a stated goal of the make-ready proposal.

b. Interconnection

Installing public charging stations can be a time-consuming process, and “awaiting utility interconnect” is a pending state that delays the use of chargers and costs charging infrastructure companies money. As Staff rightly points out, there is a great deal of focus in the EV industry on improving the economics of charging stations. One step toward helping charging infrastructure company economics is reducing the interconnection waiting period since it represents a period of time during which a company is carrying the expense of installing the unit but has no revenue from charging activity. Utilities can execute against this goal by standardizing, simplifying, and streamlining the interconnection process as well as the program application process.⁵⁶ We are glad to see Staff recognize the benefits of this work and propose an approach to a standardized interconnection process and a standardized approach to program applications. We leave it to charging infrastructure developers to weigh-in the specifics of the proposed approaches (i.e., using the Standardized Interconnection Requirements for New Distributed Generators and Energy Storage Systems 5 MW or Less Connected in Parallel with Utility Distribution Systems (SIR) as a model for interconnection, and having the Joint Utilities “develop a common Interconnection On-Line Application Portal (IOAP) for EV chargers, and substantially similar Make-Ready Program applications”).

As the Commission and utilities evaluate approaches to implementing interconnection improvements, we would recommend keeping three other factors in mind:

- Another important step to improving the effectiveness of the interconnection process is increasing the clarity and transparency of the process and improving charging company

⁵⁵ Staff Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure. Page 49.

⁵⁶ Id., Page 5.



visibility into project status throughout the process, which improves the ability of these companies to plan appropriately. An example of this is providing hosting capacity maps, as Staff suggests, to charging companies, which will help them reduce the risk of finding out that the grid capacity at the site is insufficient. Additionally, it is helpful to provide them with advance notice that an interconnection application might be delayed. These simple, but effective communication tools will help ease this process for all parties involved.⁵⁷

- We are pleased to see Staff propose that utilities dedicate team members to the Make-Ready program to ensure there are consistent points of contact for charging infrastructure development.
- We recommend that the Joint Utilities consider an expedited review process for EV charging projects. This could be especially helpful since, as Staff recognizes, “the Joint Utilities should expect an uptick in EV charging station applications once the Commission rules on DPS Staff’s Make-Ready Program proposal and should appropriately manage their resources to meet the industry’s needs and avoid queuing problems.”⁵⁸ An expedited review process can help avoid queuing problems.

c. Managed Charging and Vehicle to Grid

See our response to question number eleven, which addresses these issues.

d. Metering and Technology Standards

Staff recommends that “stakeholders and relevant state agencies engage in a working group to develop minimum standards and protocols” and “when standards are ready for deployment, DPS Staff suggests that the Commission consider adopting baseline standards in engineering and safety, payment, communications, and interoperability.”⁵⁹ As we laid out in our original comments,⁶⁰ to gain the most out of EVs as a resource, make the customer experience as seamless as possible, ensure equitable access to charging infrastructure that is funded with public money, reasonably limit the potential stranding of assets, and ensure the reliability of the grid, we agree that the Commission should “explore open technical standards such as the International Electrotechnical Commission (IEC) accepted OpenADR 2.0b, International Organization for Standardization (ISO)/IEC 15118, and the Open Charge Point Protocol (OCPP).” It is appropriate for the Commission to establish a stakeholder working group that can evaluate industry standards that the Commission

⁵⁷ Id., Page 5.

⁵⁸ Staff Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure. Page 50.

⁵⁹ Staff Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure. Page 53.

⁶⁰ Case No. 18-E-0138. Filing No. 36. Reply comments on behalf of Advanced energy Economy Institute. Filed 09/21/2018. <http://documents.dps.ny.gov/public/MatterManagement/MatterFilingItem.aspx?FilingSeq=213947&MatterSeq=56005>

can then adopt as appropriate. Since the Commission oversees the prudence of utility investments, it has an important role in ensuring that utility investments in EV charging infrastructure meet industry standards, as is normal practice in other areas of investment.

With all that being said, we do not recommend that the working group develop any new standards. There are already existing standards (i.e. OCCP) as well as existing industry standard making bodies, including the IEC, ISO, and many others, with extensive experience and expertise in developing standards. In our view, the working group should leverage existing standards and/or the work of these standard making bodies rather than reinvent the wheel.

In regard to sub-metering, the Staff is right to recognize that as EVs grow in number, utility and grid operators will need to have tools for managing the incremental demand from vehicle charging. One of the foundational ways this can be accomplished is by encouraging smart charging behavior. Smart chargers, which include capabilities for remote communications and built-in sub-metering of EV charging consumption, facilitate this behavior. Leveraging the built-in sub-meter in the charger can be significantly less expensive than requiring an additional meter, as noted by the Staff. Xcel Energy conducted a two year residential charging pilot program to study this approach.⁶¹ As such, we agree with Staff that it does not make sense to require a separate sub-meter, and we encourage the Commission to leverage the built-in meters provided by the charging station and/or the vehicle itself.

e. Utility EVSE Ownership

A make-ready program, by definition, refers to the installation of the wiring, conduit, and other electrical equipment up to the made-ready “stub” where the charging station connects. In this type of program, the utility deploys and/or facilitates the infrastructure up to the point of connection to the EVSE. In this specific context, the only ownership question is whether the utility should own the make-ready infrastructure. We agree with Staff that the utility should build and own the make-ready infrastructure on the utility side of the meter. When it comes to the make-ready portion on the customer side of the meter, Staff has proposed that the utility would simply provide a rebate as a reimbursement, but we recommend the Commission retain some flexibility for alternative

⁶¹Xcel Energy Taps eMotorWerks to Implement Residential Electric Vehicle Charging. (August 2018)
<https://evcharging.enelx.com/news/releases/471-xcel>

approaches, including changing the way the rebate is provided to developers, as discussed above in Section II.d. Coordinating Work and Timing of Payments, and utility ownership of the customer-side make-ready infrastructure if conditions warrant. As the Staff note repeatedly, charging infrastructure economics are challenging today, and it may be the case that in certain instances utility ownership of make-ready on the customer side of the meter is helpful. Such an approach should be possible without violating the REV Framework Order decision that DER development should occur through the competitive markets since the EVSE and vehicle are the DER when it comes to EVs.

Outside of the make-ready proposal, we urge the Commission to retain the flexibility to evaluate whether there is a market failure for a particular charging infrastructure installation segment at a point in time. In such a case, which Staff describes as “the market is not satisfying demand,” it may make sense for the utility to own the EVSE until such time that the market failure is resolved.⁶² Such an approach is consistent with the REV Framework Order as noted by the Staff and is consistent with our organization’s principled approach to ownership issues.⁶³ The Commission’s goal in addressing ownership issues should be to focus on eliminating underlying market barriers to facilitate the development of an expanded competitive market while simultaneously ensuring service provision in areas that are outside the reach of the competitive market.

f. Underserved and Rural Communities

See our response to question number five, which addresses disadvantaged communities.

g. Rate Design

The interaction of low load factors and demand charges continues to create problems for EVSE. Demand charges comprise a substantial portion of EVSE operating costs, especially for DCFC sites, which are difficult to recover through revenues while station utilization remains low. The Commission has already recognized this as a primary hurdle for ESVE in approving the Direct Current Fast Charging Infrastructure Program. However, as the first annual report for the program shows, the program is not proving effective at overcoming this challenge. Participation in the program is currently low, with only two utilities having active participating chargers, and applications across all utilities are in the low single digits. The Commission has recently made

⁶² Such market failure needs to be carefully considered to avoid any market chilling effects on market/utility competition.

⁶³ *EVs 101: A Regulatory Plan for America’s Electric Transportation Future*. Advanced Energy Economy. <https://info.aee.net/advanced-energy-policy-brief-ev-101>

modest improvements to the program in a March 19 order,⁶⁴ but it is unlikely that these modifications will lead to better results. It is our understanding that the relative complexity of the program compared to charging infrastructure programs in other states has contributed to these low participation rates, and that the per plug program has not been an effective substitute for rate design.

In addition, non-coincident peak (NCP) demand charges provide an insufficient signal to developers and customers to modify charging behavior and charging patterns so that electric vehicles improves overall capacity utilization of the system rather than increasing system peaks. Charging practices need to be developed early and become standard practice for new developers and EV owners alike rather than needing to adjust after the market and customer habits have already been established. Programs like Con Edison's Smart Charge New York are good examples of programs that provide incentives for end-use customers to charge off-peak, but they leave out EVSE developers and owners, who have an important role to play, and it is unclear that the approach – at least in terms of Smart Charge New York - is scalable as was noted by Staff.

The overall effectiveness of the DCFC Infrastructure Program and the current reliance on NCP demand charges are two issues that the Commission should take up in a holistic review of EVSE rate design in the near-term. The Commission required an interim review of the DCFC Infrastructure Program to take place in 2023. Given the poor participation rates to date and the impending State 2025 ZEV goals, three years is too long to wait. We recommend that the Commission take up the issue of EVSE rate design, as well as explore the potential of managed charging strategies to complement effective rate design, again within a calendar year and develop rate design options that accomplish the following:

- Improve charging patterns so that EV growth increases existing capacity utilization and avoids adding to system peaks. This will require moving away from the sole reliance on NCP demand charges.
- Provide enough mitigation of utility bills on EVSE operating costs to allow for EVSE deployment consistent with state goals. This should be done while preserving rate design signals that promote good charging behavior.

⁶⁴ Case No. 18-E-0138. Order Providing Clarification and Modifying Direct Current Charging Incentive Program. Filed on 3/19/2020.

- Gradually phase out bill mitigation measures based on predefined progress towards state EVSE deployment goals and utilization with options for adjustment as needed.

Despite its ambitious goals for transportation electrification, New York has lagged behind utilities in other states that have proposed or approved commercial EV rates. These include, but are not limited to: Arizona, California, Colorado, Connecticut, Hawaii, Maine, Minnesota, Pennsylvania, Rhode Island, New Jersey, Nevada, Washington, and Wisconsin. Staff has noted that in principle, they do not want to promote EV-specific rates, but AEE Institute notes that *technology neutral* low load factor rates are prevalent in other territories, including Dominion Energy, Xcel Colorado, and others. Without a holistic conversation on rate design, New York's transportation electrification goals will remain difficult to attain.

h. Commercial Fleets

Commercial and public fleet vehicle operators are increasingly seeking opportunities to deploy light-, medium-, and heavy-duty EVs at scale. Given the interest and the fact that fleet EV deployment will be an important determinant of New York's ability to achieve the transportation emission reductions necessary for the State to hit its CLCPA targets, it is important that the Commission address this market segment in a timely and effective manner.

Fleet electrification presents unique opportunities given that fleets are large loads with predictable charging patterns and in some instances, have long dwell times that make them good candidates for load shifting. At the same time, fleets face specific challenges, including relatively limited knowledge of electricity among fleet operators, relatively limited knowledge of transportation among utilities, limited relationships between fleet operators and utilities, significant infrastructure requirements, specific rate design considerations, and different types of load density considerations. The Staff has proposed a new Fleet Assessment service as part of a solution in which each electric utility would offer new services consisting of a site feasibility analysis and a rate analysis.⁶⁵ While the service is potentially useful, it is not sufficient, and we strongly believe that the Commission needs to take additional action quickly rather than waiting for the Make-Ready program to unfold for several years.

⁶⁵ It should be noted that there are several new offerings from the private sector, including but not limited to eIQ Mobility (<https://www.eiqmobility.com/>) and Electriphi (<https://www.electriphi.ai/>), that provide fleet management services specifically meant to help companies that are looking to transition their fleets to fully electric.

Specifically, we believe that the Commission should ask utilities to come forward with separate fleet program proposals. As part of those programs, we believe utilities should address the following considerations:

- Just as Staff recommended for utilities to have a dedicated EV team member responsible for overseeing the interconnection process, there should also be a dedicated team member to specifically oversee fleets. The person will serve as the point of contact for fleet operators, who frequently cite the lack of a consistent utility contact point as an impediment, and will serve to build the relationship over time.
- Charging infrastructure has been identified as one of the largest unknowns and sources of anxiety for fleets considering near-term adoption of EVs.⁶⁶ Utilities are in a unique position to help fleets think through their charging needs, and in some cases, help facilitate charging infrastructure build-out. Southern California Edison's ChargeReady Transport Program provides a good example.⁶⁷ The program offers low-to no-cost electrical system upgrades to support the installation of EV charging equipment for qualifying vehicles, providing a unique opportunity for fleet operators to electrify by providing support and reducing the costs with installing the necessary charging equipment.⁶⁸
- Rate design's impact on the cost effectiveness of EVs for commercial fleets and medium-and heavy-duty vehicles can be significant. Specifically, some commercial operators currently have limited ability to shift charging patterns to reduce the effect of demand charges. Modifications to rates, along with complementary charging technology that can facilitate response to these signals, have the potential to substantially help the situation.

IV. Reply to Questions

- 1) **To address anticipated changes in station economics and the potentially shifting need for utility-funded make-ready infrastructure, Staff recommended that the Joint Utilities, in consultation with Staff, reduce incentive levels within the Commission-established budgets. According to Staff, incentive level step-downs should be informed by key factors influencing station economics including station utilization, operating costs, and charger costs from data the Joint Utilities will publish in quarterly reports.**
 - a. What other key factors should be considered?
 - b. How frequently should these step-downs occur?

⁶⁶ <https://nacfe.org/future-technology/amping-up-charging-infrastructure-for-electric-trucks/>

⁶⁷ <https://www.sce.com/business/electric-cars/charge-ready-transport>

⁶⁸ <https://www.sce.com/sites/default/files/inline-files/SCE CRT FactSheet Final 1.31.20.pdf>



c. What notice process should the developer community receive prior to such stepdown?

The Staff Whitepaper maintains that increased charging station utilization levels will improve charging station economics, thus supporting a step down in incentive levels periodically during the make-ready program.⁶⁹ In this way, the make-ready program is designed to provide a bridge to self-sustaining EVSE market. That said, any proposed step-downs should not be driven by station economics alone but should also include the overall market response (EV registrations and charger deployments in terms of megawatts installed) and progress toward the state's transportation electrification goals. In particular, AEE Institute recommends that state EV registrations and EVSE deployments should be considered in any examination of incentive step-downs and the frequency at which they occur. The EV charging market is still nascent and is not expected in the near-term to see the same cost declines in equipment that have been seen in the solar industry. As such, a declining incentive model may be impractical. At the end of the day, the reason for the make-ready program is to produce a market response, and therefore that market response should be measured in the periodic reviews. If the market has not responded, a stepdown may not be warranted.

It is important that the incentive step-downs should provide guidance to the market as well as respond to signals from the market. In order to provide the market with the type of regulatory certainty that promotes investment, the Commission should provide the developer community with clear and simple criteria that will be used to determine when any step-downs will occur. The Commission should promote transparency in the evaluation process and timing of any potential step-downs to the developer community via a regularly updated dashboard or similar measure.

2) Should performance incentives be awarded to the Joint Utilities that seek to drive down costs, encourage beneficial siting, and engage proactively and successfully with developers?

a. How should the incentive be structured and what outcomes will measure performance?

AEE institute is broadly supportive of using performance incentives to drive beneficial utility actions. That said, performance incentives work best and tend to avoid unintended consequences when they tie utility financial success to the achievement of the high-level goals of programs rather than the management of particular program-level details. In the case of this make-ready program, we do not believe that embedded cost-of-service incentives (i.e., bias toward capital) will work

⁶⁹ Staff Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure. Page 2.



against the program to the same extent or manner as they work against energy efficiency or demand response, for instance. Therefore, we recommend a cautious approach to performance incentives. Additionally, the potential for unintended consequences is high for this program, since unlike most utility actions subject to Earnings Adjustment Mechanisms (EAMs) and incentives, the make ready program relies on a blend of regulated and private investment. A well-intended incentive mechanism that provides opportunity to shift costs or responsibilities between utilities and third parties without improving the success of the charging stations would not serve the state goal of increasing transportation electrification in the end.

For example, if an incentive mechanism provides utilities with an opportunity to earn by increasing the number of charging stations within a fixed make-ready program budget, then utilities might push installations to the cheapest locations without regard to the overall success of a particular location (i.e., is it a location that will drive the most charging from customers while minimizing costs). With such a mechanism, a utility would receive earnings even if all of the most economical locations in terms of make-ready costs are in places where customers are less likely to frequent. Despite the lowered make-ready costs, the charging station would be less successful due to lower customer usage.

Currently, the earnings opportunity for utilities from this make ready program are associated with make-ready costs recovered through the rate base. Assuming a utility is able to expend its entire make-ready budget, it will achieve its earnings potential, without regard to the number of charging stations deployed. This embedded incentive will not encourage cost efficiency in terms of the utility's own make ready costs. Countering capital bias associated with rate base investments is something that regulators have been faced with for many years without clear answers.

It may be possible to promote both utility cost efficiency and the success of individual charging stations with a single metric tied to the overall MWh usage for all charging stations supported through the utility's make-ready program. If a utility can earn by increasing charging overall, overspending on make-ready upgrades would lower the deployment of charging stations and likely decrease the aggregate energy consumed by stations. However, increasing the number of charging stations deployed through selecting the cheapest locations would not alone provide earnings if those locations are not popular with customers. Targeting overall station usage would strike a balance between these two considerations. Additionally, by aligning utility earnings with the

overall success of the charging station (as measured by customer usage), utilities will have an additional incentive to work closely and cooperatively with developers.⁷⁰

- 3) **Staff recommended that the seven upstate Regional Economic Development Councils (REDC) be designated as strategic locations where a limited quantity of stations will be eligible for additional incentives. According to Staff's proposal, at least four locations with four 150 kW DCFC stations should be developed in each Upstate REDC through a competitive procurement in the first year of the Make-Ready Program. Within an Upstate REDC, there may be locations that are more beneficial than others for siting strategic charging stations, based on geographic dispersion, proximity to corridors or amenities, and other factors.**
- a. **How should the competitive process be administered?**
 - b. **How should sites be selected, including identifying any locations within an REDC that should be targeted or excluded, ensuring geographically dispersed sites, and determining the size of the program?**
 - c. **How should locations be identified within an REDC?**
 - d. **Does this proposal best support the need for a minimum network of public charging?**

It is important to have equity in mind, and so we are glad to see an emphasis placed here, but in terms of programmatic design, we leave this to others for comment. Although we do not have any comment on this topic at this time, we reserve the right to comment on it in our reply comments.

- 4) **Staff proposed that the existing Commission policy preserving the conventional cost of service ratemaking approach be maintained and that the Commission revisit the issue at the DCFC per-plug incentive program's midpoint review.**
- a. **Are there ratemaking activities that may be complementary to the siting DCFC per-plug incentive program and the proposed Make-Ready program?**

Refer to our above comments on rate design in Section III.g Rate Design.

- 5) **Disadvantaged communities have been disproportionately impacted by air pollution from internal combustion engine transportation infrastructure siting. A key barrier to increasing electric vehicle (EV) usage in low to moderate-income households is these communities' relatively high concentration of multi-family and/or rental units, which can limit charging options. Staff proposed that 20 percent of each utility's publicly accessible DCFC Make-Ready Program budget be directed towards stations within 10 miles of disadvantaged communities.**
- a. **How should LMI and environmental justice communities be identified?**
 - b. **What are the appropriate siting criteria and rebate level to promote EV penetration into environmental justice areas?**

⁷⁰ It is important to keep in mind that as the market is incented to move on the locations that provide the best combination of cost effectiveness and utilization, equity concerns will need to be top of mind. Staff recognizes this and has included components related to equity in their proposal but making sure that those elements of the program are designed correctly, is essential. Refer to the section on LMI for more on this topic (Page 31-32)

We support increasing EV usage in and by LMI communities. As Staff recognized, the electrification of certain medium- and heavy-duty vehicle types such as bus fleets and trucking can provide additional access to EVs and improved air quality for many disadvantaged communities. Staff suggests that they will address this “expeditiously in the open EVSE&I proceeding”⁷¹ but given that these communities are disproportionately impacted by air-pollution from fossil-fuel based transportation today and given the volume of trucks that travel through New York, the medium- and heavy-duty sectors should be addressed now. We encourage the Commission to allow utilities to develop separate program proposals to address the medium- and heavy-duty sectors expeditiously.

When it comes to the usage of personal EVs by members of the LMI communities, a lack of charging infrastructure is one of the main barriers, in part because of the challenges associated with MUDs, which we discuss in Section II.a Eligible Projects. As such, it makes sense to look at ways to increase charging infrastructure access for these communities.

In terms of the specific design details of this portion of the program, we do not have any further comments at this time.

6) How should existing utility programs, established in negotiated multi-year rate cases, that address similar make-ready costs be incorporated into the Staff’s proposed Make-ready Program?

Utilities have several existing EV programs that have distinct goals and funding through the proposed make-ready program. For example, some utilities have programs that encourage customers to charge their EVs off peak to save on potential new distribution costs. The benefits from these programs are not replaced by the make-ready program, and their benefits would stop if these programs were discontinued. We recommend that the Commission leave these programs unmodified in its order on the Staff Whitepaper.

For the existing make-ready programs, we recommend that the Commission allow those programs to continue as currently structured. As we noted earlier, the Staff Make-Ready Program does not fully address the charging infrastructure gap that New York faces. Furthermore, these existing programs are relatively small, and significant portions of them address market segments that are

⁷¹ Staff Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure. Page 9.

unaddressed by the Staff proposal. At this moment in time, when businesses are struggling to stay afloat in the wake of COVID-19, it is important to minimize market disruptions. As a case study, a make-ready program of \$13 million per year was approved in Consolidated Edison's last rate case. Of that total, \$3 million dollars in annual funding is earmarked specifically to support fleet electrification and not publicly-accessible DCFC. Fleet electrification is especially important in New York City, where a disproportionate number of vehicles are used for commercial purposes (light-, medium- and heavy-duty). As such, the specific funding for fleets begins to address a critical need that the Staff proposal does not address, and the remaining \$10 million dollars in annual funding is a small addition to the Staff Make-Ready Program.

- 7) **Staff proposed that all installations participating in the Make-Ready Program be sufficiently future-proofed by oversizing all components that can be oversized with minimal incremental cost. On the customer side, this includes trenching and conduit, and likely the panel. What distribution system components should be future-proofed by oversizing or other means, and what are the associated incremental costs?**

AEE Institute has no comment at this time.

- 8) **A common EV conductive charging system and interoperable communications systems are important aspects of an efficient public EV charging infrastructure network. How can the proposed Make-Ready Program stay current and encourage leading technology types and standards?**

Please see our comments above in Section III.d Metering and Technology Standards.

- 9) **While not proposing make-ready funds at this time, Staff's proposal suggests implementing policies that encourage fleet electrification. How can the Commission best promote fleet electrification that minimizes impacts to the distribution grid?**

Please see our comments above in Section III.h Commercial Fleets.

- 10) **Staff's proposal recommends that the Joint Utilities file quarterly reports and annual program overview reports. What Make-Ready Program information should be reported in addition to: the number of station owners participating in the Make-ready Program; the number of sites for which incentives were issued; the number of Level 2 and DCFC plugs installed; program costs incurred detailed by equipment and installation; and billed usage?**

Staff recommends that the Joint Utilities file quarterly reports, as well as annual program overview reports. While we agree that both quarterly reports, and annual program overviews should be filed, we believe that these should be filed by individual utilities, rather than the Joint Utilities. The individual utilities should agree on a common format that they all should follow. By requiring that

data gathering and evaluation through the filing of quarterly and annual reports by individual utilities occur in parallel with the implementation of the program, rather than after the fact, the Commission will be able to better track the progress of the program during interim periods. It will also allow utilities to actively manage the program by monitoring participation rates, proposing changes when needed, and tailoring outreach and education efforts to achieve better outcomes. As part of the annual program overview, the Joint Utilities should develop three to five of the most measurable and impactful metrics that can act as objective, quantitative indicators of the progress of the program(s) toward achieving the state's policy goals. Metric categories should remain consistent for all utilities, but actual targets may vary from utility to utility to reflect the differences in their service territories. Beyond quantitative metrics, it would be helpful for utilities to determine a method for reporting the level at which the charging infrastructure needs of specific market segments are being addressed.

11) EVs and EV infrastructure represent a point of potential value to the grid. What actions can be taken to optimize this value

Electric vehicle chargers, especially those that are networked, can provide a significant amount of flexible and dispatchable load on the grid that can be used in a coordinated way to relieve capacity constraints and reduce system costs. As a starting point, time-varying rates with time-of-use periods that coincide with local system peaks provide incentives for EVSE to decrease charging when the additional load is likely to add to system costs.

Beyond static time-of-use periods, targeted demand reductions can be achieved through managed charging opportunities, both in terms of enabling certified behind-the-meter load management to avoid customer-specific distribution upgrades, or to provide system-level benefits through utility demand response programs. It should be noted that demand response programs and managed charging are best suited to longer dwell time locations (Level 1 and Level 2 charging), but not DCFC, where demand is much more inelastic. EV chargers can also increase consumption on cue when wholesale prices go negative to soak up excess generation and to prevent renewable generation curtailments. These capabilities are all available with EV charging today and should be a focus of near-term utility programs, so that chargers are benefitting the grid from the outset as EV penetration rises.

Currently, vehicle-to-grid (V2G) pilots are testing the ability of electric vehicles and chargers to supply electricity to the grid at times of high need. V2G integration, while still under development, could provide additional value to the grid in the medium- to long-term. A large enough network of EVs that are capable of feeding power back to the grid could potentially serve as a non-wires alternative and a resource for utilities to employ in distribution planning and operations.

12) Staff's Whitepaper contemplates that the automated, connected, electric, smart vehicles of the future will adopt varying software, depending on the targeted market and manufacturer. Staff did not propose that the Commission regulate vehicle software systems but did underscore the importance of current software systems enabling future use cases. How should smart charging be approached and enabled?

It is important to recognize the difference between managed charging and price responsive charging. The term Vehicle Grid Integration ("VGI") encapsulates both the one-way flows of energy from the grid to the EV, as well as the two-way flow of energy between the EV and the grid, which is referred to as vehicle-to-grid functionality ("V2G").

Price responsive charging can refer to price-responsive forms of VGI, such as time-varying rates, to induce a particular charging behavior. The adoption of proper price signals through time-varying rates can optimize load profiles and utility system asset utilization, thereby driving down rates for all customers. New York needs not only residential EV rates, but also commercial EV rates with a time of use component as noted in our above comments on rate design in Section III.g Rate Design

Managed charging utilizes direct load control or signals from grid operators and/or aggregators to shift charging or vary charging speed, both up and down, in response to dynamic grid conditions, and is not dependent on customer response to price signals, but can incorporate site-specific customer preferences. As mentioned above, this is best suited to Level 1 and Level 2 charging, which is currently more than 80% of the charging market today. In these applications, customers may be plugged in for 4-8 hours and have more flexibility as to when a car may need to be charging. Public DCFC is much more challenging given the necessity for customers – often fleet drivers, apartment dwellers, or those utilizing DCFC on road trips – to receive their expected state of charge when they arrive.

In the future, there will be options for V2G, which to date has primarily been limited to pilots, such as those using school buses to provide grid services during times when the buses are not being used

for transporting students. Other fleet applications will likely be the most near-term applications for V2G due to their scale and magnitude, once the noted challenges are overcome.

To properly enable smart charging at all of these levels, it is important to ensure that charging hardware being deployed has the necessary capabilities. Intelligent, networked chargers that adhere to interoperability communication standards (e.g., OCPP) are vital to facilitating more advanced dynamic pricing options that customers may be able to take advantage of in the future and enabling consumers to respond to advanced rates and charging programs.

13) How should developer feedback be incorporated into the utility planning process, particularly to account for EV load growth?

AEE Institute broadly supports active stakeholder engagement in modern utility planning processes, whether it relates specifically to the Make Ready Program or distribution planning more generally. We fully support utilities' including projections of EV charging in their distribution planning processes and preparing for a range of growth estimates. While some developers may individually have EV growth and charging usage projections they may share with utilities, broader industry perspectives from consultants and trade groups may be more useful for distribution planning purposes. Prior to each utility publishing its Distributed System Implementation Plan (DSIP) every two years, the utility should convene the EV charger developers in its territory, as well as allied groups and independent experts, to gather information on the latest EV load growth projections and to explain and gather feedback on how it is planning for EV load growth within its distribution plans.

14) The focus of the Staff EVSE&I Whitepaper is a utility Make-Ready Program for light-duty EVs; what are the critical issues to resolve and what are the critical achievements to ensure the charging infrastructure needs of medium and heavy-duty fleets are met?

- a. With what timing and sequencing?**
- b. What considerations support your recommendation?**

Given the substantial benefits offered by medium- and heavy-duty electrification and growing market demand and business rationale for this segment, it is important for Staff to address some of the unique regulatory considerations relative to these vehicles, “expeditiously,” as Staff stated in the Whitepaper. We recommend, that given the importance of this sector and the need for the State to make rapid progress on decarbonization given the CLCPA, utilities should bring forward separate medium- and heavy-duty program proposals as soon as possible.

Medium-and heavy-duty (MD/HDV) Internal Combustion Engine (ICE) vehicles are a large source of smog-forming emissions and fine particulates, particularly in urban areas like New York City. Electrification of these vehicles, such as buses, local delivery vehicles, transport refrigeration units and their auxiliary power units, and intermodal freight trucks, has significant potential to improve air quality.⁷² According to the U.S. Environmental Protection Agency (U.S. EPA), transportation contributed 29% of all GHG emissions in 2017 up from 14% in 2010), and MD/HDV's were responsible for 23% of these overall GHG emissions.⁷³ The amount of GHG and criteria air pollution from these types of vehicles is in part driven by their high utilization. The average HDV travels more than six times the distance of the average personal car and is in use daily, resulting in the average HDV traveling around 100,000 miles a year.⁷⁴ Moreover, local air pollution from MD/HDVs disproportionately affects low-income and vulnerable communities. As a result, electrification of these vehicles will provide disproportionate benefits to them.

In addition to the great potential for these vehicle types to improve air quality,⁷⁵ medium- and heavy-duty EVs provide significant operational benefits as well, including but not limited to, lower fuel and maintenance savings, improved traction and vehicle stability, and lower sounds levels.⁷⁶

Many cities are recognizing the benefits and taking action by converting their fleet vehicles to electric. New York City, which operates the largest municipal bus fleet in the United States with approximately 10,000 medium and heavy-duty vehicles,⁷⁷ recently announced a plan to transition its entire public bus system—5,700 buses— to PEVs by 2040.⁷⁸ Converting the fleet to EVs is the equivalent of taking over 100,000 light-duty vehicles off the road in terms of GHG emissions. A study by Columbia University found that each electric bus could reduce health costs by about \$150,000 and that shifting the entire fleet to EVs would cut CO₂ emissions by 575,000 metric tons per year and save the city \$39,000 per bus per year on fuel and maintenance costs.⁷⁹

⁷² <https://www.edison.com/content/dam/eix/documents/our-perspective/g17-pathway-to-2030-white-paper.pdf>

⁷³ <https://www.epa.gov/greenvehicles/fast-facts-transportation-greenhouse-gas-emissions>

⁷⁴ Data based on Alternate Fuels Data Center. <https://afdc.energy.gov/data/10309>

⁷⁵ <https://www.edison.com/content/dam/eix/documents/our-perspective/g17-pathway-to-2030-white-paper.pdf>

⁷⁶ Advanced Energy Economy. *Electrifying Medium and Heavy-Duty Vehicles Fact Sheet* (2019).

https://info.aee.net/hubfs/AEE_ElectricMDV_HDV_Facts_7.17.19.pdf

⁷⁷ NGOs and Health Experts Call on New York City to Get Its Municipal Fleets Off Diesel. Common Dreams. May 2018. <https://energy-vision.org/pdf/Common%20Dreams-Experts-Call-on-NYC-to-Get-Its-Municipal-Fleets-Off-Diesel.pdf>

⁷⁸ <https://insideclimatenews.org/news/26042018/nyc-air-pollution-electric-bus-public-transportation-mta-clean-technology>

⁷⁹ Id.



As stated in our comments above in Section II, charging infrastructure has been identified as one of the biggest barriers for fleets, especially MD/HD fleets.⁸⁰ Examples of programs that directly address charging infrastructure for these classes of vehicles include PG&E's FleetReady Program⁸¹ and Southern California Edison's Medium- and Heavy-Duty Vehicle Charging Program, ChargeReady Transport,⁸² as discussed above in Section III.h. Both programs provide make-ready infrastructure for most program participants, and in each case, the respective utility offers rebates covering part of the charger and installation costs to transit and school bus fleets and to fleets that operate in communities that are most burdened by truck and bus pollution.⁸³ It is critical to address charging infrastructure for medium- and heavy-duty fleets.

Other barriers that are critical to address beyond infrastructure, include:

- Ensuring that there is a consistent point of contact at utilities for fleet operators.
- Addressing on-going cost-effectiveness of electrified medium- and heavy-duty fleets through rate design and managed charging strategies.

Please see our comments above in Section III.h Commercial Fleets for more on this topic.

15) Should resiliency measures be considered when determining Make-Ready Program eligibility?

- a. **What specific thresholds and measures should be considered? For example, Con Edison uses the Federal Emergency Management Agency (FEMA) 100-year flood map plus three feet as the threshold for determining when storm hardening and resiliency measures such as elevating, sealing and protective barriers are needed to protect critical assets from flooding concerns.**
- b. **How should resiliency measures for charging infrastructure participating in the Make- Ready Program be funded? For example, should developers who locate charging infrastructure in flood-prone areas be required to fund the flood mitigation measures to incentivize developers to avoid high-risk location?**

In general, the purpose of the Make-Ready Program is to promote the expansion of EV charging infrastructure, not to build grid resilience. While the Commission should certainly focus on the resiliency of the overall distribution system, it is important that the Commission not try to force EV chargers to perform functions for which they are not designed. Creating unnecessary resiliency

⁸⁰ <https://nacfe.org/future-technology/amping-up-charging-infrastructure-for-electric-trucks/>

⁸¹ https://www.pge.com/en_US/large-business/solar-and-vehicles/clean-vehicles/ev-fleet-program/ev-fleet-program.page

⁸² <https://www.sce.com/business/electric-cars/charge-ready-transport>

⁸³ <https://www.ucsusa.org/sites/default/files/attach/2019/04/Electric-Utility-Investment-Truck-Bus-Charging.pdf>

requirements on EV charging infrastructure would only serve to exacerbate the economic challenges facing the industry, which the Staff discusses at length in the proposal.

With that as context, not all EVSE should be considered critical infrastructure for the purpose of resiliency standards, especially as it relates to this Make-Ready Program. It is essential to recognize that while resiliency is an important topic, the purpose of this specific program is not to deal with resilience issues. As the network of chargers grow, there will be an apparent need for charging stations in particular locations (i.e. hurricane evacuation routes), but those questions should be handled in a separate proceeding. Addressing these issues now, may tie up a program that is meant to accelerate the market today, with ancillary issues. As such, we recommend that over time, as EVs and EVSE proliferate, the Commission should address the issue of resiliency of the overall charging network so that it can meet the needs of EV drivers in emergency situations, such as evacuations ahead of impending severe weather.

- 16) Staff recommends that the Joint Utilities develop a common Interconnection On-Line Application Portal (IOAP) for EV charger applications and a common load-serving capacity map tool so that developers have a common experience across all New York utilities. By when should the Joint Utilities be required to have these EV IOAP and load-serving capacity map tools functioning?**

Please see our comments above in Section III.b Interconnection.

- 17) Staff recommends that DCFC station developers be allowed to 1) bundle costs from multiple DCFC site locations within a service territory if all plugs are completed during a developer-chosen-18-month period, and 2) amend an approved bundling application with additional sites if those sites will also be completed during the same period. Would an alternative bundling approach or bundling period be more feasible or efficient?**

AEE Institute has no comment at this time.