

STATE OF NEW YORK  
PUBLIC SERVICE COMMISSION

CASE 18-E-0138 - Proceeding on Motion of the Commission  
Regarding Electric Vehicle Supply Equipment and  
Infrastructure.

ORDER ESTABLISHING ELECTRIC VEHICLE INFRASTRUCTURE  
MAKE-READY PROGRAM AND OTHER PROGRAMS

Issued and Effective: July 16, 2020

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STATE OF NEW YORK  
PUBLIC SERVICE COMMISSION

At a session of the Public Service  
Commission held in the City of  
Albany on July 16, 2020

COMMISSIONERS PRESENT:

John B. Rhodes, Chair  
Diane X. Burman, concurring in part and dissenting in part  
James S. Alesi  
Tracey A. Edwards  
John B. Howard

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BY THE COMMISSION:

INTRODUCTION

On April 24, 2018, the Public Service Commission (Commission) commenced this proceeding to identify cost-effective approaches for electric utilities to support the infrastructure and equipment necessary to accommodate increased electricity demands associated with the deployment of Electric Vehicles (EVs).<sup>1</sup> The EV Instituting Order recognized that EVs provide various potential benefits for the State and that ensuring adequate EV supply equipment and infrastructure (EV Infrastructure) is critical to securing these benefits and achieving the State's environmental and clean energy goals. As the Commission noted at that time, electrification of the

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<sup>1</sup> Case 18-E-0138, Order Instituting Proceeding (issued April 24, 2018) (EV Instituting Order).

State's transportation sector is needed to meet the "[New York] State Energy Plan (SEP) targets of reducing greenhouse gas emissions 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050."<sup>2</sup>

Since then, the State enacted the Climate Leadership and Community Protection Act (the CLCPA), which codified the 2030 target and increased the 2050 objective by establishing a State goal to "reduce greenhouse gas emissions from all anthropogenic sources 100 [percent] over 1990 levels by the year 2050, with an incremental target of at least a 40 percent reduction in climate pollution by the year 2030."<sup>3</sup> The CLCPA also directed the Commission to establish a renewable energy program whereby jurisdictional load serving entities (LSEs) have secured adequate amounts of renewable energy resources to serve at least 70% of load in 2030 and that there are zero emissions in 2040 associated with electrical demand, which the Commission is considering in Case 15-E-0302.

In addition, the CLCPA calls for a newly formed Climate Action Council to make recommendations to promote the beneficial electrification of the transportation sector in order to reduce greenhouse gas emissions.<sup>4</sup> While the Commission expects the Climate Action Council's recommendations will provide a valuable framework for the State to follow, the

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<sup>2</sup> EV Instituting Order, p. 1; see also, The Energy to Lead: New York State Energy Plan Vol. I, p. 30.

<sup>3</sup> Chapter 106 of the Laws of 2019. See also, the Climate Act Fact Sheet, available at: <https://climate.ny.gov/-/media/CLCPA/Files/CLCPA-Fact-Sheet.pdf>.

<sup>4</sup> The Climate Action Council is a 22-member committee that will prepare a Scoping Plan, oversee sector-specific advisory panels and working groups, and work in consultation with the Climate Justice Working Group and the Environmental Justice Advisory Group.

actions undertaken in this proceeding are intended to meet near-term objectives that are appropriate and necessary to advance the State's clean energy and infrastructure requirements.<sup>5</sup>

Electrifying the transportation sector can reduce harmful carbon dioxide, methane, nitrogen oxides, sulfur dioxide, hydrocarbons, carbon monoxide, and particulate matter emissions. New York's transportation sector is responsible for more of the State's greenhouse gas emissions than any other sector.<sup>6</sup> By reducing the use of diesel and gasoline fuels in vehicles now, New York State can significantly improve air quality. As the mix of energy generation grows cleaner per recent State mandates, the environmental benefits of an electrified transportation sector will grow.

The EV Initiating Order noted that in 2013, Governor Cuomo formalized New York State's commitment to transportation electrification by signing on to the Multi-State Zero Emissions Vehicle Memorandum of Understanding (ZEV MOU).<sup>7</sup> Under the ZEV MOU, New York is one of eight states with a collective target of

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<sup>5</sup> The analysis recently presented to the Climate Action Council suggests that the CLCPA will drive approximately 60 to 70 percent of sales of zero emissions vehicles in the light-duty market, or 1.8 to 2.2 million zero emissions vehicles to be on New York's roads by 2030. See New York State Decarbonization Pathways Analysis: Summary of Draft Findings (June 24, 2020). Available at: [file:///C:/Users/l323ps.SVC.000/Downloads/2020-06-24-NYS-Decarbonization-Pathways-CAC-Presentation%20\(1\).pdf](file:///C:/Users/l323ps.SVC.000/Downloads/2020-06-24-NYS-Decarbonization-Pathways-CAC-Presentation%20(1).pdf).

<sup>6</sup> See New York State Department of Conservation, Reducing Greenhouse Gas Emissions: Limiting Future Impacts of Climate Change. Available at: <https://www.dec.ny.gov/energy/99223.html>.

<sup>7</sup> State Zero-Emission Vehicle Programs, Memorandum of Understanding available at: [dec.ny.gov/docs/air\\_pdf/zevmou.pdf](https://dec.ny.gov/docs/air_pdf/zevmou.pdf).

at least 3.3 million Zero Emissions Vehicles<sup>8</sup> on the road by 2025, and has committed to work together with other signatory states to establish charging and fueling infrastructure that will adequately support this number of vehicles. New York's share of the ZEV MOU is to have approximately 850,000 Zero Emissions Vehicles registered in New York by 2025.

The EV Instituting Order sought to support the State's ZEV MOU targets by removing obstacles to EV adoption and to ensure critical EV supply equipment and infrastructure (EV Infrastructure) is in place. To address these matters, the Commission directed Department of Public Service Staff (Staff) to collaborate with stakeholders to identify and address immediate and long-term actions to best support ZEV market growth, and to issue a whitepaper that addresses these topics.

On January 13, 2020, Staff filed a "Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure Deployment" (the Whitepaper), as directed by the Commission. In the Whitepaper, Staff estimates that New York State will need between 20,000 and 50,000 additional public Level 2 chargers,<sup>9</sup> between 35,000 and 80,000 additional Level 2 workplace-sited chargers, and between 1,000 and 4,000 additional direct current fast charger (DC Fast Charger) ports to support the ZEV MOU

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<sup>8</sup> Zero Emissions Vehicles include plug-in hybrid electric vehicles, battery electric vehicles, and hydrogen fuel cell vehicles. The actions taken by this Order primarily support a growing battery electric vehicle market and support existing and expected plug-in hybrid electric vehicles.

<sup>9</sup> Level 2 chargers operate at 240 volts, have fixed cables that connect to an EV, and are at least two times faster than Level 1 charging, where power is drawn from a standard 120 volt wall outlet. Level 2 charging speeds vary depending on the size of the EV's battery, but as an example, a Chevy Bolt EV draws approximately 25 miles of range per hour.

goal.<sup>10</sup> To reach these targets, Staff recommends establishing a statewide "Make-Ready Program" that would provide incentives for the installation of light-duty EV Infrastructure for both Level 2 and DC Fast Charger stations. The Make-Ready Program would cover up to 90 percent of the eligible costs needed to prepare a site for EV charging if all eligibility criteria are met, or 50 percent of the costs if the station does not meet the public accessibility or standardized plug eligibility requirements.<sup>11</sup> In addition, the Whitepaper contains many recommendations regarding tools for the utilities to develop to meet the expected increase in EV charging stations, and recommendations for advancing fleet electrification.

In this Order, the Commission adopts Staff's Proposed Make-Ready Program with modifications. Additionally, the Commission directs the utilities to establish a Medium-Duty and Heavy-Duty Make-Ready Pilot Program, and a Fleet Assessment Service. In order to support electrifying public transportation, the Commission directs Con Edison, National Grid, and RG&E to establish the Transit Authority Make-Ready Program to work with specific transit authorities in their efforts to achieve 25 percent electrification by 2025. The

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<sup>10</sup> DC Fast Chargers, also known as Level 3 chargers, operate at the highest power levels and are the fastest charging option for battery electric vehicles. DC Fast Chargers operate at between 400 - 1,000 volts and while charging speeds vary based on battery size, state of charge, and other factors, can charge an EV up to 80 percent in 20 - 30 minutes. Plug-in hybrid electric vehicles typically cannot use DC Fast Chargers.

<sup>11</sup> The Whitepaper recommended that Level 2 plugs must use the North American standard for electrical connectors for electric vehicles as maintained by the Society of Automotive Engineers International (SAE) as an eligibility threshold. In the event an alternate standard is adopted plugs of the new standard would be eligible for the incentive.

Commission also directs the New York State Energy Research and Development Authority (NYSERDA) to establish an Environmental Justice Community Clean Vehicles Transformation Prize, a Clean Personal Mobility Prize, and a Clean Medium-Duty and Heavy-Duty Innovation Prize to equitably deliver transportation electrification benefits throughout the State. These actions will encourage the accelerated, forward-thinking development of EV charging infrastructure and promote the State's environmental and clean energy goals.

In sum, electrification is key to decarbonizing the transportation sector, given the powerful progress and trajectory seen decarbonizing the power sector. Initially the focus is on light-duty vehicles, where the prospect for near-term progress is greatest and where existing commitments provide clear direction. This, in turn, requires charging infrastructure. The Whitepaper and this Order propose that appropriate utility investments are powerful, sound, and necessary. Make-ready investments by utilities can support and complement charger investments by private developers to jointly enable the complete charging infrastructure required, and such make-ready investments are aligned with utility strengths and responsibilities. These utility investments can enable the market to deploy at the needed scale, while ensuring that market developers are motivated to deploy their own investments soundly, in locations and configurations that promise best utilization and economics.

The needed quantity and mix of this make-ready infrastructure deployment have been estimated based on the best available vehicle and mileage projections and targets. Program rules for this deployment, as well as certain innovative projects, will ensure best access to charging and to clean transportation for all New Yorkers, including communities that



would otherwise be underserved. This scale of deployment and the requirements for accessibility to the public and to disadvantaged communities, especially with the application of strong cost-effectiveness and cost-containment measures, drive investments that yield compelling benefit-cost results.

The strategy directed in this Order incorporates a midterm review as well as thorough and ongoing tracking and reporting of results and performance, allowing the Commission to quickly react to market conditions while providing a strong signal to EV developers to build New York.

#### SUMMARY OF THE WHITEPAPER

The Whitepaper focuses on proper and valuable utility roles in the electrification of light-duty vehicles in the State as a first step in establishing the necessary economic, regulatory, and physical infrastructure needed for widescale transportation electrification. Staff does not propose to terminate the existing statewide DC Fast Charger Per-Plug Incentive Program, which aims to support the infrastructure deployment needed to increase EV penetration and to complement existing utility-specific programs.<sup>12</sup> However, Staff recommends establishing a comprehensive, practical, and economically sound statewide Make-Ready Program for light-duty vehicles, so that EV charging infrastructure developers may access incentives using a common statewide framework.

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<sup>12</sup> See Case 18-E-0138, Order Establishing Framework for DC Fast Charger Infrastructure Program (issued February 7, 2019) (DC Fast Charger Framework Order); Order Modifying Incentive Program and Granting, In Part, Petition for Rehearing (issued July 12, 2019) (Order Modifying DC Fast Charger Program); Order Providing Clarification and Modifying DC Fast Charger Incentive Program (issued March 19, 2020) (Order Further Modifying DC Fast Charger Incentive Program).

Using the National Renewable Energy Laboratory's (NREL) Electric Vehicle Infrastructure Projection Tool (commonly known as EVI-Pro Lite),<sup>13</sup> Staff concludes that supporting the ZEV MOU goal may require between 20,000 and 50,000 additional public Level 2 charging ports, between 35,000 and 80,000 additional workplace Level 2 charging ports, and between 1,000 and 4,000 additional DC Fast Charger ports. In addition to this publicly accessible charging infrastructure, Staff expects that the majority of Zero Emission Vehicle drivers will have home charging access equipped with a Level 1 or Level 2 charger, which should meet the majority of their charging needs.<sup>14</sup>

Under the Make-Ready Program proposal, certain infrastructure costs required to support a charging station would be eligible for a cost-sharing incentive. The Staff proposal specified that traditional distribution network services on the utility side of the meter needed for a new station would be eligible for an incentive. On the customer side of the meter, equipment such as new service drops,

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<sup>13</sup> See, <https://afdc.energy.gov/evi-pro-lite>. NREL's EVI-Pro Lite tool was developed to simulate the needed level of public and workplace Level 2 and DC Fast Charging infrastructure given a future electric vehicle stock. EVI-Pro Lite factors in the assumed mix of plug-in hybrid and full battery electric vehicle types and the availability of at-home charging. The model simulates driving patterns for the expected future electric vehicle stock using historic data collected from internal combustion engine vehicles, generating daily driving patterns similar to today's driving behavior. The model applies spatial and temporal post processing to calculate the level of EV charging infrastructure deployment needed to maximize the electric vehicle miles traveled, balancing the need for geographic diversity and favorable station utilization.

<sup>14</sup> As previously noted, Level 1 charging is the slowest charging option, at 120 volts, and uses a standard three-prong plug in a typical residential wall outlet.

trenching/boring, and running conduit/cable to the section of the site (e.g., parking lot) would be eligible for an incentive. The Whitepaper recommends that the utility own the equipment on the utility side of the meter, and the customer own the equipment on the customer side of the meter.<sup>15</sup> The Whitepaper also recommends that under limited circumstance, such as an existing demonstration project, utilities should be allowed to continue to own equipment on the customer side of the meter.

Staff proposes a tiered incentive structure based on the new charging station satisfying certain eligibility criteria. Staff notes that the level of public accessibility and the types of charging plugs deployed would be the crucial factors in determining incentive levels. Public accessibility, according to Staff, requires unlimited public access and 24-hour standard payment options, while standardized plug types must be used to access the full incentive. Other proposed program criteria include the number of plugs and capacity per site, and oversizing infrastructure to accommodate future expansion.

Staff proposes that chargers satisfying all the criteria should receive payments for up to 90 percent of eligible costs, although per site cost ceilings may limit this amount. Under Staff's proposal, if the public accessibility or standardized plug type criteria are not satisfied, but all other requirements are met, the site is eligible for up to a 50 percent incentive.

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<sup>15</sup> The Whitepaper proposal assumed the meter was the point of demarcation of ownership. The point of demarcation may not be so clear, however, since the meter is owned by the utility but there are some assets between the meter and a utility's transmission and distribution system that are owned by the customer such as primary underground cable running to pad mounted transformer.

Although Staff's proposed program would be statewide within utility service territories, each utility would have a separate budget and cap on the number of incentivized plugs. The Whitepaper proposes using a maximum incentive level for each installation based on utility-specific station development costs estimates. The number of Level 2 and DC Fast Chargers that would be eligible for incentives for each utility territory would be based on the current number of registered light-duty vehicles in the utility service territory. Staff also suggests that program budgets for each utility be determined based on the maximum incentive level for each installation and the number of charging stations allocated to each utility service territory. The Whitepaper proposes that the number of Level 2 plugs eligible for incentives in the first three years of the program be capped at 50 percent of the total number of plugs allocated to each service territory.

The Whitepaper proposes an estimated aggregate EV Make-Ready Program budget of \$582 million through 2025, which represents approximately 70 percent of the total anticipated make-ready costs of \$828 million. The 70 percent figure represents the anticipated overall program reimbursement when factoring in projects at both the 90 percent level and the 50 percent level.<sup>16</sup> As per Staff's proposal, the utilities would recover program costs through a combination of rate base and surcharges. In addition, Make-Ready Program costs would be allocated to all customer classes based on transmission and distribution revenues.

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<sup>16</sup> Staff's proposal assumes that all DC Fast Chargers qualify at the 90 percent incentive level, all public Level 2 qualify at the 90 percent incentive level, and all workplace Level 2 qualify at the 50 percent incentive level.

The Whitepaper proposes a number of design elements intended to constrain costs and provide the necessary Staff oversight to ensure effective program implementation. Staff notes the potential suitability of an Earning Adjustment Mechanism (EAM) to incentivize utilities to contain program costs. A quarterly reporting requirement from site owners and utilities was identified to allow Staff to recommend timely program modifications if needed. Staff suggests coordinating midpoint program review with the DC Fast Charger Per-Plug Incentive Program review, which commences on October 1, 2023. Under Staff's proposal, if each utility has completed applications for 45 percent of the total number of plugs eligible in the DC Fast Charger Per-Plug Incentive Program in their territory prior to that date, then the program review would begin earlier.

Staff also proposes that the utilities collaborate to support the achievement of State and regional EV market objectives. To fulfill this requirement, the utilities would incorporate EV charging scenarios in their annual capital planning process and establish site suitability criteria for site identification. Staff proposes that the utilities identify potential host sites using available load-serving capacity, and work with developers to provide site interconnection capabilities overlaid with local traffic pattern maps to further pinpoint the most useful sites. Staff also proposes that the JU perform education and outreach to developers through a common methodology using a fair and competitive process for the eventual selection of a developer. The Whitepaper proposes that the utilities also provide education outreach to current and potential EV owners regarding rate options.

Staff recommends that the program create even greater EV adoption opportunities for rural and economically

disadvantaged communities. Staff proposes that the seven upstate Regional Economic Development Councils (REDCs) be eligible for limited additional incentives under the program.<sup>17</sup> In each REDC, at least four locations with four 150 kilowatt (kW) DC Fast Charger plugs at each site would be developed through a competitive procurement process during the first year of the program. Staff suggests this minimum DC Fast Charger network statewide to encourage EV adoption and limit EV travel anxiety. Staff also proposes that 20 percent of each utility's DC Fast Charger EV Make-Ready Program budget be deployed within 10 miles of an environmental justice community.

In addition, the Whitepaper proposes that the utilities implement a web-based application process that provides the updated status of applications for developers of EV charging stations. Staff's proposal is for each utility to develop an Interconnection On-Line Application Portal (IOAP) similar to the one used in the Standard Interconnection Requirements (SIR) process for New Distributed Generators and Energy Storage Systems 5 MW or Less Connected in Parallel with Utility Distribution Systems.<sup>18</sup> Staff advises that the utilities

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<sup>17</sup> The seven upstate Regional Economic Development Councils are: the Capital Region, Central New York, the Finger Lakes, the Mohawk Valley, the North Country, the Southern Tier, and Western New York.

<sup>18</sup> Case 14-M-0101, In the Matter of Reforming the Energy Vision, Order Adopting Regulatory Policy Framework and Implementation Plan (issued February 26, 2015) (REV Track One Order) (Phase I of REV required the development of a utility-customer engagement web platform, to allow for online interconnection application submittal with automated management and screening). See also, Case 18-E-0018, In the Matter of Proposed Amendments to the New York State Standardized Interconnection Requirements (SIR) for Small Distributed Generators, Order Modifying Standardized Interconnection Requirements (issued April 19, 2018) (by which the Commission adopted the IOAP into the SIR).

could appropriately manage their resources to meet the industry's needs and avoid queuing problems with the anticipation of increased EV charging station applications. Staff suggests that dedicated EV team members would be in place at the outset comprised of interconnection experts, distribution system planners, and other key subject matter experts within each utility.

The Whitepaper proposes that a Staff-led working group be formed with stakeholders to develop protocols and minimum standards for open communications. These stakeholder groups would explore open technical standards related to EV supply equipment, 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). Furthermore, Staff proposes adopting baseline standards in engineering and safety, payment, communications, and interoperability.

Staff also proposes that collaborative work be undertaken to assess vehicle-to-grid capabilities and managed charging practices to best enable these potential EV uses. The concept of vehicle-to-grid would be used to align vehicle charging with the system needs of the grid. Staff suggests that actively managed charging could rely on dispatch signals from the utility to influence times for EV charging.

Further, the Whitepaper proposes that each utility should offer new Fleet Assessment services to customers interested in fleet electrification. These services would consist of site feasibility and rate analyses and would be based on the maximum power draw of an electrified fleet to determine if the local distribution system can accommodate the increased load. The site feasibility analysis, as per the Whitepaper, would include all planned utility work on the distribution

system, both nearby and on the infrastructure serving the existing depot, to find cost-saving synergies that may exist. Finally, Staff proposes that a rate analysis should be tailored to each depot location, allowing the fleet manager to understand all rate options available, as well as a reasonably certain range of expected costs based on charging behavior.

PUBLIC NOTICE

Pursuant to the State Administrative Procedures Act (SAPA) §202(1), a Notice of Proposed Rulemaking regarding the Staff Whitepaper was published in the State Register on February 5, 2020 [SAPA No. 18-E-0138SP4]. The time for submission of comments pursuant to the SAPA notice expired on April 6, 2020.

In addition, on February 5, 2020, the Commission issued a Notice Soliciting Comments on the Whitepaper and a list of specific questions. While initial comments on the Whitepaper were originally sought by April 6, 2020, with reply comments due on April 20, 2020, the Commission subsequently extended those deadlines due to the impacts of the novel coronavirus COVID-19. Pursuant to the Notice Clarifying Comment Period and Provision of Meeting Details, issued on March 30, 2020, initial comments on the Whitepaper were due by April 27, 2020, with reply comments due by May 11, 2020. In response to the public notices, the Commission received numerous comments, which are summarized in Appendix A and are addressed in relevant sections below.

LEGAL AUTHORITY

Pursuant to Public Service Law (PSL) §§5, 65, and 66, the Commission has the legal authority to take the actions prescribed in this Order. In carrying out its responsibilities,



the Commission has broad discretion and judgment in choosing the means of achieving statutory mandates and has the authority to adopt different methodologies or combinations of methodologies in balancing ratepayer and investor interests.<sup>19</sup> PSL §5 grants the Commission with authority to direct utilities to "formulate and carry out long-range programs, individually or cooperatively, with economy, efficiency, and care for the public safety, the preservation of environmental values and the conservation of natural resources." The Make-Ready Program, the Medium- and Heavy- Duty Make-Ready Pilot Program, the Transit Authority Make-Ready Program, the Environmental Justice Community Clean Vehicles Transformation Prize, the Clean Personal Mobility Prize, and the Clean Medium-Duty and Heavy-Duty Innovation Prize are all designed to support long-range program goals economically and efficiently to support public health and safety, the preservation of environmental values, and the conservation of natural resources.

PSL §65 authorizes the Commission to ensure that every electric corporation furnishes and provides safe and adequate service, instrumentalities, and facilities at just and reasonable rates. The Make-Ready Program authorized by this Order directs New York's investor-owned electric utilities to provide such service, instrumentalities, and facilities. Further, PSL §66 authorizes the Commission to direct the improvement of utility property whenever the Commission determines existing utility equipment is "inefficient or inadequate." The utility property upgrades authorized by this Order shall replace inefficient equipment with utility fixtures that adequately support New York State's environmental and clean

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<sup>19</sup> Multiple Intervenors v. Public Service Commission of the State of New York, 154 A.D.2d 76 (3d Dept. 1991).

energy mandates. The actions undertaken herein are also consistent with the CLCPA mandates.<sup>20</sup>

#### DISCUSSION

The Commission identified the potential for wide-scale adoption of EVs challenging the capacity of some distribution circuits early in the Reforming the Energy Vision (REV) proceeding.<sup>21</sup> The Commission also recognized that EVs may be used to provide ancillary services on distribution circuits.<sup>22</sup> Throughout the REV proceeding, the Commission recognized that EVs present a great opportunity if coordinated with grid functions.<sup>23</sup> To ensure proper coordination, the Commission required the Joint Utilities (JU or Joint Utilities)<sup>24</sup> to include an EV Readiness Framework in their Distributed System Implementation Plans and directed the JU to "...directly contribute to EV market development and the resulting decreases in carbon emissions."<sup>25</sup> The actions directed by this Order

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<sup>20</sup> L. 2019, Ch. 106.

<sup>21</sup> Case 14-M-0101, Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision, Order Instituting Proceeding (issued April 25, 2014), p. 7.

<sup>22</sup> Id. at 8.

<sup>23</sup> Case 14-M-0101, supra, Order Adopting a Regulatory Policy Framework and Implementation Plan (issued February 26, 2015), p. 27.

<sup>24</sup> The Joint Utilities, or utilities referenced herein are: Central Hudson Gas & Electric Corporation (Central Hudson), Consolidated Edison Company of New York, Inc. (Con Edison), New York State Electric & Gas Corporation (NYSEG), Niagara Mohawk Power Corporation d/b/a National Grid (National Grid), Orange and Rockland Utilities, Inc. (O&R), and Rochester Gas and Electric Corporation (RG&E).

<sup>25</sup> Case 14-M-0101, supra, Order Adopting a Distributed System Implementation Plan Guidance (issued April 20, 2016), p. 4.

advance the Commission's REV goals and re-affirm the Commission's finding that EVs can increase utility sales and reduce rate pressure caused by infrastructure needs.<sup>26</sup>

As part of implementing the Clean Energy Standard, the Commission adopted the State Energy Plan's goal that "50 percent of New York's electricity is to be generated by renewable sources by 2030 as part of a strategy to reduce statewide greenhouse gas emissions by 40 percent by 2030."<sup>27</sup> In order to achieve the State's clean energy and greenhouse gas reduction objectives, contributions will be required from a variety of resources, including the transportation sector. However, decarbonizing the electric generation sector in parallel with electrifying the transportation sector is critical to achieving these ambitious objectives. As the State Energy Plan indicates, decarbonization of the electric sector will increase the emission reduction benefits of Zero Emission Vehicles.<sup>28</sup> The CLCPA codifies such economy-wide decarbonization mandates, including an electric generation sector that serves as least 70 percent of load in 2030 with renewable energy resources, eliminates emissions by 2040, and provides clean electricity as the fuel for a greater proportion of the overall economy.

The Commission recognizes that EVs are a critical component to achieving the emission reductions called for in the State Energy Plan and the CLCPA. In particular, EV charging stations will serve as a key element to support EV adoption and

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<sup>26</sup> REV Track One Order, p. 27.

<sup>27</sup> Case 15-E-0302, et al., Large-Scale Renewable Program and Clean Energy Standard, Order Adopting a Clean Energy Standard, (issued August 1, 2016), p. 2.

<sup>28</sup> NYSERDA The Energy to Lead: Biennial Report to the 2015 State Energy Plan, p. 56. Available at: file:///C:/Users/l323ps.SVC.000/Downloads/2017-BiennialReport%20(1).pdf.

enable the State to meet its emission reduction targets. The directives of this Order will accelerate EV charging station deployment, drive down costs, reduce range anxiety, and speed the adoption of Zero Emission Vehicles. Successful program implementation will also advance a number of New York State's environmental goals.

The Make-Ready Program authorized in this Order is a multi-year approach to develop and deploy the minimum critical infrastructure necessary to support the EV charging market and EV adoption. The program's design requires that station developers locate and invest in sites and coordinate with utilities before the necessary funds are collected from ratepayers. To the extent that EV charging station development does not occur, program funds will not be collected from ratepayers. Moreover, the cost recovery approach adopted in this Order ensures that program funds will be collected over a time period which coincides with the anticipated useful lives of the assets. In most cases, the cost recovery period for these assets is 15 years or greater. The result of this approach is a minimal bill impact on the average residential bill.

The following sections address Staff's recommendations in the Whitepaper along with the relevant public comments received. While the Commission adopts many of these recommendations, certain modifications have been made where appropriate. Given the importance of the Make-Ready Program in supporting New York's goal of deploying 850,000 Zero Emission Vehicles by 2025, the Commission directs Staff and the utilities to move forward expeditiously with the Make-Ready Program. This clean energy infrastructure program is aligned with the resumption of NY Forward's clean energy workforce.

I. Make-Ready Program Goals  
Whitepaper Recommendation

The Whitepaper recognizes that, due to the low penetration of EVs on the road to date, it is difficult for station owners to recoup make-ready installation costs from charging revenues due to low station utilization. As Staff notes, a typical DC Fast Charger station in New York is not expected to be profitable over the initial ten-year period of operations, barring utility investment in make-ready EV Infrastructure or another incentive source. Staff proposes the Make-Ready Program to allow charging stations in almost all regions of the State using various site configurations to have a positive 10-year Net Present Value (NPV) in the first year.

Staff's recommendation is based on a benefit-cost analysis (BCA) performed by Energy & Environmental Economics, ICF, and MJ Bradley & Associates,<sup>29</sup> which estimated that EV ownership in New York at the levels targeted in the ZEV MOU will produce net benefits in excess of \$2.6 billion for New York alone. The EV BCA evaluates the impacts of EV adoption in three geographic regions across the State (New York City Metropolitan, Long Island, and Upstate). The EV BCA examines a base case, a behavior modification case where EV owners are encouraged to charge off-peak, and a high infrastructure case which assumes increased DC Fast Charger deployment. The BCA model assumes that 100 percent of the make-ready costs (up to the charger) are recovered from ratepayers. From a societal perspective, the EV BCA is positive across all scenarios and regions, as it captures

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<sup>29</sup> Benefit-Cost Analysis of Electric Vehicle Deployment in New York State, prepared for NYSERDA by Energy & Environmental Economics, ICF, and MJ Bradley & Associates (February 2019 EV BCA), (February 2019). Available at: <https://www.nyserda.ny.gov/>.

the benefits of reduced GHG emissions, pollutants, and displaced petroleum.

Comments

All parties are generally supportive of the Whitepaper program proposal, and many offer specific recommendations to improve it. The most common recommendations request greater program flexibility to determine site-specific incentive levels, relaxation of the proposed public accessibility criteria, and requests to address EV charging rate design and for program expansion to include medium- and heavy duty, fleet, and transit EV charging.

Several parties commend the comprehensive scope of the proposal and its anticipated benefits, including reductions of greenhouse gas and other pollutants, improved public health for low- and moderate-income and environmental justice communities, and enhanced grid operations. Parties such as the Advanced Energy Economy Institute, Alliance for Clean Energy New York, the NRDC and Sierra Club, and ChargePoint commend the proposal for its ambition and the time, effort, and care devoted by the Department of Public Service in developing it.

The City of New York is encouraged by and appreciative of Staff efforts to reduce barriers to EV adoption in New York State and notes that the proposal aligns with its own municipal policy goals. The JU recognize that the proposal represents a vital step toward achieving the State's ambitious climate goals.

Determination

As described above, achieving the State's ambitious GHG emissions reduction mandates and satisfying the ZEV MOU goals will require significant transportation electrification in the State. Currently, there are 50,716 EVs registered in New York, supported by 132 publicly accessible DC Fast Charger stations with 569 plugs, and 1,715 Level 2 stations with 4,631

plugs.<sup>30</sup> The DC Fast Charger Per-Plug Incentive Program has 33 plugs enrolled across three utility service territories as of issuance of this Order, far from the target of 1,074 plugs.<sup>31</sup>

Based on the extensive stakeholder input in support of a Make-Ready Program and the February 2019 EV BCA, the Commission approves a Make-Ready Program that includes a number of components to incentivize utilities and EV charging station developers to locate and invest in projects that produce the greatest public benefits, while encouraging development to achieve the State's EV policy goals at the lowest cost to ratepayers.

The program will work in conjunction with the existing DC Fast Charger Per-Plug Incentive Program, which will remain at the 2019 maximum incentive level through 2021, then step down annually from 2022 through 2025. The programs will work in tandem to support both the upfront capital investment and ongoing operations costs to stimulate station development statewide and assuage range anxiety, thereby encouraging drivers to adopt EVs earlier and accelerating achievement of the State's GHG emissions and transportation electrification goals.

## II. Program Size Whitepaper Recommendations

Staff estimated the number of new Level 2 and DC Fast Charger plugs required to support 850,000 EVs statewide through 2025 using the EVI-Pro Lite. In using EVI-Pro Lite to develop estimated charging infrastructure requirements, Staff entered

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<sup>30</sup> These figures are according to Staff's June 26, 2020, analysis of the EV HUB EValuateNY data, available at: <https://www.atlasevhub.com/powerbi/evaluateny/>.

<sup>31</sup> See Joint Utilities of New York, Statewide DC Fast Charger Incentive Program Summary Table. Available at: <https://jointutilitiesofny.org/utility-specific-pages/electric-vehicles/>.

the following statewide assumptions about a potential statewide electric vehicle mix in 2025: 25 percent plug-in hybrid vehicles with 20-mile range, 20 percent plug-in hybrid vehicles with 50-mile range, 10 percent battery electric vehicles with 100-mile range, and 45 percent battery electric vehicles with 250-mile range. Staff estimates also anticipated full support for plug-in hybrid (assuming most plug-in hybrid drivers would not require gasoline use on a typical day) and assumed 75 percent of vehicle owners possessed home charging capability on a statewide basis.

Under these assumptions, the EVI-Pro Lite tool projected the following statewide EV infrastructure requirements: 79,798 workplace Level 2 plugs, 49,730 public Level 2 plugs, and 3,287 public DC Fast Charger plugs. Staff proposed plug allocations to three geographic regions: NY Metro, Long Island (Nassau and Suffolk Counties), and the remainder of the state on light-duty EV registrations for each region, resulting in the following recommended percentages: 28 percent for the New York City metropolitan area, 21 percent for Long Island, and 51 percent for the remainder of the state.

Staff also developed program cost estimates based on total number of plugs by type, using estimated development costs consistent with those used to inform the February 2019 EV BCA. In its proposal, Staff recommends that the utilities submit station development cost estimates based on historic costs and current trends to develop utility-specific average development costs. Under Staff's proposal, these estimates would be used to establish incentive caps and maximum budgets for Commission consideration. Utility budgets would be developed by multiplying proposed plug allocations by maximum per-plug incentives for each utility. Staff recommends that maximum



budgets remain fixed for the first three years of the program and would only be revised, if necessary, at the midpoint review.

Comments

Several parties question Staff's assumptions built into the EVI-Pro Lite modeling tool. Alliance for Transportation Electrification, Green Machine Power, New York Power Authority, and Plug In America assert that the forecast of EV mix between plug-in hybrid electric vehicles and battery electric vehicles is obsolete and could result in an underestimated need for DC Fast Chargers that, unless revised, will likely cause a misallocation of funds and incentives.

On the other hand, Green Machine Power contends that EVI-Pro Lite overestimates future use of plug-in hybrid electric vehicles by relying on sales data from prior years and by ignoring current sales trends that indicate a growing consumer preference for battery electric vehicles. Green Machine Power warns that Staff's assumptions would result in as much as a 50 percent overinvestment in Level 2 chargers. Both Green Machine Power and the New York Power Authority (NYPA) recommend a revised forecast that inputs data reflecting market trends and a more realistic future statewide vehicle mix. Alternatively, Green Machine Power proposes using a forecast assuming 100 percent battery electric vehicles with 250-mile ranges on the grounds that this input would likely represent the long-term future of EV deployment.

The Alliance for Automotive Innovation challenges the modeling assumption that 75 percent of drivers would have access to home charging as overly optimistic. For its part, New York Power Authority observed that this capability would vary considerably across urban, suburban, and rural areas, potentially confounding statewide forecasts. The New York Power Authority therefore recommends using home charging rates at the

service territory level on the grounds that it would produce a more realistic ratio of Level 2 and DC Fast Charger plugs needed.

The Alliance for Automotive Innovation asserts that the Staff proposal ignores rideshare fleet charging needs, which exacerbates the underestimation of DC Fast Charger needs. To counter these effects, it recommends increased targets and budgets for DC Fast Chargers. The New York Power Authority also notes that further attention to rideshare and taxi fleets is warranted and recommends that modeling inputs include annual vehicle miles traveled by these sectors to account for increasing reliance on shared mobility and an anticipated dependence on DC Fast Charger charging.

The Alliance for Transportation Electrification takes the position that the EVI-Pro Lite model is an effective tool for estimating public EV infrastructure needs but cautions that its methodology is dependent on assumptions about EV adoption and its results are approximations. Noting its proprietary understanding of distribution grid geography and topology, the Alliance for Transportation Electrification recommends that New York Power Authority and the JU be tasked with developing more accurate, utility-specific estimates. It also recommends comparing statewide estimates to more detailed, service area assessments.

Other parties offer various criticisms and refinements of the Staff approach. The Natural Resources Defense Council and Sierra Club recommend allocation of charging infrastructure between service territories based on EV registrations and in consideration of local variability of other model inputs (e.g., home charging access). The Natural Resources Defense Council and Sierra Club note that EVI-Pro Lite can be run using service territory-specific assumptions and recommends this practice for

determining appropriate plug targets. Tesla advises that program size estimates should assess current and future development by other charging developers such as the New York Power Authority.

Determination

The Commission agrees with the numerous commenters suggesting that the assumptions used in the EVI-Pro Lite model should be refined. It is unquestionable that the battery electric vehicle penetration in the EV market is growing and that trend is expected to continue as battery ranges increase and battery costs decline. The mix of plug-in hybrid electric vehicles and battery electric vehicles used to estimate New York State's charging infrastructure needs should therefore reflect projected growth in battery electric vehicle purchases. As for ranges battery electric vehicles, there are no 2020 battery electric vehicle models with less than 110 miles of range, and most have significantly greater range. For example, 2020 models of the Chevrolet Bolt, Hyundai Kona, Kia Niro, Nissan Leaf, and Tesla Model 3 all have ranges of more than 225 miles. Indeed, data suggests that longer-range battery electric vehicles are much more popular with consumers.

To reflect these considerations, the Commission directs Staff to modify the 2025 vehicle mix input to the EVI-Pro Lite model as follows: 13 percent plug-in hybrid electric vehicles with 20-mile range, 12 percent plug-in hybrid electric vehicles with 50-mile range, 2 percent battery electric vehicles with 100-mile range, and 73 percent battery electric vehicles with 250-mile range. The Commission finds that this composition of the projected EV market is more reflective of the expected vehicle composition over the five-year term of the Make-Ready Program. The assumption that plug-in hybrid electric vehicles would need full support has not been modified.

The Commission agrees with those commenters that suggest that inputs to the EVI-Pro Lite model should be refined to also consider variability among the geographic regions. Accordingly, for purposes of this Order, Staff ran the EVI-Pro Lite model to reflect both statewide patterns, as well as patterns reflecting estimated EV market penetration for the New York City Metro area to more accurately reflect regional infrastructure needs. Staff assumed that 57 percent of EV owners in the New York City Metropolitan area would have access to home charging for the approximately five-year duration of the EV Make-Ready Program. For the rest of the state, excluding Long Island, Staff presumed that 82 percent of EV owners in the rest of the State would have access to home charging systems. These percentages are consistent with information used to develop the EV BCA. The percentage of EV owners with access to home charging on a statewide basis was assumed to be 77 percent, which is an average of the NY Metro and rest of state percentages weighted by light-duty vehicle registrations.

Running these inputs statewide with the vehicle composition mentioned above and full plug-in hybrid electric vehicle supported resulted in 44,280 workplace Level 2 plugs, 29,084 public Level 2 plugs and 2,622 DC Fast Charger plugs needed in the state.

To better determine each utility's portion of the number of plugs needed, Staff allocated the estimated number of plugs needed on a statewide basis to individual service territories based on light-duty vehicle registrations in each utility service territory, including Long Island and municipal service territories. To recognize the unique needs of Con Edison customers related to the disproportionate lack of access to home charging, Staff estimated the number of plugs needed in Con Edison's territory by averaging the number of plugs needed

from the portion of the EVI-Pro Lite NY Metro area run with Con Edison’s portion of the statewide total. This resulted in 45,115 workplace Level 2 plugs, 29,256 public Level 2 plugs and 2,567 DC Fast Charge plugs needed in the state.

After Staff determined the number of plugs needed in each service territory under this revised approach, the number of plugs eligible for incentives under the Make-Ready Program was calculated by subtracting public infrastructure already in service as identified in the AFDC Alternative Fueling Station Locator from each utility’s service territory total. The Commission adopts the results of this additional Staff analysis, which took into account all Stakeholder comments and extensive outreach to the JU and parties. The number of plugs eligible for incentives in each utilities’ service territory are as follows:

	Make-Ready Program	Consolidated Edison	Central Hudson	New York State Electric & Gas	Niagara Mohawk	Orange & Rockland	Rochester Gas and Electric
<b>Workplace Level 2</b>	35,217	12,776	2,091	5,821	10,105	1,765	2,659
<b>Public Level 2</b>	18,556	5,763	1,113	3,458	5,623	1,080	1,519
<b>Total Level 2</b>	53,773	18,539	3,204	9,279	15,728	2,845	4,178
<b>DC Fast Chargers</b>	1,500	457	69	250	504	71	149

A chart further detailing these results is also included in Appendix B of this Order.

III. Eligible Equipment  
Whitepaper Recommendations

The Whitepaper recognizes that the electric infrastructure needed to accommodate the load and other operating characteristics of a new EV charging station may require investment in new distribution system infrastructure or upgrades or augmentation of existing infrastructure. Staff recommends that two categories of make-ready EV Infrastructure be eligible for incentives under the program: utility-owned equipment and customer-owned equipment. Utility-owned equipment

includes traditional distribution infrastructure such as step-down transformers, overhead service lines, and the utility meter. This equipment has been and would continue to be owned and operated by the interconnecting utility. The utility would install and own this equipment similar to other traditional utility distribution infrastructure.

The second category of eligible equipment includes make-ready EV supply equipment that would be owned by the EV charging station developer, owner, or manager (collectively, the customer). Examples of this equipment include conductors, trenching, and panels needed for the EV charging station. Equipment such as the EV charging station itself, power blocks, modules, mounting hardware, and co-located distributed generation or energy storage material would not be eligible for an incentive under the proposed program.<sup>32</sup> Utility-approved contractors would build and install the equipment, and the customer would own it.<sup>33</sup> The customer would pay the utility if utility costs exceed the maximum incentive level, or would receive a make-ready incentive from the utility to cover

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<sup>32</sup> The Commission has separately authorized various distributed generation and energy storage programs that include incentives for the installation of these technologies. See e.g., Case 19-E-0735, Proceeding on Motion of New York State Energy Research and Development Authority Requesting Additional NY-Sun Program Funding and Extension of Program Through 2025, Order Extending and Expanding Distributed Solar Incentives (issued May 14, 2020); Case 18-E-0130, In the Matter of Energy Storage Deployment Program, Order Establishing Energy Storage Goal and Deployment Policy (issued December 13, 2018).

<sup>33</sup> Utilities would allow contractors to apply at any time for authorization to install this equipment, and would be required to post a contractor application and list of pre-approved contractors to their EV websites.

eligible customer costs if utility make-ready costs were less than the maximum incentive level.

The Whitepaper likens EV supply equipment ownership to distributed energy resource (DER) ownership and proposed that EV supply equipment ownership and incentive eligibility for investor-owned electric utilities and publicly owned entities should only be allowed under very limited circumstances. Staff notes that in the REV Framework Order, the Commission articulated the policy that DER development should occur through competitive markets as opposed to ratepayer funding, and only in limited circumstances would utility ownership of DER be allowed.<sup>34</sup> Under Staff's proposal, the private market would be expected to build, own, and operate the EV charging stations in order to foster a competitive environment and drive down EV customer costs. Staff recommends that there may be a role for utility ownership in areas where the market is not satisfying demand, although it does not see evidence of market failure warranting such a utility role in the broader EV charging industry landscape.

#### Comments

Tesla asserts that proposed program requirements that are redundant or in conflict with external processes such as electrical and building permit requirements should be removed and recommends that the Commission not require a process to qualify contractors. Tesla notes that local building and electrical permitting requirements already require use of certified contractors to ensure the stations are constructed safely and in compliance with all relevant codes.

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<sup>34</sup> Case 14-M-0101, Reforming the Energy Vision, Order Adopting Regulatory Policy Framework and Implementation Plan (issued February 26, 2015) (REV Framework Order), p. 67.

Many commenters agree with the aspect of Staff's proposal recommending a role for utility ownership in certain cases, particularly in areas of market failure or in underserved communities. EVBox argues that utility ownership can provide a valuable complement to private ownership considering the sheer scale of investment required. The JU agrees that utilities should be concerned primarily with the provision of make-ready infrastructure in support of third-party developers. Enel X North America, Inc. (Enel X) recommends allowing utility ownership in lieu of an EAM, but cautions that allowing non-jurisdictional public agencies like the New York Power Authority or municipal and cooperative utilities to access ratepayer funding intended to catalyze the private market is inconsistent with program goals.

Alliance for Automotive Innovation and New Yorkers for Clean Power caution that it is too early in the market development of EV chargers to determine the precise role for utilities. Electrify America warns that allowing utility ownership of EV supply equipment on the customer side of the meter could create challenges to site hosts and their lease terms. ChargePoint, Inc. (ChargePoint) notes that utility ownership would require consistent review standards that consider market competition and additional stakeholder participation.

The New York State Department of Environmental Conservation (DEC) requests eligibility of the Commission-approved programs be extended to its existing and proposed EV infrastructure programs. Drive Electric LI Coalition contends that existing EV programs like the NYSERDA Charge Ready NY program and the DEC ZEV infrastructure program, complement the proposed Make-Ready Program. FreeWire Technologies, Inc. (FreeWire), Greenlots, and the Natural Resources Defense Council



and Sierra Club argue that any future program should supplement and not supersede or replace existing utility programs, and that lower incentives in existing programs should be increased to match current proposals. Enel X North America supports combining existing and new budgets.

The JU recommends a definition of "make-ready" work for the Make-Ready Program that generally reflects current utility practices should be adopted and provides definitions for utility-side and customer-side make-ready costs. Advanced Energy Economy Institute and the Alliance for Clean Energy New York, and EVgo recommend maintaining existing programs until funds are exhausted, particularly to minimize market disruptions during the current public health crisis. The City of New York recommends that any proposed funding should be incremental to approved program funding, while Tesla contends that any existing programs more ambitious than the current proposal should continue and more limited programs should be replaced.

#### Determination

Staff's proposal regarding eligible EV supply equipment and infrastructure for a make-ready incentive is adopted, with clarifications regarding the definitions of utility-side make-ready costs and customer-side make-ready costs. The infrastructure required to prepare a site for EV charging is a significant upfront investment for customers. As the Whitepaper noted, incentives for the installation of this equipment will produce positive returns in the first year for most use cases. While the estimated costs included in this Order increased from the Whitepaper cost estimates, this still holds true. The Make-Ready Program budget is incremental to existing utility EV programs and will work in tandem with other State EV programs, including the DC Fast Charger Per-Plug

Incentive Program, to improve the economic viability of EV charging stations.

Under Staff's proposal, a utility-approved contractor must construct the customer-sited and customer-owned eligible EV Infrastructure in order for that station developer or owner to receive the Make-Ready Program incentive. The Commission adopts this proposal as it will streamline the construction process and give the utilities an ability to control the quality of work that is being partially funded by ratepayers. While Tesla argues that there are qualified contractors already doing this work without utility certification, the volume of these jobs will increase under the program and therefore increase the risk that unqualified contractors may start performing this work. The utility qualification process will not be onerous, as detailed in Staff's proposal, and the utilities shall allow contractors to apply at any time for authorization to install this equipment.

The utilities are directed to post a contractor approval application and a list of pre-approved contractors to their EV websites. The Commission supplements Staff's proposal by also requiring that the utilities approve or deny a contractor application based on justifiable criteria within one month of the application submittal, so as to ensure that customers have a wide array of contractors to choose from and can benefit from the resulting price competition for their services.

Staff's proposal regarding ownership of this equipment, which excludes utility ownership of the charging station hardware and offers a rebate but not utility ownership of the make-ready infrastructure on the customer side of the meter, is consistent with long-standing Commission policy, and is therefore adopted. The nascent state of the EV industry and

the EV charging business does not necessarily amount to a market failure. The midpoint program review will allow the Commission to reevaluate these assumptions if they prove to be incorrect, and further intervene or modify the Make-Ready Program.

Commission policy on utility ownership of DER is clear and the Commission finds it appropriate to analogize EV supply equipment as the concerns over discouraging potential competitive investment through utility ownership are very similar. The Commission adopts the Whitepaper recommendation that utility ownership of EV supply equipment only be allowed in limited circumstances, such as existing utility-owned EV supply equipment or utility-owned EV supply equipment that exclusively serves utility-owned vehicles or employee vehicles. Public authority and entity participation will be treated differently and require additional discussion.

As a threshold issue, because this is a ratepayer funded program, participating stations must be located within a utility service territory. The Commission acknowledges New York Association of Public Power's comments, but for this reason its members are not eligible for this Make-Ready Program. As New York Association of Public Power states, its members are interested in EV infrastructure and deployment of charging infrastructure. The Commission expects New York Association of Public Power members to benefit from the publicly available data and other lessons learned that will be produced throughout this program, and directs Staff to continue to engage with the New York Association of Public Power and other non-jurisdictional entities throughout New York.

IV. New York Power Authority Eligibility  
Whitepaper Recommendations

The Whitepaper suggested that NYPA is not a utility subject to competitive market constraints and should therefore

be ineligible to access the incentives funded by ratepayers of the utilities within the JU. In this respect, Staff took the position that, because of the lack of evidence of market failure regarding the EV plug market, NYPA ownership is unjustified.

Comments

NYPA recommends the Commission approve the proposed Program based on certain suggested changes. NYPA asserts that program eligibility criteria should enable participation by NYPA as an EV charging station developer, which it argues is key to promoting market development, development of a statewide network, and ensuring the State's EV targets are achieved. It also asserts other public entities should be eligible to participate as developers.

NYPA's fundamental point is that it would not be participating as a load-serving entity on behalf of its customers but as a developer. NYPA notes that it uses competitive procurements to enlist private companies to build and maintain EV infrastructure, which is consistent with the underlying goals of the proposed program. NYPA also notes that it thus is already participating in the market as an EV charging station developer for the public good and is willing to accept a long-term investment horizon across a statewide portfolio of sites, helping to build out a balanced portfolio of charging sites across the state.

NYPA asserts that conditioning eligibility for the program incentives on a connection to surcharge contributions is not necessary where ratepayer collections are used to develop large scale infrastructure projects for general public use. NYPA believes there is no basis to distinguish it from other EV charging station developers by requiring NYPA customers to pay a surcharge to access Program funds. NYPA comments that some of its customers are governmental entities ultimately supported by

taxpayers that should not pay for the program twice, as a ratepayer and a taxpayer. NYPA thus asserts that the surcharge payments that it would make as a charging station owner should be sufficient. In sum, NYPA believes that its eligibility for the program as a developer is separate and distinct from its actions as a load-serving entity on behalf of its customers.

The Alliance for Transportation Electrification (ATE) believes NYPA should be eligible for make-ready funding. ATE notes that NYPA utilizes in-state vendors and labor, providing an important economic and job-training stimulus to New York. The New York Association of Public Power (NYAPP) also supports expanded eligibility for the program for not only NYAPP municipally and cooperatively owned utility members but also NYPA directly. NYAPP suggests that Staff and Commission should coordinate with NYAPP members, NYPA, NYSERDA, New York State Department of Transportation (NYSDOT), and NYSDEC to ensure holistic approaches to the charging infrastructure. The City of Albany believes that NYPA makes a strong case that it should have access to the bootstrap investment of the Make Ready Program. The City of Albany suggests that Make Ready incentives should extend not just to established market actors but to all public agencies as well.

Clean Communities of Central New York (CCNY) asserts that NYPA's participation in incentive programs is a benefit to all State ratepayers, and is necessary to support the implementation and growth of EV use for the State to meet aggressive GHG reduction goals. CCNY notes that many areas of the state, including Central New York, are underserved by publicly accessible EV charging infrastructure. CCNY argues that NYPA has established a reputation of being a trusted source of information, which would make it the "preferred" brand of DC Fast Chargers. CCNY states that NYPA is uniquely qualified to

continue the growth in EV adoption and would play a necessary role in developing DC Fast Charge sites with transparent pricing practices.

EV Connect strongly supports the inclusion and participation of NYPA and other public entities in the EV Make Ready initiative. EV Connect asserts that a key component of the Program is to ensure state-wide economic and environmental justice for the deployment of EV infrastructure supported by public funds. EV Connect also recommends that public transportation fleet electrification should be eligible for EV Make Ready incentives. NRDC recommends that the Commission should ensure that its approach to charger siting in REDCs complements and is coordinated with NYPA's proposed DC Fast Charger buildout.

Should the Commission approve NYPA's request to participate in the make-ready program, ChargePoint recommends that NYPA's participation in the Make Ready Program be contingent on its adherence to: (i) The Whitepaper's technology-neutral specifications; and (ii) REV Framework Order and Operational Guidance. Enel X asserts that it would be counter to the objectives of Staff's proposal for non-jurisdictional public agencies like NYPA or municipal and cooperative utilities to access funding from investor-owned utility ratepayers that is explicitly intended to catalyze the private market within the utilities' service territories. For this reason, Enel X requests that the Commission deny the recommendation of NYPA to become eligible for Program funding. Enel X alternatively proposes that NYPA be encouraged to bring proposals to that are additive and complementary to the Staff's Make Ready Program proposal.

EVgo states that public power agencies like NYPA should not be allowed to participate in the Make-Ready

Program. EVgo asserts that NYPA use of ratepayer funding to compete with private sector entrants would be against the spirit of the Make-Ready Program and the REV Framework, and would undermine competition in the State. EVgo concludes that NYPA's participation in the Make-Ready Program should only be considered after a public hearing is held on the progress of the EVolve NY program, including Level 2 and DC Fast Charger installed to date, and impacts on the private market.

The JU views NYPA as an important developer of EV charging stations that should be eligible for incentives under the make-ready program. The JU submits that any customers receiving incentives, including NYPA when it acts as a station owner/operator, must be appropriately allocated make-ready program costs through delivery rates. Konrad and Mirabito each filed comments in support of NYPA's participation in the Program, noting that its participation would provide a benefit to ratepayers and is needed for the State to meet its GHG reduction goals.

NYSDOT agrees with and supports NYPA's comments related to expanding eligibility to the program to allow NYPA to participate. NYSDOT points out that NYPA has several on-going programs that support DC Fast Charger availability throughout the State. NYSDOT notes that NYPA has stated that it will not build in areas where the private sector is currently operating or has a commercial commitment to operate. NYSDOT maintains that NYPA's long term goal is to return its network to the private sector when the economics permit. NYSDOT believes that NYPA's inclusion in the Make Ready program is consistent with the goals of the Make Ready Program.

In its reply comments, NYPA asserts that it would not acquire or exercise market power as an owner of DC Fast Charger station or in its selection of vendors. NYPA noted its

intention to own and operate the charging stations it develops for a limited time before selling them to private entities. NYPA also noted that it would assume the market risk of managing EV Infrastructure during periods of low utilization rates as EV ownership increases to meet State policy objectives.

Determination

The Commission has carefully considered whether there is a role in the Make-Ready Program for public entities such as NYPA. Given the current state of the market, the Commission finds that enabling and building the necessary network of EV chargers across New York will require investment in certain areas of the state that otherwise would be overlooked by a private sector provider in the near-term. Such investment is necessary to stimulate usage and continued market development. Indeed, Staff recognized in the Whitepaper that developing additional high-power DC Fast Charger stations that are easily accessible and visible to consumers in the Upstate New York region would help mitigate range anxiety concerns and may, in turn, accelerate EV adoption in areas otherwise underserved. Staff also noted that the economics for high-power DC Fast Charger stations in Upstate New York in the early years of the Make-Ready Program are expected to be challenging because of low EV penetration and lack of density.

While the Commission's objectives of scale and competition means that it looks principally to private companies to provide investment in EV charging equipment, it also finds that developing the charging network in areas where EV demand will not quickly support private charger installations is a task suitable for a public entity like NYPA.

To address Staff's concerns and recognizing that NYPA and NYSERDA have committed to develop a network of DC Fast



Charger sites in the ten REDCs by the end of 2022, the Commission finds that NYPA shall be eligible to access Make-Ready Program incentives. Specifically, NYPA shall be eligible for incentives for two purposes: (i) for the initiative to build 10 fast charging locations in every REDC region by 2022, capped at \$15 million; and, (ii) for investments in fast charging locations to help build out a robust network of DC Fast Chargers across the State, under NYPA's Evolve NY program, also capped at \$15 million.<sup>35</sup>

Projects developed by NYPA are required to meet the same eligibility criteria and program requirements identified in the Eligibility Criteria section of this Order; however, access to this budget-bounded funding is subject to certain actions intended to stimulate the market and ensure the most effective deployment, collectively by NYPA and private companies. NYPA has agreed to and will provide timely public notice of each site that it has identified for commercial development that will require make ready funds. Such notice will be provided via posting on the Evolve NY program webpage and via monthly submission to the Secretary to enable posting on the Department website. Developers will have an opportunity to inquire about the details of the potential sites identified by NYPA for commercial development, as well as provide NYPA feedback on their plans for commercial development, to ensure the risk of co-location is minimized and private sector development is maximized.

Additionally, and consistent with its comments, NYPA's participation is subject to its eventual divestiture of EV charging stations developed through Program incentives.

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<sup>35</sup> \$15 million is an appropriate cap, recognizing that Evolve NY is designed to ensure that a robust statewide network of fast chargers is built out in tandem with the private sector.

Accordingly, NYPA will submit, within the first five years of the program start and every year thereafter, an assessment of the feasibility, and plans as appropriate, for divesting all or part of the fast charging stations built under this program. Such assessment and plan shall include a report on the state of the market and identified opportunities for sale, reflecting any applicable requirements of laws, regulations, and financing requirements, such as the Public Authorities Accountability Act and any applicable bond covenants applicable to NYPA that may complicate divestiture. It is the Commission's expectation that all such charging stations will be divested within 10 years.

V. Eligibility Criteria

Whitepaper Recommendations

Staff recommends that certain criteria be satisfied for a customer to receive a full incentive under the program. These criteria include: (i) accessibility; (ii) station maturity; (iii) plug type; (iv) future-proofing; and (v) location capacity. If one or more of these criteria are not satisfied, a partial incentive may be available under certain circumstances.

The chart below summarizes the Whitepaper proposed eligibility criteria, in addition to the standards that should be considered for both Level 2 and DC Fast Chargers and the proposed full and partial support levels. Each of the criteria is then addressed separately below the chart.

<b>Eligibility Criteria</b>		
	<b>Level 2</b>	<b>DC Fast Charge</b>
<b>Accessibility</b>	Must be accessible to the public (no access fee or restricted access)	
<b>Station Maturity</b>	Must be a new station, without firm commitment to take service-evidenced by building permit issuance or CIAC payment after Commission ruling on proposed program	
<b>Plug Type</b>	SAE J plug	Standardized, non-proprietary
<b>Standards to be Considered</b>	<ul style="list-style-type: none"> <li>• International Electrotechnical Commission (IEC) accepted OpenADR 2.0b</li> <li>• International Organization for Standardization (ISO)/IEC 15118</li> <li>• Open Charge Point Protocol (OCPP)</li> </ul>	
<b>Future-proofing</b>	Must oversize all components that can be done with minimal incremental cost to accommodate upgrades to the quantity or charging capacity of the station	
<b>Location Capacity</b>	---	4 to 10 plugs per location; Maximum charging capacity of 2 MW
<b>Support Level</b>	<ul style="list-style-type: none"> <li>• 90% if all criteria met</li> <li>• 50% if has SAE J plug but does not meet accessibility criteria</li> </ul>	<ul style="list-style-type: none"> <li>• 90% if all criteria met</li> <li>• 50% if does not meet standardized plug type and accessibility requirement</li> </ul>

A. Accessibility

Whitepaper Recommendations

In order to satisfy the accessibility criteria in the Whitepaper, a proposed EV charging station would need to be both (i) publicly accessible, and (ii) allow for unrestricted and common forms of payment. Under the publicly accessible prong, the station must be accessible to the public without an access

fee or restricted access.<sup>36</sup> Workplace chargers are considered accessible if they are located in a public venue (e.g., shopping malls, hospitals, hotels) and available to the public without an access fee. Multi-unit dwellings are considered accessible if the public has unlimited access without fees. EV charging stations dedicated to a single owner's personal use (e.g., home charging or dedicated rented parking) do not satisfy the publicly accessible criteria.

Additionally, the Whitepaper would require EV charging stations to use general forms of payment with a kiosk, a card reader, a site business accepting payment, or a phone number that enables 24-hour credit card payments without a fee. This proposed requirement is to ensure that, even in a publicly accessible location, EV charging availability should not be limited by temporal restrictions, membership status, or non-standard or proprietary payment options.

#### Comments

Most commenters request a relaxation of the public accessibility criteria, particularly due to a lack of areas that meet the Whitepaper definition of publicly accessible in the downstate region, as well as the importance of multi-unit dwellings and workplace charging. The JU recommends that all site types, both public and private, and customer segments, including workplaces, multi-unit dwellings and light-duty fleets, should be eligible for the program on an equal basis. AEEI-ACE Advanced Energy Economy Institute and the ACENY, Alliance for Transportation Electrification, EVBox, NYC, and ChargePoint express concern that complex and rigid public accessibility provisions will undermine program effectiveness.

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<sup>36</sup> Under the Staff proposal, waiving an access or parking fee would satisfy the public accessibility criteria. Moreover, charging fees would not be considered access fees.

Several commenters support focusing the program on sectors of need, including highway corridors, workplaces, urban shared spaces, and multi-unit dwellings. Additionally, Alliance for Auto Innovation suggests siting charging stations along travel corridors and in urban areas to mitigate range anxiety and facilitate regional travel. Advanced Energy Economy Institute and the ACENY suggests that carving out budgets for disadvantaged communities can help address concerns about access.

The EV Industry Coalition contends that public access criteria would unnecessarily impede the market and discourage participation for site hosts at semi-public and private locations. EVBox and NYC oppose the public access requirement, claiming that public charging only addresses a small proportion of market needs and that preferential incentive treatment will not yield a maximum return on program investment. NYC recommends that the Commission grant full access to incentives for charging stations located in restricted or paid parking facilities. NYC further warns that public accessibility standards in the present proposal could impede the development of fleet charging infrastructure. For its part, the City of Albany argues that limiting incentives for charger installations based on public accessibility requirements would eliminate many urban areas from program coverage.

AEEI-ACE, Greenlots, and the NRDC and Sierra Club agree that publicly funded or utility-owned nonfleet stations should accept all common payment forms to ensure competition and accessibility. ChargePoint supports open access standards that enable feeless acceptance of commonly used payment forms using kiosks, card readers, on-site acceptance, or phone payments. NYCP recommends that streamlined, easily accessible payment options will foster EV adoption. EVBox warns that requiring

credit card readers would increase installation costs unjustified by their infrequent use. Electrify America supports the near-term flexibility in eligibility requirements for the program, and asserts that overly prescriptive requirements around specific network protocols and payment methods can discourage innovation in charging station design.

Determination

The Commission recognizes the difference in the types of paid parking raised by NYC. As NYC notes, parking fees are an essential revenue stream for municipalities to fund day-to-day operations and it may not be possible or practical for a municipality to waive parking fees in order to capture the higher make-ready incentive amount. The Commission's broad objective is to build the critical infrastructure to support the ZEV MOU EV deployment goals, and particularly to support vehicle electrification in dense urban environments where there are disproportionate air pollution impacts to environmental justice communities.<sup>37</sup> The Commission therefore declines to adopt the Whitepaper's proposed accessibility criteria, and adopts accessibility criteria that include municipal paid parking as "publicly accessible."

While the Commission appreciates Alliance for Transportation Electrification's position that paid parking is ubiquitous and that excluding paid parking may be a deterrent to Multi-Unit welling charging locations participating in the program, the Commission adopts Staff's recommendation that

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<sup>37</sup> As discussed in greater detail below, the Commission adopts the DEC Office of Environmental Justice definition of Environmental Justice as: the fair and meaningful treatment of all people, regardless of race, income, national origin or color, with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. Available at: <https://www.dec.ny.gov/public/333.html>.

privately owned pay-to-park lots shall qualify for a 50 percent make-ready incentive. As noted by NRDC and Sierra Club, there is typically a high concentration of Multi-Unit Dwellings in environmental justice and low- and moderate-income communities where residents don't necessarily own or have access to individual parking spaces. Where there is parking available for residents of Multi-Unit Dwellings in Disadvantaged Communities, Level 2 charging stations sited in them (whether it be pay-to-park or free parking) shall be eligible for incentive levels of up to 100 percent of the eligible make-ready costs. This is consistent with many comments suggesting that higher incentive levels are appropriate to encourage siting charger siting in low- and moderate-income and environmental justice communities.

Where there is no parking available, the Commission is directing a number of actions with DC Fast Charger stations and pilot programs that will deliver benefits to low- and moderate-income and environmental justice areas. For example, the Whitepaper recommendation that 20 percent of each of the utilities' Make-Ready Program budgets shall be directed to publicly accessible DC Fast Charger stations within 10-miles of an environmental justice community is adopted, with the following modifications.

The Commission appreciates NYC's observation that most of the City would be considered an environmental justice area pursuant to a 10-mile radius rule, and such rule would therefore be ineffective at driving benefits to low- and moderate-income and environmental justice communities. This holds true for other service territories as well. The Commission also notes that the recent NYPA and NYSERDA commitments to develop a network of DC Fast Charger sites in the ten REDCs by the end of 2022, referenced in the New York Power Authority Eligibility Section of this Order, will improve access to rural communities

that may have indirectly benefited from a 10-mile radius rule in Upstate NY.

The Commission therefore directs that a DC Fast Charger or Level 2 station must be within a one-mile radius to qualify for the 100 percent incentive in the Con Edison, Central Hudson, O&R, and RG&E service territories. The Commission directs that within NYSEG and National Grid's service territories, a DC Fast Charger or Level 2 station must be within a two-mile radius to qualify for the 100 percent incentive. In some more urban areas within NYSEG and National Grid's territory a two-mile radius will be insufficient to properly target these benefits. Therefore, the Commission directs NYSEG and National Grid to, in consultation with Staff, define areas within their service territories, including metro areas, where a one-mile radius will be required to qualify for the 100 percent incentive in their implementation plan filings.

To further clarify, as discussed in the Eligibility Criteria and Additional Environmental Justice Programs sections of this Order, the 20 percent dedicated environmental justice and low- and moderate- income community budget shall be earmarked for both publicly accessible DC Fast Charger plugs within the specific radii of environmental justice communities and Level 2 plugs sited in multi-unit dwellings within the specific radii. At such point that each utility expends the 20 percent budget cap on DC Fast Chargers and Level 2 plugs sited within the specified radius per service territory, the utilities should continue to support development within Disadvantaged Communities at the applicable 90 or 50 percent incentive levels.



B. Station Maturity

Whitepaper Recommendations

Under Staff's proposal, only new sites and sites under construction would be eligible for an incentive. If a customer with a station under development has a "firm commitment" to take utility service before the date of this order, the Whitepaper proposal would disqualify the project from incentives under the Make-Ready Program. Indications of a firm commitment for utility service would include remitting payments for required Contribution in Aid of Construction (CIAC) or Excess Distribution Facilities (EDF) and, for stations not requiring a CIAC or EDF, a signed application for utility service. The Whitepaper also recommended that, if a station under construction in a territory with an existing utility-specific make-ready program is eligible under that program, the customer should continue with the existing program and would not be eligible under this statewide program.

Comments

Electrify America requests that the Commission determine eligibility based on whether physical construction has commenced at a site as of the date of the order approving the program. Electrify America notes that it often issues a payment for a CIAC or EDF well in advance of confirmation that a station will enter construction and has, in the past, not proceeded with construction after a line extension payment has been made. Electrify America asserts that Staff's proposed eligibility requirement would exclude many of its stations in early phases of development, allow competitors who develop stations slightly later to compete with these stations on unequal terms, and encourage developers to walk away from sites that have not yet begun construction.

Determination

The Commission acknowledges Electrify America's experience in New York State and that the Whitepaper proposal on this issue does not necessarily represent the most appropriate marker of station maturity to determine eligibility for the Make-Ready Program. To clarify, in order to be eligible for this Make-Ready Program, a station must be considered "new," which we define as "construction commencing post-issuance of this Order." While the Make-Ready Program shall be considered "live" as of issuance of this Order, and any station not under construction as of issuance of this Order is eligible to apply to the Make-Ready Program, the JU will of course need time to prepare the tools, applications, Implementation Plan, and Make-Ready Program Participant Guide as discussed below. Accordingly, the JU should accept developer interest in the program immediately upon issuance of this Order and process these initial applications as they have been processing EV station service applications while the EV Infrastructure service application portal, described below, is being developed.

C. Plug Type

Whitepaper Recommendations

The Whitepaper proposes requiring that the chargers used at the EV charging station be standardized and non-proprietary in order for the project to be eligible for a full incentive under the program. Under the proposal, Level 2 chargers would need to use the standard Society of Automotive Engineers (SAE) Electric Vehicle Conductive Charge Coupler J1772 (SAE J plug) as a threshold to participate in the Make-Ready Program, while DCFC chargers would need to use standardized, non-proprietary plugs (such as the SAE Combined Charging System) to be eligible for full incentive under the program.

Comments

The JU proposes that all types of plugs, both proprietary and nonproprietary, be eligible for an incentive, which would allow the JU to select projects serving low- and moderate-income and environmental justice communities. ChargePoint recommends allowing plugs capable of simultaneously charging at or above 75 kW, or plugs capable of independently charging at or above 62.5 kW and sharing power to charge one vehicle at or above a combined 125 kW. According to ChargePoint, this modification would reflect that 75 kW-capable EVs do not typically charge at or near 75 kW, and thus would serve as a cost control mechanism for the program. Green Machine Power asserts that the proposed Make-Ready Program fails to achieve technology neutrality and will stifle innovation. For its part, Plug In America suggests that Level 1 charging should be also eligible for a program incentive as it may be suitable in workplace locations and long dwell-time locations. Tesla contends that its proprietary Wall Connectors should be eligible at nonpublic locations.

Determination

The Commission is seeking to deploy the minimum critical infrastructure necessary to support the EV market with imperfect knowledge about how the nascent EV market will evolve. Throughout this proceeding, the Commission has expressed a desire to direct public funds towards the technology types that provide the maximum public benefit, while balancing the need to support the current and projected EV mix and incentivize innovative future technologies and business models. The Commission finds that the Whitepaper's proposed 90 percent make-ready incentive for standardized plug types and 50 percent make-ready incentive for proprietary plug types is a reasonable approach and is adopted with the following clarifications.

Proprietary plug-type DC Fast Charger stations seeking to participate in the DC Fast Charger Per-Plug Incentive program are already encouraged to collocate standardized plugs. Indeed, the current program rules allow a 60 percent per-plug incentive under the "Mixed Tier" approach where two simultaneously accessible standardized plugs can simultaneously provide 62.4 kW - 74 kW speeds, and a full per-plug incentive where the proprietary plug-type is capable of simultaneously charging two vehicles at 75 kW or greater.<sup>38</sup> In order to have a successful Make-Ready Program the Commission must have program rules that recognize that SAE CCS plug types and CHAdeMO plug types are almost always collocated at stations, while Tesla plug types will generally only collocate where practical or in order to access the Mixed Tier DC Fast Charger Per-Plug Incentive.

The Commission rules that, where a proprietary plug type is collocated at a station with an equal number of commonly accepted standardized plug types of equal or greater charging capacity, that station shall receive the 90 percent make-ready incentive. However, where a station with proprietary plug types is not collocated with an equal number of commonly accepted standardized plug types of equal or greater charging capacity, that station shall receive the 50 percent make-ready incentive. The number of plugs eligible for incentives at stations with more than one plug shall be the number of plugs capable of simultaneously charging at 50 kW or greater. For example, a station containing a SAE CCS plug and a CHAdeMO plug type mounted to the same charger (which can only charge either a SAE CCS compatible vehicle or a CHAdeMO compatible vehicle at any given session) shall count only as one plug. By contrast, a

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<sup>38</sup> 18-E-0138, supra, Order Further Modifying DC FAST CHARGER Incentive Program, p. 14.

station containing a SAE CCS plug and a CHAdeMO plug type mounted to the same charger (which are capable of simultaneously charging both a SAE CCS compatible vehicle and a CHAdeMO compatible vehicle at greater than 50 kW) shall count as two plugs.

With these program rules the Commission continues to underscore the importance of standardization and the need for collaboration among station developers, while including all technology types as eligible for Make-Ready Program funds. The Commission expects that new plug types and station business models will emerge, and these criteria shall be examined at the midpoint review.

D. Future-Proofing

Whitepaper Recommendations

Staff proposes that eligibility for make-ready incentives would require the specific EV charging station infrastructure to be oversized and infrastructure to accommodate future expansions be put in place if there is minimal incremental cost. For customer-owned equipment, oversizing would be required for the conduit and conductors, and potentially the panel under the Staff proposal. Staff requested comments regarding the specific utility-owned equipment that would need to be oversized, the incremental costs of oversizing, and additional methods to promote future-proofing. Stakeholder comments were also requested on the appropriateness of resiliency requirements for sites receiving incentives under the program. Staff further proposed that the International Council on Clean Transportation (ICCT) "lessons learned" be adopted as well.

Comments

There were a significant number of comments regarding future-proofing. Commenters are broadly supportive of future-

proofing, when necessary and reasonable, but generally caution against strict requirements that could encourage overbuilding and contribute unduly to incremental project costs.

The JU generally agrees that additional connecting points, trenching, and conduits should be encouraged but also note that, depending on plug types and number or plugs per location, more significant system upgrades may be necessary at particular locations, including larger transformers or additional transformer pads. The JU notes that these necessary upgrades would come with additional costs beyond initial plug installations and should be recognized as a separate program budget item. In its reply comments, ChargePoint agreed with JU's proposition.

The JU proposes general criteria for determining acceptable future-proofing efforts, including assessments of developer expansion plans, expansion feasibility, and the cost effectiveness of the requirements. New York Power Authority recommends that future-proofing that can be accomplished at a minimum incremental cost should be required, but suggests limiting capacity to no more than 50 percent greater than is presently necessary, and limiting grid upgrade costs to no more than 10 percent as an additional control on incremental oversizing costs. If future-proofing costs that exceed this cap are warranted, the utility may provide supporting documentation that demonstrates the need for such incremental costs, according to New York Power Authority.

Greenlots encourages future-proofing where feasible but cautions against strict requirements. Alliance for Transportation Electrification and Alliance for Automotive Innovation caution against overbuilding sites without specific justification, and Environmental Defense Fund recommends a comprehensive grid impact study for determining requirements.

The NRDC and Sierra Club note that it is more cost effective to oversize equipment during initial installation and recommend that more expensive components are prudent candidates for future-proofing at this stage. However, these commenters also recommend that the Commission not be over prescriptive in dictating requirements but instead encourage cost-effective future-proofing at sites where likely upgrades are anticipated.

Greenlots, Enel X North America, and EVgo agree that warranted future-proofing efforts can be reasonable and cost-effective but recommend that these activities be optional rather than obligatory, particularly where cost containment is a concern. While initially arguing that future-proofing should be optional, in its reply comments, Tesla acknowledged the reasonableness of the JU's proposed future-proofing criteria on the grounds that they balance costs and feasibility, and recommended their adoption. New York Power Authority, Greenlots, and the NRDC and Sierra Club recommend that future-proofing include open standards and interoperability, and Greenlots further suggests that the Commission investigate other future-proofing solutions not discussed in the proposal. FreeWire warns that future-proofing requirements could limit siting opportunities and delay deployment. EVBox contends that mandated credit card readers hinder public charging business economics and conflict with proposed future-proofing goals.

Drive Electric LI recommends that DC Fast Charger infrastructure on major thoroughfares be built as large as possible to avoid capacity problems that plagued compressed natural gas infrastructure at the turn of the century. ChargePoint argues that the program should require the installation of a minimum of two ports per location and maintain prudent future-proofing requirements. The JU offers similar support and outline a set of criteria to determine the extent of

future-proofing treatment required at each site. The NRDC and Sierra Club support future-proofing and contend the Commission should not be overly prescriptive in setting requirements, but advise that expensive retrenching be avoided. NYC also calls for reasonable restraint in future-proofing EV infrastructure.

Several commenters raise concerns about having grid resiliency as another future-proofing requirement. For example, Advanced Energy Economy Institute and the ACENY warn against expecting charging infrastructure to perform functions for which they are not designed. Alliance for Transportation Electrification believes that an emphasis on resilience will contribute to regulatory barriers already confronting EV supply equipment deployment. Bloom Energy Corporation recommends that resiliency be considered during the earliest stages of EV Infrastructure construction to avoid social and economic risks. Environmental Defense Fund recommends a local approach to EV supply equipment resilience, arguing that communities will best understand pertinent risks and needs.

Greenlots suggests that a comprehensive strategy that complements charging infrastructure with distributed generation and storage can ensure available charging during emergencies and foster EV adoption. Tesla notes that a resiliency review is already included in local planning, building, and electrical code evaluation and permitting. FreeWire notes that battery-integrated charging systems provide inherent resilience during power outages. The JU and NYC suggest that flood vulnerability and other climate-related risks should be considered as a program application criterion.

Vrinda, Inc. (Vrinda) argues that the Commission should make it mandatory for the utilities and developers to pair storage with charging stations as a requirement of future-proofing, to support de-carbonization, address congestion, and



eliminate the need for costly upgrades which may get stranded in the future as EV utilization and ranges change.

Determination

Starting with a budgetary issue, the Commission agrees with the JU comment that future proofing expenditures should be recognized as a separate line item inside the Make-Ready Program budget because such "expenditures represent additional utility costs that are not tied to the quantity or charging capacity of plugs initially installed at a location." Therefore, the cost of future-proofing shall be tracked separately from the other make-ready costs, and for this reason future-proofing costs should not negatively factor into a utility's selection of projects.

The Commission directs that no more than eight percent of each utility's overall Make-Ready Program budget be spent on future-proofing costs. This cap shall be reexamined at the midpoint review as discussed in the Program Review section of this Order. Future-proofing costs for equipment or infrastructure that is not eligible for the Make-Ready Program are not to be included in this budget and shall be the responsibility of the site developer. This modest investment in future-proofing will ensure that future expansion is done at a lower cost with minimal delay.

It will be critical for utilities and EV supply equipment developers to work together to determine which site and equipment should be future-proofed. As the International Council on Clean Transportation explained, future-proofing is an opportunity to increase the growth potential of a site and save money on that future expansion. Developers will understand the potential of a site to be expanded with either more plugs or greater charging capability, as they should also understand customer expectations for charging speeds and plug availability.

The JU has insight into grid impacts and potential costs of additional load enabled through futureproofing. The Commission agrees with commenters that not all make-ready sites will require future-proofing and it thus will be up to the developer to request future-proofing work. The utilities are directed to accommodate such work if it passes the economic analysis.

The developer must explain the future plans for the site at issue, including additional plugs and/or addition power needs. The utility shall work with the developer to determine the feasibility of future-proofing plans from a grid and site perspective, and include for consideration whether the site can accommodate additional make ready infrastructure and a higher level of service, and whether additional parking spots are available or may become available in the future.

For Level 2 charging stations, oversized or additional conduit may need to be installed, panels may need to be oversized to accommodate adequate space associated with expansion, additional conduit and connections points (including trenching and conduit to additional parking spaces for future chargers) may need to be installed, and the service for the station may need to be oversized to accommodate the potential load at the site. Similar future-proofing may be needed at DCFC stations. In recognition of the requests made by the JU and the reports issued by the International Council on Clean Transportation, the Commission thus rules that transformers and transformer pads shall be on the list of approved future-proofing facilities.

The Whitepaper envisioned future-proofing as spending a minimal incremental cost to accommodate upgrades to the number and/or capacity of plugs. The Commission does not interpret this aspect of the Whitepaper as an invitation to over build EV supply equipment stations at rate-payer expense. The Commission

finds that future-proofing of the components described above should be of a reasonable cost to insure future expansion can happen quickly and cost effectively.

New York Power Authority proposed to limit future-proofing per site to no more than 50 percent of the capacity needed to service the installed chargers and no more than ten percent of the make-ready project cost. While the Commission appreciates this proposed cap on capacity of the site, we want to highlight that the purpose of future-proofing must be to allow as much expansion as possible at minimum cost. It could be that the fifty percent capacity cap could restrain cost effective expansion unnecessarily. Instead, capping future-proofing at ten percent of the site specific make-ready cost provides the developer and utility flexibility to determine the appropriate future-proofing at the site to allow for future expansion with a transparent cap on cost. This ten percent station-specific cap is distinct from the cap that no more than eight percent each utility's Make-Ready Program budget shall be spent on Make-Ready. We reject the JU proposal to restrain future-proofing per site by a cost analysis of the incremental cost of expansion per kW at the time of the construction versus the cost of expansion at a future date because the proposal does not appear to be transparent and easily implemented on a large scale.

If a developer opts to future-proof a site, and the cost is greater than ten percent of that site's Make-Ready Program cost, the developer will be required to pay for future-proofing costs in excess of the ten percent limit. In those instances, the utility shall perform the future-proofing work after securing funding from the developer. Thus, the developer can choose to future-proof equipment not eligible for a utility incentive for future-proofing but that developer shall be

responsible for one hundred percent of such future-proofing costs.

E. Location Capacity

Whitepaper Recommendations

Staff's proposal defines the maximum number of chargers and electricity capacity for each eligible EV charging station. For DC Fast Charger stations, the proposal recommends that between four and ten plugs per location be eligible for an incentive, and the aggregate charging capacity per site be limited to 2 MW. For Level 2 plugs, Staff proposed no limitations on the number of plugs eligible for an incentive or on the aggregate charging capacity per location. For the purpose of the Make-Ready Program, the number of eligible plugs per charger would be the number of plugs capable of charging simultaneously. For example, a charger with two types of plugs that can only charge one vehicle at a time would be considered one plug, while a charger with two plugs and load-sharing capability that can charge two vehicles simultaneously would be considered two plugs.

Comments

The JU argues that the minimum and maximum plug requirements could constrain the types of sites that are developed and increase overall program costs. The JU notes that establishing a minimum requirement of two DC Fast Charger plugs at a given location (without a maximum) would better enable multiple kinds of sites with diverse business models to access make-ready incentives. ChargePoint and New York Power Authority request a reduction in the minimum deployment to two ports, with sufficient make-ready for two additional ports in the future at Level 2 and DC Fast Charger deployment sites. New York Power Authority recommends that the Commission rule that charging

sites must be able to serve at least two cars simultaneously to be eligible for Program incentives.

Determination

We find merit in the JU's argument that the minimum and maximum plug requirements could constrain the types of sites that are developed and increase overall program costs. There may be desirable charging locations where developing four DC Fast Charger plugs is unnecessary at the time the site is developed or is cost prohibitive, particularly in NYC. Staff intended the maximum plug and charging capacity limitations to encourage locational diversity of DC Fast Charger charging stations, which and is a particularly important consideration in service territories with relatively small DC Fast Charger plug targets. For example, Central Hudson and O&R could have fewer than ten DC Fast charging locations developed if more stations with more than ten plugs are developed. However, there may be locations that will be heavily utilized that would benefit from having more than ten plugs available.

Based on the JU's comments the locational and capacity sites constraints recommended in the Whitepaper are hereby relaxed, with the following conditions. A limited number of sites with two plugs will be eligible for the incentive for both DC Fast Charger and Level 2 charging stations. For the five boroughs of New York City, the number of plugs at locations with two plugs shall not be more than 50 percent of the target number of plugs included in the program. In the rest of the state no more than 25 percent of the target number of plugs to be developed shall be at locations with two plugs.

Additionally, DC Fast Charger sites with more than ten plugs and/or demands in excess of 2 MW will be allowed to participate in the program conditionally. The Commission will allow incentives for locations with an excess of ten DC Fast

Charger plugs only if developing the site does not cause the utility to incur new business costs greater than those that would have been incurred to develop a site with a maximum demand of 2 MW. Finally, the number of plugs at locations in excess of ten plugs shall not exceed 50 percent of the target number of plugs included in the program the for each utility.

VI. Program Incentive Levels and Cost Containment  
Whitepaper Recommendations

Under Staff's proposal, an eligible charging station would receive a tiered incentive based on its consistency with certain eligibility criteria. Stations satisfying all the eligibility criteria would receive the lesser of a maximum incentive level based on the average charging station development costs per utility, or 90 percent of the eligible costs for each site. Customers would receive a 50 percent incentive if the accessibility or plug type criteria are not satisfied but all other eligibility criteria are met. The Whitepaper proposes a maximum incentive level for each installation, by utility service territory, using utility station development cost estimates. Under this proposal, customers with above-average development costs would pay for any make-ready costs that exceed the maximum incentive level, requiring them to consider the tradeoffs between the incremental market value and higher cost locations. The maximum incentive level would be reduced as the station economics improve over time.

Staff also proposes that customers developing DC Fast Charger stations be allowed to bundle costs from multiple site locations within a service territory, with all plug installations having to be completed during a developer-chosen 18-month "Bundle Period." The Bundle Period would begin when the incentive application is approved. The Whitepaper proposes

a cap on the total incentive payment at the lesser of 90 percent of eligible costs for all plugs completed during the Bundle Period, or the maximum per plug incentive multiplied by the number of plugs installed during the Bundle Period. Once a bundle application is approved, incentives would be deemed committed.<sup>39</sup>

Comments

Many commenters argue that costs may vary significantly within a utility service territory, and therefore the maximum incentive level proposal needs to be revised or eliminated. Greenlots and ChargePoint note that the per-site cost estimates are too low. Others argue that each utility should have flexibility to determine which sites justify an above-average incentive, including location specific costs and societal benefits. For example, the EV Industry Coalition suggests that the maximum incentive level should be a guideline, not a strict cap. The JU warns that maximum incentive levels may deter implementation of higher-cost and higher-value stations and may perversely encourage less expensive installations to inflate their costs to qualify for greater incentives.

ChargePoint and the EV Industry Coalition argue that the maximum incentive level should not be binding for the first 18 to 24 months of the program to allow the market time to establish more clear cost data, and to enable the development of higher cost and higher value locations. EVBox recommends against adopting maximum incentive levels initially, and instead suggests allowing utilities to evaluate site host applications

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<sup>39</sup> A customer would be allowed to submit an addendum to the bundling application to add additional plugs, although approval would be subject to additional incentive payments being available.

based on costs, geography, and the availability of alternative sites. Enel X North America suggests incentivizing a percentage of the eligible costs without a cap or maximum incentive level. NYSDEC, Electrify America, and Plug In America advocate flexibility in setting incentives or in proceeding based on initial market assumptions, particularly in view of the current public health crisis caused by COVID-19 and anticipated disruptions to construction and EV sales. Plug In America recommends that incentives remain stable until at least 2021 due to these considerations. The NRDC and Sierra Club suggest that it may be appropriate to decrease incentives at different times based on EV deployment in various service territories.

New York Power Authority suggests a higher maximum incentive level for chargers less than 150 kW. Electrify America seeks clarification regarding the aspect of the proposal, specifying that maximum incentive levels would be determined based on utility-specific average deployment costs. Advanced Energy Economy Institute and the ACENY request that the Commission make clear that the maximum incentive level is to function as a cost reduction for utility-side costs, rather than a reimbursement to developers. Advanced Energy Economy Institute and the ACENY warn that developers with limited capital may delay pursuing additional projects if funds are tied up in utility-side costs, particularly given the impact of the COVID-19 pandemic on cash flows. Advanced Energy Economy Institute and the ACENY request that the Commission consider alternatives to lessen these effects, including upfront payments from utilities to developers for customer-side work, or utility payment for customer-side work to be reimbursed by the developer.

Several commenters also express concern about the timing and severity of incentive modifications and the effect



these could have on market development. The Alliance for Transportation Electrification and Electrify America note that cost recovery concerns stemming from premature incentive reductions could stifle investment, while Greenlots and NYC express concern that step-downs may occur too frequently to allow project completion of larger or more expensive stations. Enel X North America also argues for infrequent step-downs to ensure program certainty, possibly as few as one in five years. Electrify America recommends the need for further analysis of this issue to allow the Commission to determine whether the proposed Make-Ready Program, when combined with existing incentives, is likely to enable economically sustainable construction and operation of EV charging stations. Electrify America recommends that the Commission conduct a sensitivity analysis around utilization factors and of how possible changes to policies that impact the cost to operate ultra-fast charging stations, such as an expanded Per-Plug Incentive or an EV charging station-specific volumetric rate, would impact the NPV of modelled stations and the projected effectiveness.

The JU states that market certainty should take precedence over a predetermined and premature schedule of incentive decreases and argue that a more flexible incentive structure would increase the likelihood of program success. The JU recommends flexibility in setting and adjusting incentives to increase charger numbers and capability, accommodate customer segment needs, and account for business model diversity. Greenlots warns that the proposed incentive schedule is too optimistic regarding market development and for this reason it currently opposes any step-downs; however, it expects market conditions to improve at some point to allow modifications. Greenlots suggests that financing could take place through a reservation system to avoid depleting funds prematurely for

longer-term projects. The Alliance for Transportation Electrification, Enel X North America, EVgo, the JU, NRDC and the Sierra Club, and Tesla emphasize the importance of waiting for the midterm program review to assess and implement possible incentive decreases. By contrast, Advanced Energy Economy Institute and the ACENY recommend that utilities should be able to adjust payment percentages before a formal program review. New York Power Authority suggests waiting for program milestones, possibly based on number of installed DC Fast Charger ports, before reducing the incentive.

Advanced Energy Economy Institute and the ACENY, the Alliance for Transportation Electrification, NYC, and Tesla argue that any evaluation regarding incentive reductions should be transparent with ample notice given to stakeholders, possibly through a dashboard. The JU argues that regular utility evaluations of applicants could obviate the need for additional notice and process. Tesla requests a minimum 12-month notice be given to stakeholders before any incentive modifications. Advanced Energy Economy Institute and the ACENY, NYC, and Greenlots recommend EV registrations as a metric in determining incentive reductions. On the other hand, the NRDC and Sierra Club contend that station utilization is a more appropriate metric.

The EV Industry Coalition, the JU, and Tesla assert their belief that bundling is administratively inconsistent with typical site development. These commenters are thus particularly concerned that aligning development milestones with bundling periods will be difficult and impede development. Both ChargePoint and EVBox warn that bundling will favor electric vehicle service providers over independent site hosts, citing the ability of the former to spread costs over multiple locations. EVBox and Greenlots propose that utilities encourage

investment at priority sites based on additional criteria, additional incentives or, where appropriate, be allowed to own such sites. Greenlots adds that bundling should remain an option for developing high cost sites but encourages investigation of other methods.

As an alternative to the bundling proposal, Enel X recommends incentives that cover a given percentage of actual costs that would obviate the need to bundle DC Fast Charger costs across an area. FreeWire Technologies supports the bundling proposal but recommends reducing the period to 12 months to encourage faster deployment. Enel X North America believes that the proposal to allow bundling of DC Fast Charger project costs within a single utility service territory would skew program participation to more sophisticated developers who are able to develop multiple sites to increase the coverage of the incentive. ChargePoint further suggests allowing site-specific capital cost variability. The JU proposes that bundling proposals at different locations should include all relevant plugs in a single application to allow comparisons against other applicants.

#### Determination

The Commission is persuaded by the many commenters calling for greater flexibility regarding setting per-site incentive levels for the Make-Ready Program and thus concludes that a more flexible approach than the maximum incentive level proposal in the Whitepaper is necessary. First, as noted by Enel X North America, EVBox, and Greenlots, setting a prescriptive incentive rate per plug may favor cheaper sites over more expensive sites and sites with higher numbers of plugs over sites with a lower number of plugs, regardless of whether the expensive sites or sites with a lower number of plugs may result in higher benefits in a specific area. Second, as noted

by many commenters, the current set of available information regarding costs per site is relatively limited. We agree that it is unwise to base a prescriptive maximum incentive level on a limited set of data that may not turn out to be representative of the wider charging site development market. The Commission further agrees that the incentive step-downs proposed in the Whitepaper are not appropriate to implement at this time, due to the nascent state of the market and the current uncertainty surrounding the overall representativeness of the EV charging site data presently available in New York State.

The Commission is persuaded by objections made by various parties, including the JU and ChargePoint, regarding the bundling proposal included in the Whitepaper. The Commission agrees that the Whitepaper bundling proposal may result in advantages for larger developers capable of implementing multiple projects simultaneously compared to smaller developers that may only be able to accommodate one project at a time.

In addition, the Commission agrees with the commenters that suggest that the bundling proposal would result in program rules which may not be consistent with, or helpful in easing, the typical site development process. Furthermore, administering the bundling option could be unnecessarily burdensome, increasing costs to implement the program. It is important to emphasize that the Make-Ready Program is intended to create a level playing field for all developers, not to favor certain developers over others due to administrative rules.

Instead of the prescriptive maximum incentive levels recommended in the Whitepaper, the Commission rules that it is reasonable to allow incentives to cover a specified percentage of actual make-ready costs. Accordingly, the JU shall be allowed to provide the following incentive levels depending on whether the site at issue meets certain eligibility criteria:

- 1) Up to 100 percent of eligible make-ready costs for publicly accessible DC Fast Charger sites within one mile of environmental justice communities in Con Edison's, Central Hudson, O&R, and RG&E's service territories, and within two miles of environmental justice communities in NYSEG and National Grid's service territories.
- 2) Up to 100 percent of eligible make-ready costs for Level 2 sites in multi-unit dwellings within one mile of environmental justice or low- and medium- income communities in Con Edison's, Central Hudson, O&R, and RG&E's service territories, and within two miles of environmental justice or low-and moderate- income communities in NYSEG and National Grid's service territories.<sup>40</sup>
- 3) Up to 90 percent of eligible make-ready costs for sites that meet all of the applicable eligibility requirements.
- 4) Up to 50 percent of eligible make-ready costs for sites that do not meet all of the applicable eligibility requirements.

Further, as recognized by Enel X North America, the increased incentive flexibility from declining to adopt the maximum incentive level obviates the need for site bundling and therefore avoids the problems previously discussed. Refinements to incentive flexibility, whether more prescriptive or site-specific incentives should be implemented, and the appropriateness of implementing incentive level step-downs shall be considered as part of the midpoint review process once additional data is available.

Although the Commission is adopting a more flexible incentive design, containment of program costs remains a specific focus for successful operation of the Make-Ready Program. Instead of containing costs through the application of

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<sup>40</sup> The Commission adopts the same definition of low- and moderate- income individuals for this Make-Ready Program as is discussed in the Additional NYSEDA-led Environmental Justice Programs section below.

rigid prescriptive per-plug maximum incentive levels, the Commission is implementing shareholder incentive mechanisms to contain program costs, as described below in greater detail in the Performance-based Regulations section of this Order. These shareholder incentive mechanisms will reward utilities for getting plugs installed at lower make-ready cost than estimated. Further, if the utilities demonstrate through poor program performance that positive shareholder incentives are not sufficient to contain costs, the Commission is committed to consider symmetrical or negative shareholder incentives to refund program costs to customers if the need to do so arises.

VII. Program Budget  
Whitepaper Recommendations

Staff proposed in the Whitepaper that an estimated \$582 million be allocated to the Statewide Make-Ready Program through 2025. The estimate for incentives available for Level 2 chargers was \$431.5 million to support 100,000 chargers and the estimate for the incentives available for DC Fast Chargers was \$150.7 million to support 2,600 chargers. Staff's proposal assumed average Level 2 per-plug make-ready costs of \$5,000 for Upstate and \$9,097 for the NYC metro area. For DC Fast Chargers, Staff's proposal assumed average per-plug make-ready costs of \$50,000 for Upstate and \$90,970 for the NYC metro area. Staff requested that each utility submit station development cost estimates for the purposes of developing utility-specific budgets.

Under Staff's proposal, each utility's share of plugs would be established using the percent of light-duty vehicle registrations in each service territory. The number of stations that may be incentivized would be capped at this number. Utility program budgets would be capped at the maximum incentive level, which would be the utility-specific average cost to make-

ready on a per plug basis, multiplied by number of plugs needed and remain fixed for 3 years until the program's midpoint program review. The number of incentives for Level 2 chargers would be limited to 50 percent of the total number of plugs per service territory for the first 3 years.

Staff's proposal in the Whitepaper also included a budgetary set-aside for DC Fast Charger stations in and around low- and moderate-income LMI and environmental justice communities. Twenty percent of each utility's DC Fast Charger budget would be directed towards EV charging stations located within 10 miles of a disadvantaged community. Staff did not propose any set-aside for Level 2 chargers, noting that promoting Level 2 charging in low- and moderate-income areas may not be the most effective path to expanding accessibility to clean transportation options in these communities. Staff requested stakeholder feedback on criteria to identify low- and moderate-income and environmental justice communities, as well as criteria for siting and rebate levels to promote EV penetration in environmental justice areas.

Staff also proposed that the seven REDCs be designated as "strategic locations" and eligible for limited additional incentives totaling \$5 million, to ensure communities with less access to EV charging stations have a minimum level of DC Fast Charger infrastructure. At least four locations, with four 150 kW DC Faster Charger plugs at each site, would be developed in each upstate REDC through a competitive procurement in the first year of the program. Staff requested stakeholder input on the efficacy of the proposal, administration of the competitive process, site identification and selection, and determination of program size.

Comments

Many commenters suggest revisions to the program budget based on more costly estimate of plug make ready costs. For their part, the JU estimates an average per-plug make-ready costs of \$6,000 for Upstate and \$16,100 for the New York City metropolitan area. For DC Fast Chargers, the JU estimates average per-plug make-ready costs of \$55,000 for Upstate and \$130,800 for the New York City metropolitan area. The JU notes that the Whitepaper did not include incremental budgets for implementation or future-proofing costs, which the JU estimate at a 15 to 20 percent addition for implementation and an 8 percent addition for future-proofing.

ChargePoint recommends revising program capital cost projections to reflect greater cost variability. It indicates, for example, that DC Fast Charger installation and make-ready costs average between \$34,000 and \$211,750 per plug. Electrify America notes that further economic assessment is required and recommends analysis of utilization factors and policy effects on charger installation and operation costs. Green Machine Power believes that an updated forecast will ensure more accurate long-term funding. Plug In America recommends that Staff redo its analysis using a more sophisticated tool. Greenlots agrees with several parties who warned that the overall program budget is likely insufficient.

NYSDEC recommends distributing the proposed \$582 million in make-ready investments between investor-owned utilities based on projected Level 2 and DC Fast Charger needs and progress towards goals in five and ten years. NYC notes that authorizing excessive programmatic budgets will have significant effects on ratepayers, especially during uncertain economic conditions. Tesla recommends that other funding sources be investigated before moving ahead with competitive



procurement, such as grants from New York's share of Volkswagen Appendix D funds. The Alliance for Transportation Electrification recommends that a program management budget of ten to fifteen percent of the total budget, ideally in addition to funds already earmarked, is sufficient to accomplish program goals.

There is wide support among parties for Staff's proposal to allow for a set-aside budget for low- and moderate-income and environmental justices communities. Several parties recommend reducing the 10-mile radius for use in urban and suburban locations. NYC suggests using the 10-mile radius in less populated areas. Numerous commenters suggest a smaller 1-mile radius for downstate economic justice areas, while New York Power Authority suggested a four-mile radius. Most commenters suggest leaving the 10-mile radius in place upstate.

The Alliance for Transportation Electrification recommends that Staff and the utilities engage disadvantaged communities directly to learn their needs. The JU supports using existing definitions for low- and moderate-income and environmental justice communities, such as the DEC list of proposed environmental justice communities organized by county. New York Power Authority recommends that the conditions for maximum incentive eligibility be expanded to increase the likelihood of utilization in disadvantaged communities. New York State Department of Transportation and FreeWire Technologies suggest that the program increase its investment goals to align with the CLCPA targets for clean energy investment. NYC recommends that the program also foster workforce development opportunities during the gradual economic recovery from the pandemic.

Commenters generally support the REDC recommendations. The JU states that each utility will work together in each REDC

to structure similar procurements in the program's first year. NYC suggests that the REDC approach is too broad to appropriately incentivize EV supply equipment deployment where it is most needed. NYPA argues that developers should be responsible for siting EV Infrastructure development at strategic locations, coordinating with existing or planned stations to avoid undue clustering. Enel X North America recommends that utilities that serve each REDC should administer the competitive process. Plug In America encourages grants to support installations in more remote locations, noting that actual utilization fails to represent the entirety of the value of installations in these areas. NRDC and Sierra Club believe chargers should be placed based on the types of trips they are likely to support, such as on corridors. Tesla suggests solicitations for discrete areas, whereas Enel X North America supports broad geographic guidelines.

Advanced Energy Economy Institute and the ACENY, Greenlots and the Metropolitan Transportation Authority (MTA) encourage the Commission to address the medium- and heavy-duty sectors expeditiously since environmental justice communities are disproportionately impacted by air pollution from transit and delivery vehicles. New York Public Transit Association, Inc. requested a budget for make-ready in their initial comments, and the EV Industry Coalition and New York Power Authority assert that support for transit authorities is vital.

Determination

The JU proposed average per-plug make-ready costs that were significantly higher than those used by Staff to develop the budget estimate in the Whitepaper. Estimates for Upstate installations were 120 percent higher than those used by Staff for Level 2 and 110 percent higher for DC Fast Chargers. In Con Edison and O&R's service territory, the JU's estimates were 177

percent higher than those used by Staff for Level 2 and 144 percent higher for DC Fast Chargers. Other commenters, including ChargePoint, raised concerns that Staff's estimates were too low, and that make-ready costs for DC Fast Chargers in particular are highly variable.

Staff held several meetings with the Joint Utilities to determine the methodology used by the utilities in calculating average make-ready costs and to identify why the estimates, particularly for Con Edison, were greater than those in the Whitepaper. Staff tested cost component estimates against NYSERDA experience and industry resources. Staff determined that the estimates provided by the JU for Upstate Level 2 and DC Fast Chargers were reasonable. However, Staff determined that estimates for Con Edison's service territory were high. Staff identified the primary drivers of the cost disparity to be assumptions made by Con Edison regarding component costs, plug distribution, site configuration, and variability.

The Commission acknowledges the limited historical data from which to draw, as well as significant variability in site-level costs as indicated by many commenters. In the Cost Containment section above, we determined that a more flexible approach than that proposed in the Whitepaper is necessary and for that reason established alternate cost containment measures. To appropriately balance cost containment with flexibility, the Commission is modifying Staff's proposal to limit the number of incentives for Level 2 chargers to 50 percent in the first three years of the program. At this time the Commission finds that a 50 percent limit could unnecessarily constrain program activity due to the noted variability in site-level costs. However, a 60 percent limit should provide appropriate cost containment while recognizing that site-level costs can vary significantly.

Therefore, we rule that such incentives shall be limited to 60 percent subject to reassessment at the midpoint review.

Based on updated estimates provided by Staff after extensive consultation with the JU and analyzing comments, Make-Ready incentive budgets are set using per-plug average costs of \$11,298 for Level 2 chargers in Con Edison's service territory, \$6,000 for Level 2 chargers outside of Con Edison's service territory, \$100,109 for DC Fast Chargers in Con Edison's service territory, and \$55,000 for DC Fast Chargers outside of Con Edison's service territory.

The Commission authorizes a Make-Ready Incentive budget for each utility as follows: Make-Ready Program incentive payouts shall not exceed \$233,659,418 for Consolidated Edison, \$21,140,800 for Central Hudson, \$63,754,000 for New York State Electric & Gas, \$112,118,100 for Niagara Mohawk, \$19,261,600 for Orange and Rockland, and \$30,549,700 for Rochester Gas and Electric. The Commission bases these budgets on the per-plug average costs listed above, each utility's share of Level 2 and DC Fast Chargers as determined in the Program Size section of this order, and in consideration of the varying incentive levels as determined in the Program Incentives and Cost Containment section of this order. These budgets are included in Appendix B to this Order.

In the DC Fast Charger Per-Plug Incentive Program, the Commission directed the Joint Utilities to update program rules so that no single station developer or operator may seek incentives for installation of greater than 50 percent of the plugs per utility service area.<sup>41</sup> The Commission made this modification to mitigate concerns that a single developer or operator could obtain a disproportionate amount of incentive

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<sup>41</sup> Order Further Modifying DC Fast Charger Incentive Program.

funds. The Commission has similar concerns in the Make-Ready Program. As noted previously, the Make-Ready Program is intended to create a level playing field for all developers, not to favor certain developers over others. Therefore, the Commission directs that no single station developer or operator may seek incentives for greater than 50 percent of any utility-specific Make-Ready Incentive budget indicated in the preceding paragraph.

The Commission agrees with the JU that a robust program design framework that provides for adequate program implementation focus will help ensure program success. Accordingly, utilities are directed to provide estimated incremental administrative costs for implementation of the Make-Ready Program in their implementation plans. Such incremental costs, inclusive of costs related to the Fleet Assessment Service, shall not exceed 15 percent of each utility's Make-Ready Incentive budget and will be examined at the midpoint review. No utility shall expend more than 60 percent of its budget for administrative and implementation costs prior to the midpoint review.

As discussed in the Future-Proofing section above, an overall budget for incremental future-proofing costs shall not exceed eight percent of each utility's Make-Ready Incentive budget and will be reexamined at the midpoint review.

In the Accessibility section above, the Commission directed each utility to earmark 20 percent of its Make-Ready Incentive budget to support additional incentives for certain charging infrastructure located in or near environmental justice or low- or moderate-income communities. On a statewide basis, this will represent almost \$96 million in make-ready incentives earmarked for these communities. Elsewhere in this Order, the Commission directs additional programs and associated budgets

that will further benefit environmental justice and low- or moderate-income communities.

These include: the Environmental Justice Community Clean Vehicles Transformation Prize (\$40 million), the Clean Personal Mobility Prize (\$25 million), the Clean Medium- and Heavy- Duty Innovation Prize (\$20 million), the Medium- and Heavy-Duty Make-Ready Pilot Program (\$15 million), and the Transit Authority Make-Ready Program (\$10 million). With the Make-Ready Program and these associated programs and pilots, the Commission is authorizing a statewide budget of up to \$701 million, \$206 million of which will directly benefit environmental justice and low- or moderate-income communities. A chart illustrating each utility's Make-Ready Program budget and the overall statewide budget is included in Appendix B of this Order.

VIII. Cost Recovery  
Whitepaper Recommendations

Under Staff's proposal, utilities would recover the make-ready equipment investments and incentive costs, up to the maximum incentive level per plug installed, through a combination of rate base treatment and surcharges. Utility-owned make-ready work would be capitalized and incorporated into the utility's plant in service. Until utility make-ready investments are reflected in base rates, the full pretax return on the average unrecovered investment net of related deferred income taxes, and accrued depreciation expenses, would be deferred as a regulatory asset. At the end of each program year, regulatory assets would be recovered over a subsequent one-year period via an existing surcharge. Utility make-ready investments would be excluded from each utility's plant in service reconciliation.

As proposed in the Whitepaper, if the maximum incentive level is greater than the utility's make-ready costs, the utility would provide the difference between the utility's make-ready costs and the maximum incentive level as a rebate to the customer. Any incentive expenses including carrying charges on the net-of-tax balance, at the pretax cost of capital, would be deferred as a regulatory asset and recovered through an existing surcharge. Collections would begin at the end of the first program year with annual updates thereafter. Incentive costs would be collected and amortized over a period of 15 years. If the maximum incentive level is lower than the utility's make-ready costs, then the customer would pay the balance via an EDF or CIAC. Any EDF or CIAC payments would be used to offset utility plant investment related to make-ready work. Program costs would be allocated based on transmission and distribution revenues to all customer classes. Staff requested proposals from utilities on how best to incorporate existing programs that address similar make-ready costs into the proposed program.

Comments

The Alliance for Transportation Electrification supports the proposal to allocate program costs to all customer classes based on transmission and distribution revenues, although Multiple Intervenors (MI) alleges that the proposed cost allocation is inequitable and should be modified. MI asserts that, if the purpose of the program is to develop publicly accessible and workplace EV charging stations predominantly for the use of mass-market customers, Staff's proposal would force large, nonresidential customers to fund make-ready incentives for which they should not be responsible.

The JU did not opine on Staff's proposed cost recovery method but did note that costs outside of the Make-Ready Program

related to connecting new customers and load to the system would be incurred. These "New Business" costs are typically included in a utility's calculated revenue requirement in rate cases. The JU requests that the Commission "permit utilities to recover the revenue requirement impact of incremental New Business costs on a current basis through a separate recovery mechanism until such time as the costs are placed into base rates." The JU estimated that New Business expenses could be \$221 million based on the plug counts envisioned by the Whitepaper.

Determination

As discussed in the Cost Containment section above, plugs developed under the Make-Ready Program will be eligible to receive up to 100 percent, 90 percent, or 50 percent of eligible developer make-ready costs, depending on location and eligibility requirements. There are two categories of make-ready costs associated with plugs developed under the Make-Ready Program: utility-owned make-ready; and customer-owned make-ready.

In future rate filings, utility-owned make-ready work, including work related to future-proofing utility infrastructure, shall be treated as capitalized plant in service with cost allocation and recovery via traditional ratemaking methodologies. However, such costs are not reflected in current rate plans. Therefore, until such time as the utilities' base rates reflects such investments, the utilities will be allowed to recover the associated revenue requirement through an existing surcharge. Such interim recovery of costs shall be from all customers<sup>42</sup> in proportion to each class' transmission and distribution revenues; recovery shall be on a per kilowatt

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<sup>42</sup> Excelsior Jobs and Empire Zone economic development sales shall be exempt from the surcharge.



hour basis for energy billed customers and on a per kilowatt basis for demand billed customers. Specifically, until costs are reflected in base rates, at the end of each program year, depreciation expense related to utility-owned make-ready work, and return on the average unrecovered investment net of deferred income taxes, shall be calculated and recovered over a subsequent one-year period. Utility-owned make-ready work shall be excluded from each utility's plant in service reconciliation.

Incentives paid for customer-owned make-ready work, including work related to future-proofing customer facilities, shall be included in base rates as a regulatory asset after the Make-Ready Program terminates and total costs are known. Similar to utility-owned make-ready, such costs are not reflected in current rate plans. Therefore, until such time as the utilities' base rates reflect such incentive payments, the utilities will be allowed to begin recovery through an existing surcharge mechanism. This regulatory asset, inclusive of associated carrying charges (the net-of-tax balances will be allowed to accrue carrying charges at the pretax overall cost of capital) will be collected over a period of 15 years. Surcharge collection shall begin at the end of the first program year, with annual updates thereafter. Such costs shall be allocated to all customers using transmission and distribution revenues and shall be recovered on a per kilowatt hour basis for energy billed customers and on a per kilowatt basis for demand billed customers. Incentives paid for customer-owned make-ready work shall be excluded from each utility's plant in service reconciliation.

With respect to the cost-allocation, the Commission notes the concern raised by MI that Staff's proposal would require large, nonresidential customers to support the deployment of make-ready infrastructure for mass-market electric

vehicles. The Make-Ready Program is being adopted to assist New York State in meeting CLCPA targets of reducing GHG emissions. As noted in Staff's Whitepaper and in MI's reply comments, reduced GHG emissions benefit all customer classes. Further, customers operating demand-billed EV charging facilities will be billed under applicable large, nonresidential rates. As such, revenues received from such customers will inure to the benefit of large, nonresidential customer classes within utilities' embedded cost of service studies, which are used to guide inter-class revenue allocation and for other purposes. Additionally, until such time as utilities' revenue decoupling mechanism targets incorporate revenues from these demand-billed EV charging facilities, such revenues will be credited to large, nonresidential customers through the decoupling mechanism. Therefore, allocating the cost of make-ready incentives to all customer classes is appropriate.

To the extent that the utilities' tariffs require modification to effectuate cost recovery, tariff revisions, to go into effect on January 1, 2021, shall be filed on not less than thirty days' notice. These tariff revisions are to go into effect on a temporary basis until made permanent by the Commission.

Costs related to the Make-Ready Program, Environmental Justice Community Clean Vehicles Transformation Prize, Clean Personal Mobility Prize, Clean Medium- and Heavy- Duty Innovation Prize, Fleet Assessment Service, Medium- and Heavy-Duty Make-Ready Pilot Program, and Transit Authority Make-Ready Program shall be recovered consistent with recovery methods for the Make-Ready Program. To the extent that costs in these programs are for utility make-ready infrastructure, such costs shall be treated as capitalized plant in service with cost allocation and recovery accomplished via traditional ratemaking

methodologies. Other costs resulting from these programs will be deferred as a regulatory asset and, at the end of each program year, be recovered via the surcharges mentioned above over a period of 15 years, with the net-of-tax balances accruing carrying charges at each utility's pretax overall cost of capital.

Make-Ready Program implementation costs inclusive of the Fleet Assessment Service shall be deferred until the end of each program year. At the end of each program year, the deferred costs will be collected over a five-year amortization period, with the net-of-tax balances accruing carrying charges at each utility's pretax overall cost of capital.

The JU's request that the Commission establish a separate recovery mechanism for New Business expenses associated with the Make-Ready Program is denied at this time. As stated by the JU, New Business generally refers to utility budgets designed to cover the socialized expenses of connecting new customers and load to their systems. These costs are included in capital budgets and in utility rate plans. New Business expenses associated with the Make-Ready Program may not have been contemplated at the time existing rate plans were established. However, other developments, like the economic impact of the novel coronavirus COVID-19 pandemic, will likely impact new customer growth and system loads. Therefore, New Business expenses associated with the Make-Ready Program may not be incremental to those provided for in existing rate plans. New Business expenses related to the Make-Ready program are to be included in the net plant true up computation. In the event that actual net plant exceeds the cap, the revenue requirement associated with the lesser of either (a) the New Business expenditure associated with the Make-Ready program, or (b) the

amount by which net plant exceeds the cap, is to be deferred by the affected utility for later recovery.

IX. Performance Based Regulation

Whitepaper Recommendations

The Whitepaper contains a number of recommendations related to overseeing program costs and constraining inefficiencies. Staff proposed that utilities be required to demonstrate that the distribution grid is more resilient as a result of utilities' investment into make-ready upgrades as a basis for performance-based regulation of the Make-Ready Program. In addition, Staff recommended that success of the Make-Ready Program not be measured solely on whether the infrastructure required to meet the State's ZEV goals is built but should also require demonstration of ratepayer benefits and that the investment decisions made in implementing the Make-Ready Program bolster the distribution grid.

Staff posited that successful performance-based regulation of the Make-Ready Program would reward utilities for taking reasonable risks in performing make-ready work at the same time as planned utility construction sites where developers ultimately build an economically rational EV charging station. To that end, Staff requested stakeholder input on whether an EAM focused on facilitating near-term measures to create customer savings and develop market-enabling tools would be appropriate for utilities under the program. Staff also recommended that any additional incentives requested for the Make-Ready Program be aligned with the Beneficial Electrification EAMs currently in place in most of the JU's service territories.

Comments

The JU recommends the development of a set of performance incentives that align the utilities' incentives with those of state policy, including: (i) number of Level 2 plugs;

(ii) number of DC Fast Charger plugs; (iii) cost-effectiveness of Level 2 plugs (on a \$/kW installed or \$/plug basis); (iv) cost-effectiveness of DC Fast Charger plugs (on a \$/kW installed or \$/plug basis); (v) kW enabled by Level 2 activities; and (vi) kW enabled by DC Fast Charger activities.

Advanced Energy Economy Institute and the ACENY are broadly supportive of utility incentives, although they warn of unintended consequences. NYC cautions against incentives that fail to strike an appropriate balance between low cost sites and high-value locations. Environmental Defense Fund, Tesla, MTA, and the NRDC and Sierra Club support incentives to encourage utilities to propose alternative rate designs for off-peak charging. Advanced Energy Economy Institute and the ACENY and the NRDC and Sierra Club claim that by aligning utility earnings with the overall success of the charging station, utilities will have an additional incentive to work closely and cooperatively with developers. The Alliance for Transportation Electrification suggests that station utilization is not an appropriate metric for an incentive but recommends that the number of electric vehicles in the market be used instead. Enel X North America and Greenlots oppose an EAM.

NYC warns the Commission to avoid incentives that incent utilities to pursue EV Infrastructure deployment at cost-efficient but otherwise suboptimal locations, noting that electric system capacity is not the only important criterion in siting infrastructure. Tesla recommends utility performance incentives to encourage program cost reductions, customer satisfaction, faster application processing times, greater participation, and greater performance relative to location budgets.

Determination

With the exception of the Alliance for Transportation Electrification, Enel X North America, and Greenlots, comments generally support providing utility shareholder incentives tied to Make-Ready Program performance, and the Commission finds such comments persuasive. Environmental Defense Fund suggests that the incentives related to the Make-Ready Program should be directly tied to program elements that the utilities have control over, and the Commission agrees with this concept. Recent experience with Energy Efficiency EAMs has shown that shareholder incentives tied directly to Energy Efficiency savings achieved by the utility have been very effective at driving greater than anticipated results in these programs.

Instead of the cost containment recommendations included in the Staff whitepaper, the Commission finds that an EAM tied to incentivizing EV charging infrastructure at least cost is the most effective method to ensure customer benefits, at this time as customers will benefit from both the anticipated increase in penetration from EVs themselves, and also benefit by decreasing expenditures below the currently forecasted budget amounts. Further, an EAM tied to decreasing program expenditures provides a counterbalance against a utility's natural business incentive to increase Rate Base by maximizing capital expenditure spending. Therefore, it is reasonable for an incentive intended to maximize Make-Ready Program effectiveness while minimizing cost required to achieve sufficient penetration of EV charging infrastructure to be tied directly to the results of each utility's Make-Ready Program efforts.

Although the Commission agrees that a new programmatic EAM to maximize effectiveness of each of the utilities' Make-Ready Programs is reasonable, the loose set of metrics and

approval process proposed by the JU is neither sufficient nor reasonable. There are several disadvantages to leaving design of a new EAM metric to each individual utility as part of its upcoming rate proceeding. First, while the Make-Ready Programs at each utility would be implemented on the same schedule, the schedules for implementing EAMs at various utilities vary widely based on rate plan filings, providing access to these new EAMs early for some utilities and much later for others.<sup>43</sup> Second, directing that the new EAM to be developed in individual utility proceedings has the potential to result in markedly different EAM metrics at each utility, when the Make-Ready Program EAM should be similarly designed to stimulate effectiveness across each utility. There may be good reason to establish minor variations of the same metric amongst utilities in the context of rate proceedings, and the Commission will consider those proposals in the context of rate plan filings while directing a common EAM by this Order.

The Commission is sensitive to MI's concern regarding the incremental cost of the Make-Ready Program and agrees that careful consideration is necessary when dispensing customer funds. Therefore, the Commission will implement the Make-Ready Program Share the Savings EAM, with certain minimum requirements to ensure that the utilities operate their respective Make-Ready Programs with maximum effectiveness and care for achieving the outcomes that customers are paying for.

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<sup>43</sup> For example, Con Edison's most recent Rate Plan provides EAMs through Calendar Year 2022, and NYSEG and RG&E similarly do not have such an EAM metric included in their Joint Proposal. If left to individual utility rate proceedings, these Companies would be locked out from this EAM metric through Calendar Year 2022.

Building on the successes observed with utility Energy Efficiency programs, the Commission will adopt an EAM structure similar to the Energy Efficiency Share the Savings EAM metric that was recently approved for Con Edison,<sup>44</sup> including the requirement that the EAM will be positive-only, at least initially. However, where the Energy Efficiency Share the Savings metric approved for Con Edison was designed to both maximize energy efficiency savings and incentivize achieving the State's energy efficiency goals at less than the budgeted cost, an EAM metric which places greater emphasis on cost savings is appropriate for the Make-Ready Program. Energy Efficiency costs are generally Operations and Maintenance expenses; therefore, absent an EAM, utilities do not earn a return on most of their energy efficiency-related expenditures. Since much of the costs of the Make-Ready Program will be capitalized, and ultimately result in increased utility Rate Base, utilities will have an incentive inherent in their typical business model to maximize expenditures on the Make-Ready Program. Accordingly, the greater emphasis on program cost savings is warranted.

The "Make-Ready Program Share the Savings" EAM will consist of two component metrics, one measuring performance of the Level 2 portion of the Make-Ready Program (Level 2 EAM metric), and the other measuring performance of the DC Fast Charger portion (DC Fast Charger EAM metric). The Level 2 EAM metric will compare each utility's actual Level 2 Make-Ready Program performance to the forecast baseline costs established in this Order on a per-plug basis, whereas the DC Fast Charger Share the Savings metric will compare each utility's actual DC

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<sup>44</sup> Case 19-E-0065, Con Edison - Rates, Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plan (issued January 16, 2020).



Fast Charger Make-Ready performance to the forecast baseline costs on a per-kilowatt (kW) of charging installed basis.<sup>45</sup> Unlike typical EAMs, which are calculated annually, the Commission will establish that this shareholder incentives under this EAM will be calculated on two occasions: once as part of the midpoint review; and, again at the end of the program in 2025.

The Make-Ready Program Share the Savings metrics will only consider the costs of incentives paid to developers and will not include costs related to future proofing or program administration. Further, results from the Transit Authority Make-Ready Program, the Environmental Justice Community Clean Vehicles Transformation Prize, the Clean Personal Mobility Prize, and the Clean Medium- and Heavy- Duty Innovation Prize shall not be included in the EAM metric. The Commission understands that the budgets for future proofing and program administration were developed based on rough estimates and rules of thumb. While maximizing effectiveness and reducing the cost of the utilities' future proofing and program administration efforts is important, it is unreasonable to provide a shareholder incentive for achieving savings in these areas when the basis for the budgets themselves is currently uncertain. Similarly, it is unreasonable to provide a shareholder incentive related to the Transit Authority Make-Ready Program or additional Environmental Justice Programs at this time, given the current lack of anticipated targets and infancy of these pilots. Whether to include future proofing and program administration costs within the EAM metric, and whether the costs and results of the Transit Authority Make-Ready Program

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<sup>45</sup> The MWS of charging infrastructure incentivized counts only nameplate MWS of charging capability and does not include any MWS enabled through future-proofing efforts.

and the additional Environmental Justice Programs directed by this Order should be included in the EAM metric would likely be considered as part of the midpoint review.

Expressed simplistically, the Level 2 EAM metric is calculated as 30 percent of the difference between: (1) the baseline incentive cost forecast per plug multiplied by the population of plugs incented as part of the program; and (2) the actual incentives provided by the utility. Similarly, the DC Fast Charger EAM metric is calculated as 30 percent of the difference between: (1) the product of the baseline incentive cost forecast per kW of charging capacity and actual kW charging capability achieved; and (2) the actual program incentive costs provided by the utility. These computations are somewhat more detailed than the simplistic descriptions provided above. Appendix C provides a complete description, mathematical formulae, per-plug and per-kW baseline incentive cost projections, plug and kW targets, example calculations and other relevant details required to implement the Make-Ready Program Share the Savings EAM metrics.

The Level 2 EAM metric and DC Fast Charger EAM metric are computed on a differential basis by design based on the desired outcome for each program type. For Level 2 chargers, the total number of plugs installed is more indicative of program success than wading through the minutiae of whether each plug has a charging capability of five or seven kW. Conversely, for DC Fast Chargers, the total charging capability is a critical indicator of program performance since both charging speed and number of DC Fast Charger plugs are important and per-plug charging capabilities can vary widely for DC Fast Charger plugs. Further, applying the DC Fast Charger EAM metric on a per kW basis provides additional flexibility to implement the Make-Ready Program to right-size the charging capability with

the charging needs of the local area, instead of implementing the metric on a less flexible per-plug basis. The thirty percent sharing amount is reasonable since it is the same percentage share of savings implemented in Con Edison's Energy Efficiency Share the Savings metric, and results in an amount of shareholder incentives that is not too rich that it rewards mediocrity nor too conservative that it fails to motivate performance when applied to example calculations.

While the Make-Ready Program Share the Savings metric will be positive-only to begin with, the Commission will also require the following safeguards to ensure that customer money is used reasonably, and that the charging infrastructure that customers will be paying for actually comes to fruition. First, to be eligible to earn an incentive under the Make-Ready Program Share the Savings metrics, the utility must install a specified minimum number of plugs of the applicable type.<sup>46</sup> This requirement will ensure that the utilities have an incentive to at least meet the minimum number of plugs authorized in this Order.

Second, the utilities shall be allowed to recover only a combined maximum of 15 basis points worth of incentives under the Make-Ready Program Share the Savings metrics<sup>47</sup> each time an

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<sup>46</sup> Level 2 and DC Fast Charger plugs will be counted separately and failing to meet the minimum number of plugs for one type will not disqualify a utility from qualifying to earn an incentive based on the other. For example, a utility may still earn an incentive for its DC Fast Charger efforts above the minimum number of plugs even if it does not qualify for an incentive for its Level 2 program efforts.

<sup>47</sup> For example, if a utility demonstrates that it would earn eight basis points of incentives through the Level 2 Share the Savings metric, and ten basis points of incentives through the DC Fast Charger Share the Savings metric, it would only be allowed to collect a total of 15 basis points combined.

EAM is earned.<sup>48</sup> As described in the incentives section above, the amount and quality of EV Infrastructure and charger-specific data available to the Commission is limited. The Commission expects the quality and quantity of data to improve significantly prior to the midpoint review and recognizes that it is imperative to be careful with customer money and ensure that utility shareholder incentives are held to a reasonable maximum level. The maximum combined level of 15 basis points is appropriate, since it roughly approximates the number of basis points currently available for Electric Energy Efficiency EAM metrics, and ensures that the total financial incentives available to utility shareholders through EV-based EAMs does not become excessive.

Finally, the Commission directs Staff to examine the utilities' performance under the Make-Ready Program during the midpoint review, and return to the Commission with a proposal to implement negative revenue adjustment mechanisms to return customer money if, in Staff's view, the utilities are not performing satisfactorily. This review should encompass whether the EAM as directed in this Order is working satisfactorily to spur utilities to maximize program performance at least cost, as well as whether the program results in concert with the EAM incentives are resulting in a satisfactory level of benefits accruing to customers.

Regarding recovery of earned EAM incentives, each utility shall recover earned Make-Ready Program Share the Savings EAM incentives through the same surcharge mechanism that

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<sup>48</sup> Up to 15 basis points will be available to each utility based on performance when measured at the mid-point review, and a further 15 basis points will be available to each utility based on performance upon completion of the program.

is currently in place to recover other EAM metric earnings.<sup>49</sup> The utilities shall recover these costs from service classifications using the same allocation factors approved in this Order for recovery of program costs, as discussed in the Cost Recovery section of this Order.

Several commenters request that shareholder incentives related to the Make-Ready Program be tied to broad policy outcomes, such as charging station utilization or electric vehicle penetration. While these broad policy outcomes are critically important, to a large extent they are already included in existing Beneficial Electrification EAMs that are either already in place or currently under consideration by the Commission. Beneficial Electrification EAMs tied to EV penetration are currently in place with respect to Con Edison,<sup>50</sup> Central Hudson,<sup>51</sup> National Grid,<sup>52</sup> and O&R.<sup>53</sup>

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<sup>49</sup> Existing surcharge mechanisms for recovering EAM incentives are in place for Con Edison, Niagara Mohawk, Central Hudson, and O&R. A Joint Proposal containing a proposed Beneficial Electrification was filed in NYSEG and RG&E's ongoing rate proceeding in Cases 19-E-0378 and 19-E-0380 on June 22, 2020. NYSEG and RG&E are directed to recover Make-Ready Program Share the Savings metric incentives through the same surcharge mechanism as is approved by the Commission as part of its rate proceeding.

<sup>50</sup> Case 19-E-0065, Con Edison - Rates, Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plan (issued January 16, 2020).

<sup>51</sup> Case 17-E-0459, Central Hudson - Rates, Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plan (issued June 14, 2018).

<sup>52</sup> Case 17-E-0238, National Grid - Rates, Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plan (issued March 15, 2018).

<sup>53</sup> Case 18-E-0067, O&R - Rates, Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plans (issued March 14, 2019).

The specific EAM metrics suggested by Tesla and AEEI, based on developer satisfaction with the Make-Ready Program and charging station utilization, respectively, are not reasonable at this time. Tesla's proposal to develop an EAM metric based on participant satisfaction with the Make-Ready Program is similar to the interconnection EAM related to surveying and measuring participant satisfaction with the SIR, which the Commission ultimately concluded was neither reasonable nor efficient.<sup>54</sup> The Commission will thus not adopt a similar customer satisfaction based metric in this proceeding.

The Commission also declines to adopt Advanced Energy Economy Institute and the ACENY's recommended EAM metric based on measuring station utilization because it is strictly outcome-based. Further, this station utilization-based metric could potentially motivate utilities to only incentivize charging stations with the highest anticipated utilization rates, which are arguably the stations that require Make-Ready Program incentive funding the least.

While the Commission declines to implement new EAM metrics tied to these specific outcomes at this time, however, given that the Make-Ready Program is being implemented to help ensure that New York meets its goals in electrifying the transportation sector, future Beneficial Electrification EAMs targets proposed by utilities should be based on meeting and exceeding the penetration of electric vehicles required in their service territories. Combining the programmatic EAM adopted in this Order with the outcome-based Beneficial Electrification EAMs with right-sized targets will ensure that utilities will have the financial incentives to both operate their Make Ready

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<sup>54</sup> Case 14-M-0101, et al., Reforming the Energy Vision, Order Eliminating Interconnection Earning Adjustment Mechanisms (issued April 24, 2019).

Programs at maximum efficiency and ensure that customers adopt electric vehicles at the pace required to meet New York's aggressive climate goals.

X. Application Portal  
Whitepaper Recommendation

Staff recommends in its Whitepaper that the Joint Utilities: (1) develop a web-based application submittal process; (2) publish load-serving capacity maps and program information; and (3) re-evaluate the organization of EV program content on their websites. Benefits from these steps would include providing project applicants with updated status information and utilizing best practices to safeguard customer information. Utilities would develop a common IOAP for EV chargers, and leverage substantially similar program applications with the below minimum information:

- 1) The applicant's name, contact information, and project/application identification number.
- 2) A description of the project, including the project's technology type, size, number of plugs, and location.
- 3) Project application status, including steps completed and to be completed, along with corresponding completion/deadline dates and the acting party (either the utility or the applicant) associated with each step.
- 4) Information regarding any outstanding information requests made by the utility to the applicant.
- 5) The status of all amounts paid and/or due to the utility by the applicant.

Further, utilities would need to manage their resources appropriately to meet the industry's needs and avoid queueing problems, using dedicated EV team members comprised of

interconnection experts, distribution system planners and other key subject matter experts.

Comments

Commenters generally support a cost-effective, streamlined interconnection online application process. Environmental Defense Fund argues for the expeditious availability of an interconnection online application portal. Greenlots contends that an efficient interconnection process can promote cost reductions and urges the Commission to consider other methods for expediting review. The Joint Utilities note that existing procedures should be capable of addressing new load associated with charging infrastructure development, and suggests a new portal is unnecessary.

Electrify America requests that the Commission define and enforce rules with respect to expedited interconnection for EV charging infrastructure and associated energy storage, as the time and cost of interconnection have emerged as barriers to charging station deployment in New York. Electrify America recommends a single nonutility program administrator for any incentive programs with clearly defined requirements that facilitate developer confidence.

Determination

The Commission expects that this Make-Ready Program will spur charging station development in New York State, and thus it is reasonable to anticipate a significant uptick in new load applications. In order for the Joint Utilities to timely review and respond to new applications, and begin construction, each utility must be prepared to scale existing processes and procedures to meet an increased demand. The Joint Utilities observe that EV chargers are not like distributed energy resources, which interconnect via the IOAP, because EV chargers are new load—as compared to new injection or part of the



interconnection queue. The Commission acknowledges the difference between EV stations--handled as new service applications--and DERs that connect to the distribution system via the SIR.

The scope and scale of the Make-Ready Program incentivizes EV Infrastructure and supply equipment development that is orders of magnitude greater than what the Joint Utilities have connected to date. This increase will create a learning curve. The existing processes and procedures for providing service to this sector, treating EV supply equipment as traditional new load, will not be sufficient to meet the goals of this Make-Ready Program. The Joint Utilities are directed to develop an online EV Infrastructure service application portal, which may utilize existing software capability, or may be a new tool.<sup>55</sup> The Commission, leveraging lessons learned from the distributed generation IOAP, directs the Joint Utilities to develop the EV supply equipment service application portal in a phased approach, with Phase One to be complete within three months of issuance of this Order<sup>56</sup> and Phase Two to be completed within six months of issuance of this Order. Phase III, which will be addressed in the future, will require the proposal of EV supply equipment service application portal refinements.

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<sup>55</sup> The Commission expects and requires the Joint Utilities to decide whether to build-out of existing software or develop a new tool based on what is least cost, most useful, and quickest to go live.

<sup>56</sup> The Commission notes that this Make-Ready Program is effective as of issuance of this Order, and it is acceptable for the Joint Utilities to continue processing EV supply equipment interconnection/new service applications as they have been or to immediately implement a more efficient interim process while Phase One work is being completed.

The Joint Utilities must develop Phase One of the EV supply equipment service application portal to capture information needed for both Level 2 and DC Fast Charger EV supply equipment applications, including:

- 1) The applicant's name, contact information, and project/application identification number.
- 2) A description of the project, including the number of plugs, charging output and plug type of each, location (and if in an environmental justice community), demand management software or hardware, whether the EV supply equipment will be bi-directional at present or in the future or exclusively load, and any collocated distributed generation or energy storage.
- 3) Future proofing needs and expansion plans.
- 4) Project application status, including all the steps completed and to be completed along with corresponding completion/deadline dates and acting party (either the utility or the applicant) associated with each step.
- 5) Whether there are outstanding utility requests for information and details regarding those outstanding information requests.
- 6) The status of all amounts paid and/or due to the utility by the applicant.
- 7) A program assumption that applicants intend to pursue the DC Fast Charger Per-Plug Incentive Program and/or the Make-Ready Program and capture all necessary program information.
- 8) The inclusion of an opt-out prompt, so that EV supply equipment developers not wishing to pursue the DC Fast Charger Per-Plug Incentive Program and/or the Make-Ready Program may also use the EV supply equipment service application portal.

The EV supply equipment service application portal will allow required documentation to be uploaded, and all payments must be clearly documented.

At this time, the Commission declines to adopt a standardized interconnection procedure and enforceable timelines for EV supply equipment. Quickly scaling this Make-Ready Program will require flexibility, and the Commission intends for the Joint Utilities to have the ability to prioritize some site types over others, such as accelerated application approval and construction commencement for EV supply equipment sited in environmental justice communities. While the Commission acknowledges Electrify America's concern that the time and cost of interconnection has emerged as a barrier to charging station deployment in New York, we do not presently have the necessary data or experience to create enforceable timelines like those in the SIR.

Electrify America highlights the six-month interconnection timeline for a non-export battery storage system at charging stations as burdensome. The Commission seeks to encourage energy storage system deployment and collocation at charging stations and encourages all developers to take advantage of existing NYSERDA Retail Storage Incentives.<sup>57</sup> In order for an energy storage system to receive a NYSERDA incentive, the customer sited system must demonstrate one of four ways it is providing grid support by participating in a non-wires alternative project, participating in demand response, enrolling in the standby tariff or receiving compensation under

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<sup>57</sup> See NYSERDA's Retail Storage Incentives, Incentive Dashboards, and Program Manual available at: <https://www.nyserda.ny.gov/All-Programs/Programs/Energy-Storage/Developers-Contractors-and-Vendors/Retail-Incentive-Offer>.

the Value of Distributed Energy Resources (VDER) tariff. In order for an energy storage system to perform these services, it must interconnect through the SIR. To the extent that Electrify America or any other developer experiences utility non-compliance with the SIR, they should raise that with the utility-specific interconnection ombudsperson and the Staff ombudsperson.<sup>58</sup>

The Commission notes and expects that in those cases where a developer wants to collocate a non-exporting energy storage system that will not impact the distribution grid with the EV supply equipment, such a proposal should not be a barrier to expeditious approval and construction. The Commission directs developers that experience unnecessary or overly burdensome delay to bring those issues to the Interconnection Technical Working Group (ITWG) or the Interconnection Policy Working Group (IPWG) for issue identification and resolution.<sup>59</sup> Furthermore, the Commission directs the Joint Utilities to consider what automated reviews and technical screens may be included in the EV supply equipment service application portal to more efficiently accommodate non-exporting energy storage systems and to propose these additional tools in Phase 2 of the EV supply equipment service application portal development.

The Commission declines to adopt Electrify America's proposal that a single non-utility program administrator be in

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<sup>58</sup> The Interconnection Ombudspersons contacts are available at: <http://www3.dps.ny.gov/W/PSCWeb.nsf/All/DAF23BB7AC9AC53A85258050004C17B8?OpenDocument>.

<sup>59</sup> EV supply equipment developers may not be familiar with these recurring working groups, but the Commission recommends such developers should begin to engage. See the ITWG and IPWG Information links available at: <http://www3.dps.ny.gov/W/PSCWeb.nsf/All/DCF68EFCA391AD6085257687006F396B>.

place for the Make-Ready Program incentives. The Joint Utilities of New York are the appropriate program administrators of many incentive programs, including this Make-Ready Program. The Joint Utilities and developers must become partners in building the necessary infrastructure at the least cost to ratepayers, with the least impact to the distribution system, at the sites that drive the most public benefits, and where there is or will be an economic business case. The Commission sees no reason to remove the existing utility core competencies and those that will necessarily be developed while administering this program from the Joint Utilities. As discussed in the Reporting Requirements and Participant Performance section below, there are appropriate roles for third-party entities to play in this Make-Ready Program; however, program administration shall remain the responsibility of the Joint Utilities.

XI. Program Review

Whitepaper Recommendations

Staff recommends in its Whitepaper to reconsider the program design and budgets in parallel with the DC Fast Charger Per-Plug Incentive Program's midpoint review. The Commission would initiate this review the earlier of: (i) October 1, 2023 when the DC Fast Charger Per-Plug Incentive Program interim review begins, or (ii) when each utility has completed applications for 45 percent of the total number of plugs eligible in the DC Fast Charger Per-Plug Incentive Program in their territory. The review would evaluate the following issues:

- 1) The need for additional phases of the program.
- 2) Redirecting unused program funding to multi-unit dwellings or redefining the accessibility criteria to include multi-unit dwellings.

- 3) Revising the accessibility criteria to include metered parking spaces and public pay-to-park lots.
- 4) Recalibrating the 50 percent utility-funded, make-ready level for private and proprietary technology types.
- 5) Revisiting future-proofing requirements.

#### Comments

Several commenters requested that a midpoint review should take place by October 2023 to review metrics, costs and program design for possible adjustments based on participation and other metrics. Some commenters find the proposed advisory council for program review is duplicative and unnecessary given existing Commission and Staff investigative and regulatory powers. Others called for a quarterly meeting, and to brief the Commission biannually. Other commenters agree with Tesla to initiate annual review beginning in January 2022.

Commenters also suggest scheduling review sessions to coincide with quarterly program reports. Some parties stressed that utilities should engage in program design with third-party collaboration, particularly in assessments of project costs and viability. Others requested that utilities be permitted to make program adjustments based on stakeholder response without formal filing requirements to create a more reactive program.

#### Determination

The Commission appreciates commenters who suggested earlier or more frequent program review than what was proposed in the Whitepaper. However, more time is necessary to collect data and incorporate lessons learned. Staff, due to the nascent EV supply equipment market, proposes to reconsider program design and budgets in parallel with the DC Fast Charger Per-Plug Incentive Program's midpoint review; however, the Commission finds that Staff's proposal, while reasonable, would provide the

Commission with information too late for any required Make-Ready Program modification. Instead, the Commission directs Staff to initiate the midpoint review by the earlier of October 1, 2022, or when each utility has completed applications for 45 percent of the total number of plugs eligible in the DC Fast Charger Per-Plug Incentive Program in their territory. Staff shall lead this review, which shall result in recommendations presented to the Commission no later than January 4, 2023 that include a review of data collected during the program, and at a minimum will consider:

- 1) Program budget and incentive levels.
- 2) The need for additional phases of the program.
- 3) Redirecting unused program funding to multi-unit dwellings and workplaces or redefining the accessibility criteria to include multi-unit dwellings and workplaces,
- 4) Revising the accessibility criteria, to include public pay-to-park lots.
- 5) Recalibrating the 50 percent utility-funded, make-ready level for private and proprietary technology types.
- 6) Revisiting future-proofing requirements and budgets.
- 7) Reviewing implementation requirements and budgets.
- 8) Utility ownership of charging station hardware.
- 9) Emerging plug standards.
- 10) Potential need for residential make-ready.
- 11) Modifications to performance incentives.

XII. Reporting Requirements and Participant Performance  
Whitepaper Recommendations

Staff recommends in its Whitepaper that utilities would provide quarterly performance reports to the Commission. The utilities would draft these reports, divided into specific

Level 2 and DC Fast Charger FC program sections, to include for each site:

- 1) The number of station owners participating.
- 2) The number of sites to which incentives were issued.
- 3) The number of plugs installed.
- 4) EV Infrastructure costs incurred (equipment and installation).
- 5) The billed usage.
- 6) Start and stop times of charges.
- 7) 15-minute interval data.
- 8) Peak kW per charging session.
- 9) Number of sessions daily.
- 10) Amount of time each vehicle is plugged in per session.
- 11) Amount of time each vehicle is actually charging per session.
- 12) Whether the station owner is providing charging for free or if there is a usage fee to the EV owner.
- 13) Operating costs including non-energy related costs.
- 14) Any technologies being used to manage demand.
- 15) What percent of service applications mature into operating stations.

Station owners participating in the program would need to provide any customer-specific information above.

Under Staff's proposal, a common third-party data aggregator would be used to help produce these reports, and data would be aggregated and anonymized prior to being published. The station owner would remain the owner of the station-specific data; further, the utility or a third-party data collector could not use these data for any purpose other than to inform Staff and the public through each utility's anonymized and aggregated report.



Comments

The Alliance for Transportation Electrification, Enel X North America, and the Joint Utilities warn that proposed quarterly reports will be too burdensome and provide excessive information at this early stage in development of the industry. The EV Industry Coalition alleges that proposed data collection requirements are administratively burdensome, costly, and may discourage program participation. The EV Industry Coalition further argues that a more abridged dataset could achieve the same results and that much of the recommended information is already available through meter data. It recommends a narrower data collection effort limited to charging sessions counts, unique vehicle connections, power dispensed, average power dispensed per session, and average duration per session.

Alternatives proposed by commenters include full annual reports with abridged semiannual reports, monthly short-form reports, simplified requirements, and annual reports only. Greenlots recommends developing a generic shared report format, and Advanced Energy Economy Institute and the Alliance for Clean Energy New York suggest requiring filing by each utility, rather than by the Joint Utilities collectively. Environmental Defense Fund requests an annual load research report from each utility. Enel X North America, FreeWire Technologies, the City of New York, and the Natural Resources Defense Council and Sierra Club suggest various data categories generally comprising charging session data, technical details on charging stations, participation and financial information. Some parties stress that sufficient data collection is required to address the development of appropriate incentives, adequate and equitable geographic coverage, variety of site types, utilization and pricing.

Determination

Staff and the Commission need periodic program progress reports to continuously update them as the Make-Ready programs are implemented. Staff, under the proposal and as detailed below, would begin a formal midpoint review no later than October 1, 2022. The data provided in the proposed reports would inform and potentially trigger modifications to the program due to changes in technology, station economics, EV charging station consumer experience, and State energy goals.

The EV Industry Coalition's proposed abridged dataset would provide insight into charging sessions for plugs developed under the program. However, such data in isolation is not adequate to guide program modifications. Program participation information is needed to gauge success of the program. Financial information is needed to determine if the incentive amounts remain appropriate. As suggested by Advanced Energy Economy Institute and the Alliance for Clean Energy New York, reports should be provided by each utility, rather than consolidated into one report to be filed by the Joint Utilities. This will provide the greatest insight into EV supply equipment development in each utilities' territory. Reports should be in a relatively standard format as recommended by Greenlots.

As such, the reports will include four categories of information. The first two categories are primarily within the Joint Utilities' reporting responsibility and the second two categories are primarily within the developer or site owner's responsibility, as described below.

- 1) Reporting period program participation information.  
This category shall include:
  - a) the percent of service applications that have matured into operating stations,
  - b) number of station owners participating,

- c) the number of sites for which incentives were issued,
  - d) the number of plugs installed, and
  - e) infrastructure costs incurred. Infrastructure costs are to be differentiated by equipment and installation costs for customer-owned assets as well as equipment and installation costs for company-owned assets. The cost details for company-owned assets must be broken out into costs that are considered make-ready and costs that are considered new business.
- 2) Utility system and billing information for each station. This category shall include:
- a) 15-minute interval data,
  - b) load profiles for the stations for the top ten demand days of each year, and
  - c) utility bills. Utility bills are to be differentiated by delivery service-related costs and energy-related costs.
- 3) Plug and charging session data. This category shall include:
- a) the number of sessions daily,
  - b) start and stop times of each charge,
  - c) the amount of time each vehicle is plugged in per session,
  - d) peak kW per charging session,
  - e) kWh per charging session, and
  - f) plug outage information. Plug outage information is to include the number and duration of outages and is to be differentiated by expected outages (for maintenance) and unexpected outages.

- 4) Financial information. This category shall include:
  - a) fee structure (structure of fee to the end-use customer, i.e. cost per minute, cost per kWh, cost per session and whether the station owner is providing charging for free),
  - b) charging revenues derived, and
  - c) operating costs, which should include energy-related costs and non-energy-related costs separately identified.

The Commission affirms that just as is the case in the DC Fast Charger Per-Plug Incentive Program data reporting requirements, station-specific and session-level data shall not be disseminated publicly or used by the Joint Utilities or their third-party agent(s) for any commercial purposes.<sup>60</sup> Data for categories 3) (Plug and charging session data), and 4) (Financial information) shall be provided by the Make-Ready Program participants (e.g. developers or site hosts/owners) to the Joint Utilities' third-party consultant that is performing the data anonymization and aggregation. The third-party agent will aggregate and anonymize these data for incorporation into the public annual report, which shall be filed by each utility.

The Commission requires Staff to have constant access to the more granular confidential data and directs the Joint Utilities to ensure that their third-party data aggregator will update Staff when requested, without regard to the annual report schedule. To enable this constant monitoring and to provide the Joint Utilities and their third-party aggregator adequate time to compile data, program participants are directed to provide plug and charging session data and financial information

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<sup>60</sup> See Case 18-E-0138, supra, Order Further Modifying DC Fast Charger Incentive Program, p. 10.

(category 3) and 4) data) to the third-party vendor on a quarterly basis.

Each utility shall file its report on a calendar year basis. The utility shall combine said report with the report required by the DC Fast Charger Framework Order issued in the present proceeding.<sup>61</sup> The DC Fast Charger Framework Order required the Joint Utilities to file annual reports by March 1 of the following year.

The Commission is not persuaded by comments that claim quarterly reports will be too burdensome, provide excessive information at an early stage in development of the industry or that proposed data collection requirements are administratively burdensome, costly, and may discourage program participation. Any responsible EV charging station developer has this data inventory to inform their day-to-day business operations. Quarterly reporting may prove to be too frequent and may be adjusted at the midpoint review, but in the early stages of program deployment, Staff and the Commission must have frequent and granular data to measure program success. Therefore, program participants that fail to provide the required data will not be eligible for new Make-Ready Program incentives and will either be subject to claw back of the make-ready payments received or revocation of service so that the station can be operated by an alternate market participant.

Further, the Commission finds additional program participant performance requirement are appropriate. The Commission directs program participants to certify to specific uptime requirements, as follows:

- DC Fast Charge Plugs must be operational 95 percent of the time on an annual basis.

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<sup>61</sup> Case 18-E-0138, supra, DC Fast Charger Framework Order, p. 42.

- DC Fast Charge stations must be operational 99 percent of the time on an annual basis, with a minimum of half of the plugs operational to be considered "up."

The Commission expects that the plug outage information developers and station owners must report will inform these metrics, and that the 95 and 99 percent annual performance metrics will be revisited at the midpoint review.

The Commission also requires each Make-Ready Program participant to actively operate the charging station site for a minimum of five years; this step will ensure that ratepayer funds are not inappropriately allocated to stations only operate in the near-term. Any program participant may opt to sell or to upgrade a site prior to the five years' time as long as the number of plugs and capacity of the station do not decrease with these actions.

The Commission is requiring program participants to provide data related to station and plug usage, customer complaints, outages, pricing fees and structure, and to make a commitment to ensure that the station is operated and maintained for at least five years in order to ensure that public funds flow to responsible developers that provide the benefits the program is designed to produce.

At this time, the Commission is not modifying the policy determination that EV charging stations are not electric plant per PSL §2(12).<sup>62</sup> The Commission is not requiring any one business model or fee structure in order to participate in the program but is mandating that charging customers at stations participating in the Make-Ready Program have transparent insight

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<sup>62</sup> Case 13-E-0199, In the Matter of Electric Vehicle Policies, Declaratory Ruling on Jurisdiction Over Publicly Available Electric Vehicle Charging Stations (issued November 22, 2013)

into the costs they are paying to charge. Pricing transparency is critically important for drivers to understand gas parity and trust that they are receiving the suite of goods (whether they be parking, communication, or payment services) that they are paying for.

Participating developers must report customer complaints to the appropriate utility and to Staff. The details of these customer complaints shall not be public, but will be used by the utilities to develop Make-Ready Program best practices. Staff will monitor customer complaints for egregious behavior, and report any such instance to the Commission for appropriate action. In addition, the Commission directs Staff to convene an "EV Charging Customer Experience Working Group" to explore the customer experience with currently applicable customer protections and price transparency and recommend updates, as discussed in greater detail below.

XIII. Technical Standards  
Whitepaper Recommendations

Staff recommends in its Whitepaper to encourage open communications protocols and for stakeholders to engage in a working group to develop minimum standards and protocols for EV charging stations. The working group would explore open technical standards such as the International Electrotechnical Commission-accepted (IEC) OpenADR 2.0b, International Organization for Standardization (ISO)/IEC 15118, and the OCPP. Staff recommends that the Commission consider adopting baseline standards in engineering and safety, payment, communications and interoperability.

Comments

Advanced Energy Economy Institute, the Alliance for Clean Energy New York, the Alliance for Transportation Electrification, ChargePoint, Environmental Defense Fund, Enel X North America, EVBox, Greenlots and the Natural Resources Defense Council and Sierra Club recommend open standards, interoperability, and communications protocols to ensure fair and equitable access. Greenlots strongly recommends requiring third-party OCPP certification as a standardized and verifiable mechanism for ensuring the development of a flexible charging statewide system that can be upgraded to accommodate new market participants, evolving user needs and technologies. NYC recommends that the program remain adaptable to accommodate new standards and that program review should assess technology standards for possible inclusion.

Joint Utilities warn of risks in using specific technologies at this early stage and recommend that the EV Technology Standards working group address this issue. Tesla recommends that the Make-Ready Program should focus on establishing electricity service in a nondiscriminatory fashion, instead of imposing interoperability requirements at this time. Natural Resources Defense Council and Sierra Club recommends that the Commission require the use of open-access communication standards, but ChargePoint warns that this requirement would create implementation problems. AEEI-ACE, ChargePoint, and Enel X agree that the proposed working group is appropriate. ATE and Environmental Defense Fund request that this working group include experts from all sectors and be given a defined mission and schedule. However, AEEI-ACE and Environmental Defense Fund recommend that the development of new standards is unnecessary and cite the existence of sufficient standards and experienced industry standards organizations.



Determination

The Commission recognizes the need for more experience before incorporating specific technical standards into the Make-Ready Program eligibility criteria, and, as such, declines to adopt specific standards at this time. The Whitepaper proposal to convene a focused working group, supported by many commenters, is adopted. Within 90 days of issuance of this Order, Staff shall convene a working group focused on discussing how to incorporate emerging technical standards and best practices, such as: IEC-accepted OpenADR 2.0b, ISO/IEC 15118, and the OCPP.

The Commission notes that the California Air Resources Board recently adopted new Electric Vehicle Supply Equipment Standards<sup>63</sup> that will take effect July 1, 2020. These standards are mostly defining terms, labeling requirements, payment method requirements and reporting requirements. As the Whitepaper noted, much of these types of standardization and enforcement measures will be the responsibility of the Department of Agriculture and Market's Bureau of Weights and Measures. The Commission therefore directs Staff to collaborate with the Bureau of Weights and Measures, NYSERDA and other appropriate New York State agencies in convening this "Technical Standards Working Group."

In addition to this Technical Standards Working Group, the Commission expects that issues may arise as EV charging station deployment increases in scales, and anticipates an even greater need for inter-agency collaboration. As mentioned above, the Commission directs Staff to convene an EV Charging Customer Experience Working Group within 120 days of issuance of

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<sup>63</sup> See Final Regulation Order, available at:  
<https://ww3.arb.ca.gov/regact/2019/evse2019/fro.pdf>.

this Order. This EV Charging Customer Experience Working Group will leverage the anonymized, aggregated data contained in the annual utility reports and the knowledge and experience all stakeholders bring to identify ways to improve the customer experience with consumer protections and more formal complaint procedures, and to improve the customer experience with price transparency.

XIV. System Planning and Mapping  
Whitepaper Recommendations

Staff recommends in its Whitepaper to use the EV Charging Infrastructure Forecast results to identify sites with adequate load serving capacity, and expected EV charging demand, to proactively educate developers and other stakeholders. Utilities would forecast EV charging infrastructure needs using a common framework (e.g., organization, format, definitions) to identify and characterize existing and potential EV charging scenarios. Utilities would incorporate charging scenarios and screening criteria into their annual capital planning process. Utilities could then identify suitable sites for hosting DC Fast Charger and high densities of Level 2 chargers and where planned work may accommodate infrastructure upgrades and provide enough amenities to justify ratepayer funding. The EV Charging Infrastructure Forecast would use the following information:

- 1) The type of location (home, apartment complex, store, workplace, public parking site, rest stop, etc.).
- 2) The number and spatial distribution of existing instances of the scenario.
- 3) The forecast number and spatial distribution of anticipated instances of the scenario over the next five years.

- 4) The types of vehicles charged at a typical location (commuter car, bus, delivery truck, taxi, ride-share, etc.).
- 5) The number of vehicles charged at a typical location, by vehicle type.
- 6) The charging pattern by vehicle type (frequency, times of day, days of week, energy per charge, duration per charge, demand per charge).
- 7) The number of charging ports at a typical location, by type.
- 8) The energy storage capacity (if any) supporting EV charging at a typical location.
- 9) An hourly profile of a typical location's aggregated charging load over a one-year period.
- 10) The type and size of the existing utility service at a typical location.
- 11) The type and size of utility service needed to support the EV charging use case.

Utilities would leverage the most recent EV Charging Infrastructure Forecast to develop common suitability criteria to identify potential EV charging sites, including evaluating load-serving capacity, locations with positive charging business cases and other strategic locations for EV charging. Utilities would publish granular load-serving capacity maps, and sites that already have adequate load-serving capacity would be prioritized.

Utilities would also use insights from the EV Charging Infrastructure Forecast, such as expected utilization and EV adoption levels, to identify locations with positive business cases for EV charging. For locations that pass the Charging Business Case screen and have sufficient hosting capacity, the utility would develop and direct a targeted outreach and

education program for developers and potential site hosts in these locations.

Strategic Locations are the final screen for the Suitability Criteria and include societal benefits that are not considered in the Load Serving Capacity or Charging Business Case criteria. Suitability Criteria include significant environmental justice and public health benefits, or unique network attributes that expand access to rural and hard-to-reach communities.

Staff proposed that the Upstate REDCs be designated as a Strategic Location where up to an additional \$5,000,000 in funding would be necessary to develop, through a competitive procurement, a minimum of four locations with four 150 kW DC Fast Charger plugs per site in each REDC referenced.

The Suitability Criteria would be used primarily to direct education and outreach towards locations with the lowest distribution system upgrade costs and highest demand for EV charging. The Suitability Criteria is not a binding eligibility requirement and developers are able to access the make-ready incentive for sites that fail the load serving capacity or business case screen, so long as their proposed site meets the requirements laid out in the Eligibility Criteria section of this Order.

When planned worksites that may also accommodate charging infrastructure are identified, the utilities would prioritize developer and site host education and outreach in these locations. Utilities would propose a common methodology for alerting the developer community and a competitive, fair process for choosing which developer will build at such a site. Utilities would streamline utility core competencies, build out useful tools, and conduct effective outreach and education to developers on site selection, availability and timing with

planned capital upgrades or routine construction. Utilities are also best positioned to educate their customers on the many electric rates available and how EV charging impacts the grid. Staff does not propose that such outreach and education would be ratepayer funded.

Comments

The Joint Utilities state that they will consider load-serving capacity and the strategic location when assessing a proposal but argue it should be up to charging station operators, site hosts and developers to evaluate their own business opportunities and workable business cases. The Alliance for Transportation Electrification agrees that the proposed process to identify suitable locations for charging can serve as useful guidance. New Yorkers for Clean Power agrees that utilities should work with municipalities in siting charging stations, especially ones involved in the Climate Smart and Clean Energy Communities programs.

ChargePoint notes that this proposal risks excluding strategic locations and encumbering utilities with the undertaking of designing a statewide charging network. It also argues that planning and siting should involve greater stakeholder collaboration and argues against eligibility criteria based on load capacity and site host business models.

The Alliance for Transportation Electrification acknowledges that proposed processes for identifying suitable charging locations can guide development, but recommends adopting a more flexible approach, rather than enforcing strict adherence. Enel X North America argues that free-market competition will provide efficient siting but recommends that utilities can implement suitability criteria that promote specific circuits and customers. Environmental Defense Fund recommends that capacity mapping incorporate EV load forecasts

and planned capacity upgrades. The City of Albany requests assessments of capacity in areas considered for DC Fast Charger installations to avoid additional constraints that could inhibit future development. FreeWire Technologies argues that development of load-serving capacity maps by the end of 2020 is reasonable, while the City of New York recommends they be available as soon as possible.

Several parties agree that outreach and education is fundamental to further EV adoption and recommend that utilities are well positioned to serve in this capacity. Green Energy Consumers Alliance (GECA) and ZappyRide note the unsatisfactory progress made by the automobile industry and dealers in customer education. Joint Utilities note that the outreach and education proposal is inconsistent with traditional cost recovery treatments and also existing earnings adjustment mechanisms. AEEI-ACE, ATE, Greenlots, PIA and ZappyRide recommend that utility EV programs include ratepayer-funded customer outreach and education efforts, while GECA recommends that these activities should be funded by ratepayers but administered by a state agency. PIA recommends additional ratepayer-funded education and outreach activities carried out by third parties. NYCP request education and outreach targeted to non-EV-owners to encourage future adoption.

#### Determination

The Commission anticipates that the Make-Ready Program will accelerate the development of public charging stations throughout New York State, leading to load growth in locations of the grid with significant EV adoption. It is prudent that the Joint Utilities and the developer community have the best available information about expected grid constraints and least costs locations for new charging station development; in this

way, developers are able to balance the benefits of high value locations against the corresponding costs to develop.

ChargePoint and the Joint Utilities both argue that utilities should not be responsible for determining the optimal charging network for the State. Enel X agrees that the free market should determine the most efficient siting; however, they and ATE also suggest that implementing a suitability criterion can be effective at promoting low cost and beneficial locations. The Commission agrees that this Make-Ready Program is designed to have siting driven by the private market. Developers must have flexibility to determine the best locations as ATE recommends.

Several commenters, including the Joint Utilities, pointed out that the developers and site hosts are in the best position to evaluate the business case of locations for EV charging. The Commission agrees with these commenters; however, the Commission also acknowledges that utilities must create an EV Charging Infrastructure Forecast to support their capital planning processes. The EV Charging Infrastructure Forecast may not determine the business case for specific sites but it will identify locations where growth in EV load is expected. This information should be used to prioritize developer and site host education and outreach to promote the development of EV supply equipment, particularly level 2 charging infrastructure at smaller business that may be overlooked by developers or for site hosts who are unfamiliar with the benefit of EV charging and look to the utility as a trusted advisor. The Commission recommends the Charging Business Case criteria, which is defined in the Whitepaper, be modified and to a broader EV Charging Infrastructure Forecast criterion.

The EV Charging Infrastructure forecast methodologies vary by utility today. Given the early stage of the market, the

Commission rejects Staff's proposal to adopt a common framework across the Joint Utilities at this time. The Commission directs the Joint Utilities to produce individual EV Charging Infrastructure forecasts in consultation with Staff and to present their forecast methodologies and results during a Technical Conference in calendar year 2021. Stakeholders will be invited to provide feedback that can inform the forecasting process in the future, including new proposed program requirements to be considered during the midpoint review.

Strategic locations, as recommended in the Whitepaper, shall be a top priority for utility education and outreach efforts and shall be identified in the utility's EV Charging Infrastructure Forecast. Commission approval will be required if funding levels in excess of the standard make-ready incentive are justified and can be introduced in future rate cases or at the midpoint review. The Commission rejects the Staff proposal for a budget of up to \$5,000,000 of incremental support for the Upstate REDC Strategic Locations because NYSERDA and New York Power Authority have since committed to develop a network of DC Fast Charger sites in the ten REDCs, avoiding the need for incremental ratepayer funding for these sites. These sites will still be eligible for the standard make-ready incentive, as long as they meet the program's eligibility criteria.

The Commission instructs the Joint Utilities to develop the Suitability Criteria proposed by Staff, modifying the second criteria to be EV Charging Infrastructure Forecast. To summarize, the Suitability Criteria shall be:

- 1) Load Serving Capacity,
- 2) EV Charging Infrastructure Forecast, and
- 3) Strategic Locations.



Several commenters, including AEEI-ACE, ATE, Greenlots, PIA and ZappyRide support ratepayer funded education and outreach programs. GECA and PIA also recommend the education and outreach programs be administered by a State Agency or Third Party, respectively. The Commission agrees that ratepayer funding to support education and outreach programs is appropriate; this funding should be prioritized for developers and potential site hosts in the most beneficial locations identified in the Suitability Criteria, namely locations with adequate load serving capacity and an expectation of high EV supply equipment utilization from the EV Charging Infrastructure Forecast. The utilities shall include education and outreach plans in the required implementation plan filings for the EV Make-Ready Program.

The Joint Utilities shall develop EV Charging Infrastructure Forecasts that align with their capital planning processes. These Forecasts will be used to carry out targeted education and outreach in locations deemed attractive for EV charging and where adequate load service capacity exists. Additionally, the utilities shall publish load serving capacity maps for EV charging by no later than December 31, 2020.

XV. Managed Charging and Vehicle-to-Grid  
Whitepaper Recommendations

The Staff Whitepaper contemplates two forms of Vehicle Grid Integration: vehicle-to-grid and managed charging. Vehicle-to-grid is a concept that aligns electric vehicle charging and discharging with the needs of the grid. The Whitepaper details two forms of managed charging: active and passive. Active managed charging relies on communication or dispatch signals from a utility or aggregator sent to a vehicle or charging equipment to adjust the time of charge or rate of charge. Passive managed charging relies on customer behavior,

such as by influencing charging times through time-of-use (TOU) rates.

The Whitepaper notes that New York already offers passive managed charging through residential TOU rates and demand charges. Active managed charging initiatives depend on the technology landscape, and more needs to be known before a large-scale program is offered statewide. Staff recommend in the Whitepaper that the Commission wait to require standards regarding vehicle-to-grid until more is known and results of demonstrations are studied. Staff proposes that a collaborative Stakeholder process be established to determine how to enable these potential EV uses.

#### Comments

Advanced Energy Economy Institute and the Alliance for Clean Energy New York, Enel X North America, Greenlots, and the Natural Resources Defense Council and Sierra Club agree on the many stakeholder and system benefits of managed charging. Several parties note that EV charging represents an opportunity to increase reliance on renewable generation, and the Joint Utilities view it as an especially important solution for concentrated charging situations as with fleets or at workplaces. Greenlots notes that unmanaged EV charging is associated with many potential disadvantages, particularly generation of local grid constraints, amplification of system peaks, greater peak demand and higher operating costs.

Several commenters note that managed charging can be facilitated either through rate design or direct management, including technology-based approaches that can complement or replace rate solutions. Some commenters argue that rate reform will be a key foundational effort in developing vehicle-to-grid capabilities and managed charging, noting that price-responsive forms of vehicle-grid integration such as time-varying rates can

induce smart charging behavior. The Joint Utilities support properly designed cost-reflective standby rates for managed charging to improve system efficiency.

The Joint Utilities and the EV Industry Coalition support the development of utility programs for managed charging or load management at charging infrastructure, possibly coupled with performance incentives for installations that successfully shift EV charging load. The EV Industry Coalition also recommends a working group to develop managed charging solutions. Some commenters recommend investigating technology-based managed charging, either independently or in concert with rate reform. Greenlots argues that managed charging might be optimized according to various factors, including state-of-charge, system load, electricity prices, and greenhouse gas intensity associated with generation. The Alliance for Transportation Electrification recommends maximizing the effectiveness of managed charging with open and interoperable hardware and software. The EV Industry Coalition argues that technology-enabled strategies are especially viable for fleet depots and other longer dwell-time locations that permit greater flexibility in charging schedules and speed.

The Alliance for Transportation Electrification, Bloom Energy Corporation, and FreeWire Technologies propose a number of technical solutions for managed charging. These technical solutions include using EV as virtual power plants for load shifting, and using fuel cells, energy storage systems and distributed generation as ancillary support for charging installations. Advanced Energy Economy Institute and the Alliance for Clean Energy New York and the EV Industry Coalition note potential vehicle-to-grid capabilities that may include: (i) functioning as non-wires alternatives solutions to be incorporated into utility distribution planning, and (ii) the

possible use of large EV fleets as aggregated DERs for load management that could generate additional revenue for operators. Some parties recommend smart network chargers as a requirement at all ratepayer-funded make-ready infrastructure to support load management and managed charging activities. However, the Joint Utilities, while acknowledging that EV technologies may provide significant vehicle-to-grid capabilities, argue that they are not presently scalable.

Determination

Managed charging and vehicle-to-grid integration hold a great deal of promise, as they allow the shifting of charging to moderate impacts on the grid and moderate the cost of charging for consumers. The Whitepaper described the REV Demonstration projects of NYSEG and Con Edison, but the Commission notes that neither project has been completed and both have faced delay due to technical issues; this is a very new market with a lot to learn. Without sufficient learnings or results to guide our policy, the Commission declines to direct specific Statewide actions at-scale related to managed charging and vehicle-to-grid integration.

In terms of managing charging through behavioral methods of incenting charging at off peak times, EV drivers presently have TOU rates that provide incentives for off peak charging.<sup>64</sup> Reviewing the annual reports on participation in voluntary TOU rates, the Commission notes that adoption rates by EV drivers has been minimal and it is clear that more needs to be done to incent off peak charging.

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<sup>64</sup> Case 18-E-0206, Tariff filings to Effectuate the Provisions of PSL §66-o, Order Rejecting Tariff Filings and Directing Tariff Revisions (issued November 15, 2018) (directing the Joint Utilities to offer residential customers with EVs that take service under residential TOU rates a traditional customer charge instead and waive incremental meter charges).

The California Public Service Commission (CPUC), in collaboration with fellow California state agencies and stakeholders, has been developing policies that support vehicle-to-grid integration for the last decade. In 2018, CPUC and the vehicle-to-grid integration communication protocol working group members produced a report on Communications Protocols for Vehicle to Grid Integration.<sup>65</sup> On June 30, 2020, the California stakeholders filed a report as directed by the CPUC, to determine: what vehicle-to-grid integration use cases can provide value now, and how that value can be captured; what policies need to be changed or adopted to allow additional use cases to be deployed in the future; and, how does the value of vehicle-to-grid integration use cases compare to other storage or DER?<sup>66</sup>

While New York State has little experience with managed charging and vehicle-to-grid integration, through the REV process the State has worked on some of the fundamental issues of defining the value and process for consumers to participate more actively in the energy market. The Value of Distributed Energy Resources proceeding is already addressing the tariffs that provide the correct incentive for customers to inject power into the distribution system.<sup>67</sup> The Commission must ensure that these forums continue to address the EV use cases. As the impact of EVs, EV chargers and EV drivers on the grid is

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<sup>65</sup> VGI Communication Protocol Working Group Energy Division Staff Report, October 2018. Available at: <https://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=6442460144>.

<sup>66</sup> See, <https://www.cpuc.ca.gov/vgi/>.

<sup>67</sup> Case 15-E-0751, In the Matter of the Value of Distributed Energy Resources.

better understood, parties should propose plans to implement manage charging solutions.

Staff shall organize a Stakeholder process for interested parties and other State Agencies to discuss managed charging and vehicle-to-grid integration, modeled after the CPUC working group process. This group shall work towards providing the Commission with vehicle-to-grid integration action items for the midterm review.

The Commission directs the utilities to file proposals for active or managed charging programs for mass market customers, in consultation with Staff, within 120 days of the issuance of this Order. The managed charging programs will provide customers with an alternative to the whole home TOU rates already in place. Several utilities already offer managed charging programs, pilots and demonstration projects and these utilities may file existing programs as compliance for this directive; however, the Joint Utilities should consider expanding or filing complimentary programs if the existing program is not available service territory-wide. The managed charging program filings shall be reviewed during the by the managed charging and vehicle-to-grid Stakeholder group.

XVI. Fleet Assessment Service

Whitepaper Recommendations

Staff recommends in its Whitepaper that each utility offer new services to customers interested in fleet electrification. This Fleet Assessment Service would consist of a site feasibility analysis and rate analysis. The site feasibility analysis would be based on the maximum power draw of an electrified fleet to determine if the local distribution system can accommodate that increased load. The site feasibility analysis would include all planned utility work on the distribution system both nearby and on the infrastructure

servicing the existing depot, to find cost-saving synergies that may exist. The rate analysis would be tailored to each depot location, and the fleet manager would understand all rate options available, as well as a reasonably certain range of costs they may expect based on their charging behavior.

Comments

Several commenters support the proposed fleet advisory services and the Joint Utilities and Metropolitan Transportation Authority suggest that the utilities could fulfill this role. Many commenters request prompt further action on fleet electrification, with Advanced Energy Economy Institute and the Alliance for Clean Energy New York, the Alliance for Transportation Electrification, the Drive Electric Long Island Coalition, EDF, the EV Industry Coalition, Greenlots, Metropolitan Transportation Authority, the City of New York, the Natural Resources Defense Council, the Sierra Club and New York Power Authority requesting the development of Commission guidance on procedures and utility program proposals within the year. Several commenters argue that delaying similar treatment of medium- and heavy-duty EV infrastructure will delay state policy goals. The EV Industry Coalition also charges that this exclusionary approach forces utilities into inefficient system planning efforts that assess these markets separately; the New York State Department of Environmental Conservation stresses that the electrification of the light-duty vehicle market will significantly affect conditions for the development of medium- and heavy-duty EV infrastructure and recommends that these sectors be assessed concurrently.

Several commenters call for complementary rate reform to accompany fleet electrification efforts, and recommend investigation of subscription rates, time-of-use rates and other appropriate price signals that reflect temporal and locational

costs to foster fleet adoption. Metropolitan Transportation Authority calls for the establishment of new service classifications for commercial EV customers. Furthermore, several parties request additional funding and incentives for the development of fleet EV infrastructure. The EV Industry Coalition and Greenlots recommend a \$300 million statewide budget incremental to the proposal, so as to avoid competition with existing funds for light-duty EVs. Other various suggested solutions include studies to identify market barriers, performance incentives for the efficient development of fleet charging infrastructure can promote program cost containment and extensive customer outreach for fleet EV customers.

Several commenters detailed environmental, economic and public health benefits associated with increased fleet EV adoption, including greater transportation access for disadvantaged communities, potential grid benefits, lower fuel and maintenance costs for operators and mitigation of air and noise pollution and greenhouse gas emissions. Metropolitan Transportation Authority suggests that all bus depots in environmental justice areas be designated strategic locations. Some parties note that these benefits will accrue to many residents regardless of personal EV ownership, particularly in the case of fleet electrification.

A number of parties providing input at Staff-led stakeholders sessions, including West Harlem Environmental Action, and those providing written comments including the Stakeholder Coalition, the Alliance for Transportation Electrification and the City of New York call attention to the need to expand the Make-Ready Program to include medium-duty and heavy-duty vehicles and trucks.

West Harlem Environmental Coalition points out that diesel emissions from truck traffic continue to burden low-



income families in dense urban communities and exacerbate the already existing negative health conditions, such as asthma and other respiratory afflictions. The Stakeholder Coalition points out that EV options for medium- and heavy-duty vehicles, including cargo vans, box trucks, sanitation trucks and others, are increasing and assisted in electrification by NYSERDA's Truck Voucher Program.

With the increasing presence of medium- and heavy-duty vehicles and trucks, there will be demand for associated charging facilities. The City of New York points out that COVID-19 has disproportionately affected environmental justice communities and that has highlighted the corresponding exposure to particulate matter of 2.5 microns or less (PM 2.5) from medium- and heavy-duty vehicles. NYC requests that the Commission adopt transportation policies within its purview to reduce these emissions.

#### Determination

The Commission agrees with the statements by New York State Department of Environmental Conservation, the Clean Transportation Coalition, the City of New York and other parties that more work is urgently needed to support the transition to electrified medium- and heavy-duty vehicles. The Make-Ready Program directed by this Order will positively impact conditions for an eventual scalable infrastructure program for medium-duty and heavy-duty vehicles in many ways, including by building utility core competencies. The Commission also agrees that not providing a fleet assessment service to medium- and heavy-duty fleets will delay state policy emission reduction goals. The City of New York notes that clean transportation provides public health benefits to the most at-risk members of our community by reducing the impacts of tailpipe emissions from the trucks and

buses on low-income populations. Driving these benefits to at-risk populations is a crucial measure of program success.

The Commission adopts the Whitepaper Fleet Assessment Service with the modification that the assessment shall be open to light-, medium-, and heavy-duty fleet operators. The Commission expects that the Joint Utilities will be able to expand this new offering over time as lessons are learned but will leverage existing employees and core competencies in the near-term. The Joint Utilities shall post a common intake/application form on the Joint Utilities of New York website and the individual utility EV-specific webpages.<sup>68</sup> This application process shall apply to light-duty as well as medium- and heavy-duty vehicles.

The Fleet Assessment Service shall begin with a site feasibility and rate analysis. The site feasibility analysis should be based on the maximum power draw of the electrified fleet under consideration to determine if the local distribution system can accommodate the increased load. The site feasibility analysis should include all planned utility work on the distribution system both nearby and on the infrastructure serving the existing depot, to find cost-saving synergies that may exist.

If the site feasibility analysis is positive, the utility shall offer the customer a rate analysis, working to understand the maximum costs fleet electrification may incur and how to implement best practices and managed charging to mitigate

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<sup>68</sup> Xcel Energy Colorado presently runs a Fleet Advisory Program, which is a good example of the Commission's expectations regarding the application. See [https://www.xcelenergy.com/stateselector?stateSelected=true&goto=%2Fprograms\\_and\\_rebates%2Fbusiness\\_programs\\_and\\_rebates%2Felectric\\_vehicles%2Ffleet\\_electric\\_vehicles%2Ffleet\\_electrification\\_form](https://www.xcelenergy.com/stateselector?stateSelected=true&goto=%2Fprograms_and_rebates%2Fbusiness_programs_and_rebates%2Felectric_vehicles%2Ffleet_electric_vehicles%2Ffleet_electrification_form).

these costs. The rate analysis should be tailored to each depot location, and the fleet manager should be informed of all rate options available, as well as a reasonably certain range of costs they may expect based on the fleets' charging behavior.

The Joint Utilities are directed to design a customer satisfaction survey for those whom participant in the Fleet Assessment Service. The Fleet Assessment Service survey should ask questions to obtain whether participants found the analysis useful, how likely they are to electrify their fleet in the near- and long-term, what the biggest barriers to fleet electrification are, what additional services a utility may provide to support their electrification, and other informative survey questions.

XVII. Medium- and Heavy-Duty Fleet Make-Ready Pilot Program

Many commenters identify exceptional regulatory and market barriers facing the electrification of medium- and heavy-duty fleets that should be addressed through Commission action. Commenters cite significant capital costs and operating costs that are stalling wholesale adoption, as well as growing demand for fleet EVs exceeding the limited supply of commercial options.

In addition to making the Fleet Assessment Service available to the medium- and heavy-duty vehicle fleets, the Commission is persuaded by commenters that additional support is required. The Commission therefore outlines two additional programs aimed at advancing the medium- and heavy-duty vehicle industry in New York. This relatively small-scale Medium- and Heavy-Duty Fleet Make-Ready Pilot Program will inform fleet electrification throughout New York State.

The Medium- and Heavy-Duty Fleet Make-Ready Pilot Program in Con Edison's service territory shall mimic the "Fleet DC Fast Charger Make-Ready Program" approved in their most

recent major rate filing.<sup>69</sup> The currently effective rate plan provides Con Edison with the flexibility to shift funds between the Fleet DC Fast Charger Make-Ready Program and Publicly Accessible DC Fast Charge Program approved in the current rate plan.<sup>70</sup> Since this Order provides additional Light-Duty Make-Ready Infrastructure funds and alters the scope of the rate-plan approved Publicly Accessible DC Fast Charge Program to align with a statewide framework, the budget flexibility to shift funds between the two programs is eliminated. Con Edison shall implement the Fleet DC Fast Charger Make-Ready Program eligibility and program rules and provide \$9 million in total budget.<sup>71</sup>

Central Hudson, NYSEG, National Grid, O&R, and RG&E shall develop Medium- and Heavy-Duty Fleet Make-Ready Pilot Program Implementation Plans in consultation with Staff and in accordance with the program elements outlined below, to be filed within 90 days of issuance of this Order. The total budget shall be \$15 million and may be unevenly allocated between the utilities based on program interest. In their Implementation Plans, Central Hudson, NYSEG, National Grid, O&R and RG&E shall propose cost recovery and cost allocation. If tariff amendments to effectuate such Medium- and Heavy-Duty Fleet Make-Ready Pilot Program (including by not limited to cost recovery) are needed, Central Hudson, NYSEG, National Grid, O&R and RG&E shall file

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<sup>69</sup> Case 19-E-0065, Case 19-E-0065, Con Edison - Rates, Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plan (issued January 16, 2020).

<sup>70</sup> Id. at 73.

<sup>71</sup> Con Edison's effective rate plan provides for \$3 million per year for each effective rate year, with an incentive of up to \$1.2 million per participant.

such tariff amendments to go into effect on January 1, 2021, on a temporary basis on not less than 30 days' notice.

To the extent that the equipment needs overlap with the light-duty Make-Ready Program, the program structure of Central Hudson, NYSEG, National Grid, O&R and RG&E's Medium- and Heavy-Duty Fleet Make-Ready Pilot Program will be based on the light duty Make-Ready Program. The Medium- and Heavy-Duty Fleet Make-Ready Pilot Program must support a direct reduction of diesel emissions located in environmental justice communities through electrification of the medium-duty/heavy-duty vehicles/trucks. In order to qualify for the program participants must also be seeking and receive support through the New York Truck Voucher Incentive Program<sup>72</sup> run by NYSERDA or the New York City Clean Trucks Program administered by the NYC Department of Transportation.<sup>73</sup> Participation in these programs evidences the fact that a fleet owner has replaced an older, heavily polluting diesel truck with a clean vehicle technology that dramatically reduces or eliminates tailpipe pollution.

Participants in the Medium- and Heavy-Duty Fleet Make-Ready Pilot Program that purchase the vehicle through NYSERDA's Truck Voucher Incentive Program will receive up to 90 percent of the utility-side make-ready infrastructure upgrade costs. In addition to the above requirements, charging stations located in environmental justice areas, or that are dedicated for fleets

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<sup>72</sup> The New York Truck Voucher Incentive Program provides funding for between 80 percent and 100 percent of the incremental cost between a new diesel-powered truck and a new battery-powered vehicle of the same type and class. See <https://www.nyserda.ny.gov/All%20Programs/Programs/Truck%20Voucher%20Program>.

<sup>73</sup> The NYC Clean Trucks Program is administered with similar eligibility criteria, and provides funding from \$12,000 up to \$185,000 per eligible truck replacement. See, <https://www.nycctp.com/>.

operating a significant portion of the time in environmental justice areas, as defined in the Accessibility section of the Eligibility Criteria for the Make-Ready Program are of heightened interest.

The Joint Utilities are directed to design a customer satisfaction survey for those whom participant in the Medium- and Heavy-Duty Fleet Make-Ready Pilot Program and Con Edison shall also survey their Fleet DC Fast Charger Make-Ready Program participants. These surveys should ask similar questions to the Fleet Assessment survey, to understand how flexible charging schedules are, future fleet electrification goals, what motivated the electrification, how steep of a learning curve the fleet operator faced, what additional services the utility may provide to support their fleet electrification and other appropriate questions.

XVIII. Additional Transit Authority Make-Ready Support

Additionally, the Commission directs Con Edison, National Grid, and RG&E to partner with Capital District Transportation Authority, Niagara Frontier Transportation Authority, Rochester-Genesee Regional Transit Authority and Westchester County Bee-Line Bus System, to make-ready bus depots for electric vehicle charging.

A number of commenters noted that the GHG emissions reduction and public health benefits of electrifying public transit for disadvantaged communities, who frequently rely on it for mobility, urged the Commission to include make-ready funds for transit authorities in this Order. The Commission recognizes the benefits of transit bus electrification and agrees that action on this subject is merited following the equity mandate outlined in the CLCPA. However, the Commission finds New York Public Transit Association's request of \$50

million for make-ready work to be outsized to the initial need and does not adopt it.

The Commission authorizes a budget of \$2,960,000 for Con Edison to partner with the Westchester County Bee-Line Bus System, \$5,090,000 for National Grid to partner with the Capital District Transportation Authority and the Niagara Frontier Transportation Authority, and \$1,950,000 for RG&E to partner with the Rochester-Genesee Regional Transit Authority. These budgets are based on their relative fleet size and alignment with the 2020 State of the State goal to electrify 25 percent of these fleets by 2025; to be used for make-ready work at transit bus depots. Within this budget, the transit authorities shall be eligible for 100 percent make-ready support.

XIX. Additional NYSERDA-Led Environmental Justice Programs

Per the CLCPA, disadvantaged communities are defined as communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate-income households.<sup>74</sup>

The Commission has recognized that the low- and moderate- income segment in New York State is broad and diverse, more than 3.5 million households (40 percent of the State's households) qualifying as low-to moderate-income.<sup>75</sup> Low-income households are defined as those with annual incomes at or below 60 percent of the State Median Income. 2.3 million households meet this criterion. The moderate-income market segment, which encompasses about 1.2 million households, is comprised of households with an annual income between 60 and 80 percent of

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<sup>74</sup> NY ECL §75-0101.

<sup>75</sup> 2019 American Community Survey, available at: <https://www.census.gov/programs-surveys/acs/>.

the State Median Income or the Area Median Income,<sup>76</sup> whichever is greater.

The NYSDEC Office of Environmental Justice defines Environmental Justice as the fair and meaningful treatment of all people, regardless of race, income, national origin or color, with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. The Commission directs these additional Environmental Justice Programs in accordance with the CLCPA's mandate to all State Agencies to prioritize reductions of GHG emissions in disadvantaged communities.<sup>77</sup>

The Commission directs that if the CLCPA mandated Climate Action Council, Climate Justice Working Group and Environmental Justice Advisory Group establish a definition of Disadvantaged Communities that differs from that adopted by this Order, all programs herein shall be modified and updated to adopt the CLCPA established definition going forward.

As stated by numerous commenters, the emissions impacts in urban areas such as NYC are due in large part to pollution from trucks, buses and other vehicles fueled by diesel fuel. In response to the many parties calling for additional, immediate action to electrify this vehicle segment and to take meaningful, significant steps towards mitigating the disproportionate burden of disadvantaged communities as directed by the CLCPA, the Commission directs the following additional programs. These Environmental Justice Programs aim to give Disadvantaged Communities and low- and moderate- income

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<sup>76</sup> During Implementation, the JU and NYSERDA are directed to work with Staff to develop streamlined eligibility determinations such as utilizing Housing and Urban Development Census Tracts to identify low- and moderate- income areas.

<sup>77</sup> NY ECL §75-0109.



households the tools and programs to address the disproportionate environmental impact of diesel transit.

In addition to the initiatives to electrify vehicle and truck fleets within Disadvantaged Community areas, the Commission is persuaded by commenters that a number of new approaches are needed to address areas outside of the Make-Ready Program. We therefore direct NYSERDA to propose within 90 days of issuance of this Order, an Environmental Justice Community Clean Vehicles Transformation Prize, the Clean Personal Mobility Prize, and the Clean Medium- and Heavy- Duty Innovation Prize.

The three prize competitions shall be administered by NYSERDA, in accordance with an implementation plan to be developed by NYSERDA in consultation with Staff, and filed within 90 days of the issuance of this Order. Staff and NYSERDA shall work collaboratively to create criteria and other requirements consistent with the goals of the prize pilots: address emissions, equity, and electrification in places where people and transportation intersect. Staff and NYSERDA will work collaboratively to determine appropriate cost allocation for these pilots, under the framework that costs will generally be allocated to all customers within the service territory where the program activity takes place, with the exception that program activities with statewide benefits may be allocated to multiple utilities based on other factors such as utility revenues, number of customers, or other appropriate allocation factors. The definition of environmental justice locations referenced in the Accessibility section of the Eligibility Criteria will apply to these NYSERDA programs.

The full range of activities will be available for support, including planning, community and customer engagement, design, deployment, evaluation, and replication support. Partnerships among public and private entities are encouraged,

with a focus on community involvement. The prize competition is open across the State to all communities served by electric utilities regulated by the Commission, and to all types of organization, including local government, not-for-profit, community-based organizations, and private sector service, equipment, and solution providers.

A. Environmental Justice Community Clean Vehicles Transformation Prize Pilot

In order to ensure that communities burdened by polluting vehicle traffic benefit from new clean vehicle solutions, the State will establish a prize competition. The Environmental Justice Community Clean Vehicles Transformation Prize will drive innovative and high-impact approaches that utilize advances in clean transportation to reduce harmful air pollution in such disadvantaged communities, causing health, economic, and environmental harm. An example solution, provided for illustrative purposes only, could look to the electrification of diesel traffic that specifically burdens these communities. Integrated projects that create "green zones" by taking polluting vehicles off the road and expanding access to clean electric transportation options in disadvantaged communities are of particular interest.

This \$40 million prize competition will aim to accelerate the design, development, and deployment of such solutions by supporting pilot or demonstration projects that achieve direct benefits to these communities; allow concrete investigation of opportunities, costs, and benefits; and prove out approaches can be replicated at scale.

In order to accelerate benefits to these disadvantaged communities, and in order to bring forward the most impactful and compelling solutions, the prize competition will be open to providing support for all types of clean electric mobility

solutions; such solutions include, but are not limited to, support for integrated solutions that include medium- and heavy-duty as well as light-duty vehicles, charging infrastructure, managed charging and other resources.

B. Clean Personal Mobility Prize

In order to ensure that New Yorkers who do not readily have access to clean personal transportation options also benefit from new clean vehicle solutions, the State will establish a prize competition. The Clean Personal Mobility Prize will drive innovative and high-impact approaches that enable access to and delivery of clean transportation services, including "last-mile" solutions, to environmental justice, low- and moderate- income and underserved communities. Example solutions, provided for illustrative purposes only, could look to EV carsharing, EV carpooling or vanpooling, microtransit, and other ride-on-demand services using EVs, and other innovative transit services that incorporate electric modes. Integrated projects that both take polluting vehicles off the road and expand electric transportation options in disadvantaged communities are of particular interest.

This \$25 million prize competition will aim to accelerate the design, development, and deployment of such solutions by supporting pilot or demonstration projects that achieve direct benefits to these communities; allow concrete investigation of opportunities, costs, and benefits; and prove out approaches can be replicated at scale.

In order to accelerate benefits to these disadvantaged communities, and in order to bring forward the most impactful and compelling solutions, the prize competition will be open to providing support for all types of clean electric mobility solutions, including support for integrated solutions that

include vehicles, charging infrastructure, managed charging solutions and other resources.

C. Clean Medium- and Heavy- Duty Vehicle Innovation Prize

In order to ensure that New York positions itself to make swift and effective progress in electrifying medium and heavy-duty vehicles, beyond light duty vehicle types that are the principal focus of this Order, the State will establish a prize competition. The Clean Medium- and Heavy-Duty Vehicle Innovation Prize will drive innovative and high-impact approaches that demonstrate the viability of the most compelling opportunities for medium- and heavy- duty vehicle electrification.

Projects that demonstrate commercially available technologies or strategies that reduce the cost of electric medium- and heavy- duty vehicle charging and associated electric upgrades, increase the ability to rapidly scale electric medium- and heavy- duty vehicle adoption, and expand viable markets for medium- and heavy- duty vehicle electrification to new applications/vocations, weight classes, and/or duty cycles are of particular interest. Projects involving medium- and heavy-duty vehicles domiciled in or operating a significant portion of the time, including but not limited to those providing last mile movement of goods and people in disadvantaged communities are of heightened interest.

This \$20 million prize competition will aim to accelerate the design, development, and deployment of such solutions by supporting pilot or demonstration projects that achieve direct benefits; allow concrete investigation of opportunities, costs, and benefits; and prove out approaches can be replicated at scale.

In order to bring forward the most impactful and compelling solutions, the prize competition will be open to providing support for all types of clean transportation solutions, including support for integrated solutions that include medium- and heavy- duty vehicles, charging infrastructure, managed charging solutions and other resources.

XX. Rate Design

Whitepaper Recommendations

Staff did not propose in its Whitepaper any rate design reforms as part of the package of programs to incentivize EV deployment. In the Residential EV Tariff Order, the Commission addressed new rates for residential customers with EV chargers.

Comments

Advanced Energy Economy Institute, the Alliance for Clean Energy New York and the EV Industry Coalition support Commission action to address rate designs for EV charging. The EV Industry Coalition, Environmental Defense Fund and EVgo contend that EV charging costs must be easily understood by customers to foster adoption. The Natural Resources Defense Council, the Sierra Club and Plug In America all note that off-peak charging encouraged by rate design contributes to downward pressure on rates. The EV Industry Coalition, Environmental Defense Fund and Greenlots argue that rate reform can also increase effective utilization of the grid and minimize grid impacts of EV charging to create value. EDF and Enel X North America contend that EV rate design can be reconciled with conventional cost-of-service ratemaking, and the EV Industry Coalition further recommends that stakeholders develop new rate options that reflect the cost-causation profile of EV charging.

The Joint Utilities acknowledge the importance of developing cost-reflective rate design for EVs to encourage

optimal charging and improving system efficiency, adding that cost-based rates will encourage future software system development, technology improvements and allow managed charging. However, the Joint Utilities stress that discounted rate designs are not an efficient method for scaling transportation electrification and contend that structuring rates to promote specific technologies is inconsistent with fundamental rate design principles.

Advanced Energy Economy Institute and the Alliance for Clean Energy New York call on the Commission to address rate design in a separate track within the year. Similarly, the Natural Resources Defense Council, the Sierra Club and Tesla recommend that the Commission address rate design sooner, rather than waiting for the midpoint program review. The Alliance for Transportation Electrification contends that ratemaking is best accomplished on a case-by-case basis by individual utilities and alleges that market conditions are premature to begin new ratemaking. EDF and Tesla recommend time-varying price signals as the most efficient way to encourage beneficial off-peak charging. The Natural Resources Defense Council and the Sierra Club recommend both specific EV or "whole-house" TOU rates to complement managed charging and demand response programs.

Greenlots adds that ratepayer-funded infrastructure should be capable of supporting time-varying rate but acknowledges that technology-based managed charging is an alternative to TOU rates, noting that this option would support Commission preferences for limiting technology-specific rates. Similarly, FreeWire Technologies suggests that rate reform can be complemented by technological solutions. Advanced Energy Economy Institute and the Alliance for Clean Energy New York note that demand charges constitute a significant portion of EV operating costs, especially at DC Fast Charger sites, and

contend that demand charges provide insufficient price signals to modify charging behavior.

Enel X North America and the Joint Utilities suggest that standby designs could provide viable options for EV charging to provide relief from noncoincident demand charges and encourage managed charging. The EV Industry Coalition proposes that general service rates could be modified to provide appropriate price signals for EV charging and suggests that subscription rates also be investigated. ChargePoint, the EV Industry Coalition, Environmental Defense Fund, Enel X North America, EVgo and Tesla request that utilities develop commercial rates, with Tesla specifically recommending specific commercial EV accounts or general TOU rates applicable to all commercial customers.

The City of New York recommends examining fleet load profiles for purpose of developing commercial EV rates. Advanced Energy Economy Institute and the Alliance for Clean Energy New York argue that commercial rate reform will be foundational to future vehicle-to-grid capabilities. Electrify America urges the Commission to analyze the impact of utilities minimizing demand charges and fixed service costs, while allowing recovery of only the marginal cost to serve without riders or other non-bypassable surcharges associated with historical infrastructure costs and unrelated programs.

#### Determination

Staff stated in its Whitepaper that it is premature to change rate design and recommended the issue be re-visited at the DC Fast Charger Per-Plug Incentive program's midpoint review. Due to the market conditions ATE seconded Staff's statement. There is no doubt that the EV supply equipment market in New York is in its infancy. There were fewer than two dozen DC Fast Charger FC plugs in service under the per plug

incentive program at the time of the Joint Utilities' detailed annual report filings required by the DC Fast Charger Framework Order.

This Order aligns incentives and reporting under the DC Fast Charger Per-Plug Incentive Program and the Make-Ready Program. The data included in the reports will provide information to guide future decisions on whether programmatic and/or rate designs are needed to promote development of EV supply equipment in New York. For example, the utilities will provide load profiles for the DC Fast Charger stations in their annual reports. Such data will help demonstrate if the load characteristics of DC Fast Charger stations warrant a unique rate design. Additionally, DC Fast Charger station Make-Ready Program participants will be required to provide charging revenues and operating costs. This data will provide a deeper understanding of station economics for stations developed under the programs in place in New York. Station owners will also be required to provide their charging structure and such information will provide insight into the impact on station load characteristics.

Demand charges constitute a significant portion of operating costs for DC Fast Charger stations owners, as noted by many parties, including Advanced Energy Economy Institute and the Alliance for Clean Energy New York. However, the Commission has stated, and still finds, that demand charges send the appropriate price signal to consumers to influence behavior and reduce distribution grid impacts.

The Alliance for Transportation Electrification opined that rate design modifications should be made on a case-by-case basis. However, as properly noted by the Joint Utilities, structuring rates to promote a specific technology is inconsistent with fundamental rate design principles. The



Commission declines to modify effective rate design principles by this Order; the need to make rate design modifications will be re-visited as part of the midpoint review.

XXI. Implementation Issues

A. Utility Programs

The Commission recognizes that the scope and scale of this Make-Ready Program and other activities directed by this Order are unmatched. In some areas, the Commission has directed a phased approach to developing the tools directed in this Order, taking lessons learned from our DER deployment experiences in New York. In other areas, the Commission expects that the utilities' core competencies and existing EV subject matter experts will immediately inform program roll-out. The Commission directs the Joint Utilities to work with Staff in drafting Make-Ready Program Implementation Plans and a common Make-Ready Program Participant Guide.

The Implementation Plans shall be utility-specific and include project timelines, administrative cost estimates, third-party support needs and vendors identified, and education and outreach plans. Staff and the Joint Utilities shall work to enable project and tool timelines as expeditiously as possible, and the Joint Utilities shall file the Implementation Plans within 60 days of issuance of this Order.

The common Make-Ready Program Participant Guide shall be a comprehensive guide that will inform the developer, owner, and/or site-host community. This Participant Guide should provide all the information necessary to enable a developer that is unfamiliar with New York's landscape to confidently apply to the Make-Ready Program. The Joint Utilities are directed to work with Staff in developing this Participant Guide. The Make-Ready Program Participant Guide shall be filed in DMM and posted to the Joint Utilities of New York website and each utility's

individual EV website within thirty days of issuance of this Order.

B. NYSERDA Programs

NYSERDA shall file the Implementation Plans outlining an Environmental Justice Community Clean Vehicle Transformation Prize, the Expanded Access to Clean Vehicle Prize, and the Clean Medium- and Heavy- Duty Innovation Prize within 60 days of the issuance of this Order. Staff and NYSERDA shall work collaboratively to create criteria and other requirements consistent with the prize goals, and to determine appropriate cost allocation.

The three prize competitions shall be administered by NYSERDA, in accordance with the Implementation Plans. Staff and NYSERDA will work collaboratively to determine appropriate cost allocation for these pilots, under the framework that costs will generally be allocated to all customers within the service territory where the program activity takes place, with the exception that program activities with statewide benefits may be allocated to multiple utilities based on other factors such as utility revenues, number of customers, or other appropriate allocation factors. NYSERDA shall work with Staff and the utilities to update the Bill-As-You Go (BAYG) process to facilitate the tracking, requisition and transfer of funds between NYSERDA and the utilities.<sup>78</sup> Any necessary changes to the existing BAYG process shall be detailed in a revised BAYG Summary document and filed concurrently with the aforementioned Implementation Plan, within 60 days of this Order.

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<sup>78</sup> Case 14-M-0094, et al., Order Authorizing the Clean Energy Fund Framework (issued January 21, 2016), p. 98. (Authorizing the BAYG approach to better match collections with expenditures, where collections are retained in utility accounts and transferred to NYSERDA at a specified frequency based on actual program expenditures).

CONCLUSION

The Commission recognizes the significant efforts by interested stakeholders over the last two years to identify and consider various matters related to increasing ZEV and EV adoption and advancing the State's objectives. The Make-Ready Program, Environmental Justice Community Clean Vehicles Transformation Prize, Clean Personal Mobility Prize, Clean Medium- and Heavy- Duty Innovation Prize, Fleet Assessment Service, Medium- and Heavy-Duty Make-Ready Pilot Program, and Transit Authority Make-Ready Program adopted herein will all support transportation electrification in New York State while attracting private market investment.

The Make-Ready Program, Fleet Assessment Service, Medium- and Heavy-Duty Make-Ready Pilot Program, and the Transit Authority Make-Ready Program will best position the Joint Utilities to serve an appropriate role as collaborator and administrator, and will result in useful and actionable data to modify program elements as needed at the mid-point review and from which the following phases of these pilots and procurements will flow.

The Environmental Justice Community Clean Vehicles Transformation Prize, Clean Personal Mobility Prize, and Clean Medium- and Heavy- Duty Innovation Prize will position NYSERDA to leverage its expertise and experience and procure innovative solutions that meaningfully benefit Disadvantaged Communities.

Collectively, the actions in this Order will promote the public interest by furthering the State's environmental and clean energy goals.

The Commission orders:

1. Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., and Rochester Gas and Electric Corporation are directed to implement light-duty Make-Ready Programs not to exceed the amounts specified in the body of this Order. Each Make-Ready Program shall fund 100 percent of eligible make-ready costs for publicly accessible direct current fast charging sites within one-mile of environmental justice communities; 100 percent of eligible make-ready costs for Level 2 sites in multi-unit dwellings located in low-to-moderate income or environmental justice communities; 90 percent of eligible make-ready costs for sites that meet all of the applicable eligibility requirements; and up to 50 percent of eligible make-ready costs for sites that do not meet all of the applicable eligibility requirements. Furthermore, the Public Service Commission directs that where a proprietary plug type is collocated with an equal number of commonly accepted standardized plug types of equal or greater charging capacity, that station shall receive the 90 percent make-ready incentive. Where a station with proprietary plug types is not collocated with an equal number of commonly accepted standardized plug types of equal or greater charging capacity, that station shall receive the 50 percent make-ready incentive.

2. New York State Electric & Gas Corporation and Niagara Mohawk Power Corporation d/b/a National Grid are directed to implement light-duty Make-Ready Programs not to exceed the amounts specified in the body of this Order. Each Make-Ready Program shall fund 100 percent of eligible make-ready costs for publicly accessible direct current fast charging sites within two miles of environmental justice communities; 100 percent of eligible make-ready costs for Level 2 sites in multi-unit dwellings located in low-to-moderate income or

environmental justice communities; 90 percent of eligible make-ready costs for sites that meet all of the applicable eligibility requirements; and up to 50 percent of eligible make-ready costs for sites that do not meet all of the applicable eligibility requirements. Furthermore, the Public Service Commission directs that where a proprietary plug type is collocated with an equal number of commonly accepted standardized plug types of equal or greater charging capacity, that station shall receive the 90 percent make-ready incentive. Where a station with proprietary plug types is not collocated with an equal number of commonly accepted standardized plug types of equal or greater charging capacity, that station shall receive the 50 percent make-ready incentive.

3. Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation d/b/a National Grid, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation are directed to establish a Medium- and Heavy- Duty Make-Ready Pilot Program as discussed in the body of this Order.

4. Consolidated Edison Company of New York, Inc., Niagara Mohawk Power Corporation d/b/a National Grid, and Rochester Gas and Electric Corporation are directed to establish a Transit Authority Make-Ready Program as discussed in the body of this Order.

5. Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation d/b/a National Grid, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation are directed to treat rebates paid to customers for customer-sited make-ready work and future-proofing as a regulatory asset, inclusive of associated

carrying charges, to be collected via existing surcharge mechanisms over a period of 15 years. If tariff revisions are needed to effectuate this recovery, such tariff revisions are to be filed to go into effect to go into effect January 1, 2021, on not less than thirty days' notice, on a temporary basis.

6. Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation d/b/a National Grid, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation are directed to develop an online EV supply equipment service application portal in a phased approach, with Phase One to be complete within three months of issuance of this Order and Phase Two to be completed within six months of issuance of this Order.

7. Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation d/b/a National Grid, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation shall develop the Suitability Criteria as described in the body of this Order.

8. Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation d/b/a National Grid, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation shall publish load serving capacity maps tailored to support electric vehicle charging station siting by no later than December 31, 2020.

9. Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation d/b/a National Grid, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation are directed to work with

developers to determine the feasibility of future-proofing plans from a grid and site perspective at each participating station.

10. Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation d/b/a National Grid, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation shall post a contractor approval application and a list of pre-approved contractors to their EV websites. Furthermore, contractor applications shall be approved or denied within one month of the application submittal.

11. Central Hudson Gas & Electric Corporation, New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation d/b/a National Grid, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation shall work in collaboration with Department of Public Service Staff to develop Medium- and Heavy-Duty Fleet Make-Ready Pilot Program Implementation Plans and file such plans within 90 days of issuance of this Order.

12. Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation d/b/a National Grid, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation shall work with the Department of Public Service Staff to develop utility-specific Make-Ready Program Implementation Plans and a common Make-Ready Program Participant Guide and are directed to post the Make-Ready Program Implementation Plans within 60 days of issuance of this Order and the Make-Ready Program Participant Guide within thirty days of issuance of this Order.

13. Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York State

Electric & Gas Corporation, Niagara Mohawk Power Corporation d/b/a National Grid, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation shall file proposals for active or managed charging programs for mass market customers, in consultation with Staff, within 120 days of the issuance of this Order.

14. The New York State Energy Research and Development Authority is directed to work with Department of Public Service Staff to propose, within 90 days of issuance of this Order, implementation plans to establish an Environmental Justice Community Clean Vehicles Transformation Prize, an Clean Personal Mobility Prize, and a Clean Medium- and Heavy- Duty Innovation Prize.

15. To the extent that the New York Power Authority participates in the Make-Ready Program it shall be subject to the program rules established by the Public Service Commission and enforced by the appropriate investor-owned electric utility. The New York Power Authority shall work with Department of Public Service Staff to file an Implementation Plan within 60 days of issuance of this Order.

16. Within 90 days of issuance of this Order, Department of Public Service Staff shall convene a working group focused on discussing how to incorporate emerging technical standards and best practices, such as: the International Electrotechnical Commission (IEC) accepted OpenADR 2.0b, International Organization for Standardization (ISO)/IEC 15118, and the OCPP. In convening this technical working group Department of Public Service Staff shall send invitations to the New York State Department of Agriculture and Market's Bureau of Weights and Measures staff, the New York State Energy Research and Development Authority staff, other appropriate New York State and local government agencies, and industry stakeholders.



Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation d/b/a National Grid, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation shall engage with this Technical Working Group.

17. The Public Service Commission directs Department of Public Service Staff to convene a Customer Experience Working Group within 120 days of issuance of this Order. In convening this technical working group Department of Public Service Staff shall send invitations to the New York State Department of Agriculture and Market's Bureau of Weights and Measures staff, the New York State Energy Research and Development Authority staff, the New York State Department of Financial Services, other appropriate New York State and local government agencies, and industry stakeholders. Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation d/b/a National Grid, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation shall engage with this Customer Experience Working Group.

18. Department of Public Service Staff shall lead a mid-point review to begin no later than October 1, 2022, with recommendations made to the Public Service Commission by January 4, 2023.

19. In the Secretary's sole discretion, the deadlines set forth in this order may be extended. Any request for an extension must be in writing, must include a justification for the extension, and must be filed at least one day prior to the affected deadline.

20. This proceeding is continued.

By the Commission,

(SIGNED)

MICHELLE L. PHILLIPS  
Secretary

SUMMARY OF COMMENTSCommenters

Advanced Energy Economy Institute and the Alliance for Clean Energy New York (AEEI-ACE)  
 Alliance for Automotive Innovation (Auto Innovators)  
 Alliance for Transportation Electrification (ATE)  
 Bloom Energy Corporation (Bloom Energy)  
 ChargePoint, Inc. (ChargePoint)  
 City of Albany (City of Albany)  
 City of New York (NYC)  
 Clean Communities of Central New York (CCNY)  
 Clean Transportation Coalition<sup>1</sup>  
 Drive Electric Long Island Coalition (Drive Electric LI)  
 Electrify America, LLC (Electrify America)  
 Enel X North America, Inc. (Enel X)  
 Environmental Defense Fund (EDF)  
 Estates NY Real Estates Services (Estates NY)  
 EVBox  
 EV Connect, Inc. (EV Connect)  
 EV Industry Coalition<sup>2</sup>  
 EVgo  
 EVSE LLC  
 FreeWire Technologies, Inc. (FreeWire)  
 Green Energy Consumers Alliance (GECA)  
 Green Machine Power (GMP)  
 Greenlots

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<sup>1</sup> The Clean Transportation Coalition includes CALSTART, Central Hudson Gas & Electric Corporation, ChargePoint, Inc., Consolidated Edison Company of New York, Inc. (Con Edison), Enel X North America, Inc., EVgo, Natural Resources Defense Council, New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation d/b/a National Grid (National Grid), Orange and Rockland Utilities, Inc. (Orange and Rockland Utilities), Rochester Gas and Electric Corporation, and Sierra Club.

<sup>2</sup> The EV Industry Coalition includes CALSTART, BYD Motors LLC, Chanje Energy, ChargePoint, Inc., ClipperCreek, Inc., Environmental Defense Fund, EV-Box, EVgo, Greenlots, Green Power Motor Company, IKEA North America, Lion Electric Company, Motiv Power Systems, Nikola Motors, Port Authority of New York and New Jersey, Siemens eMobility, Tesla, Tri-State Transportation Campaign, and Xos Trucks.

Joint Utilities<sup>3</sup>

Konrad Advising, LLC and AltEnergyStocks.com (Konrad)  
 Metropolitan Transportation Authority (MTA)  
 Mirabito Holdings Inc. (Mirabito)  
 Multiple Intervenors  
 Natural Resources Defense Council and Sierra Club (NRDC-SC)  
 New York Association of Public Power (NYAPP)  
 New York Power Authority (NYPA)  
 New York Public Transit Association, Inc. (NYPTA)  
 New York State Department of Environmental Conservation (DEC)  
 New York State Department of State, Office of Planning,  
     Development and Community Infrastructure (DOS)  
 New York State Department of Transportation (DOT)  
 New York Thruway Authority (NYTA)  
 New Yorkers for Clean Power (NYCP)  
 Nikola Corp.  
 Plug In America (PIA)  
 Tesla, Inc. (Tesla)  
 Vrinda Inc. (Vrinda)  
 ZappyRide

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<sup>3</sup> The Joint Utilities are Central Hudson Gas & Electric Corporation, Con Edison, New York State Electric & Gas Corporation, National Grid, Orange and Rockland Utilities, and Rochester Gas and Electric Corporation.

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## I. Eligible Project Costs and Technologies

### ChargePoint

ChargePoint recommends including plugs capable of simultaneously charging at or above 75 kilowatts (kW) or plugs capable of independently charging at or above 62.5 kW, and sharing power to charge one vehicle at or above a combined 125 kW. According to ChargePoint, this modification would reflect the fact that 75 kW-capable electric vehicles (EVs) do not typically charge at or near 75 kW, and it would serve as a cost-control mechanism for the program.

### EVSE LLC

EVSE LLC endorses a "solar to wheels" proposal in which utilities integrate EV charging with solar projects where possible. It proposes consideration of garage ceiling-mounted chargers to achieve faster installations, lower costs, reduced risks, and less property disruption. EVSE LLC also suggests that light pole-mounted charging stations offer fewer pedestrian disruptions, greater access, lower costs, and shorter installations than conventional installations, and recommends that utilities evaluate pole inventories as siting assets.

### GMP

GMP alleges that the proposed Make-Ready Program fails to achieve technology neutrality and will stifle innovation by invalidating the use of technologies that avoid costly utility line extensions with mobile and other forms of energy storage. GMP requests that these technologies should be eligible for per-plug incentives.

### Joint Utilities

The Joint Utilities recommend that all plug types, (proprietary and non-proprietary), site types (public and private), and customer segments (including workplaces, multi-unit dwelling, and light-duty EV fleets) should be eligible for the Make-Ready Program on an equal basis.

PIA

PIA advises that Level 1 charging should be eligible under the program, as it may be suitable in workplace locations and other longer dwell-times facilities, such as commuter rail stations where the expectation of extended parking prevents more rapid charging turnover.

Tesla

Tesla contends that site hosts should be able to choose equipment that best fits their needs, and its proprietary wall connectors should at a minimum be eligible under the program.

II. Eligibility CriteriaAEEI-ACE

AEEI-ACE strongly recommends that the Commission move away from the proposed public accessibility criteria, and instead focus on sectors of need including highway corridors, workplaces, urban-shared, and multi-unit dwellings. AEEI-ACE notes that charging a reasonable fee at time-limited parking spaces is meant to promote turnover that makes these spaces an attractive option for EV infrastructure siting. AEEI-ACE stresses that multi-unit dwelling and workplace chargers are critical to meeting state goals and are ideal candidates for 90 percent cost coverage given the apparent hesitancy of some property managers to install EV supply equipment (EVSE) at these sites. AEEI-ACE agrees that publicly-funded or utility-owned nonfleet stations should accept all common payment forms to ensure competition and accessibility.

AEEI-ACE notes that workplace chargers offer an attractive use of ratepayer funds because their long dwell times allow for managed charging. AEEI-ACE also observes that no party expressed support for the public accessibility provision, and reiterates comments by the Joint Utilities and NYC highlighting the importance of parking fees in funding essential services. AEEI-ACE asserts that the proposed program requirements are overly complex and may inhibit participation, and warns that the list of new methodologies required of utilities is too extensive and requires the development of new

expertise which will cause delays. AEEI-ACE proposes that utilities should provide support, but not dictate charger development.

#### ATE

ATE expresses concern about the complex and rigid public accessibility provisions, and adds that the Whitepaper disregards the reality of parking in many areas and unduly discriminates against locations that both deserve and need the higher levels of funding.

#### Auto Innovators

Auto Innovators recommends that Level 2 installations at multi-unit dwellings should be eligible for the same incentives as public charging facilities. It recommends siting DC Fast Chargers along travel corridors and in urban areas to mitigate range anxiety and facilitate regional travel

#### ChargePoint

ChargePoint suggests that eliminating public accessibility restrictions will provide parity between use cases, better align incentives with program goals, and help create widespread grid benefits. ChargePoint endorses open-access standards adopted in other jurisdictions that enable feeless acceptance of commonly-used payment forms using kiosks, card readers, on-site acceptance, or phone payments. ChargePoint proposes revising the minimum number of ports per site to two EVSE ports per location deployed up front, with sufficient make-ready installation funding to support the eventual deployment of four ports installed at Level 2 and DC Fast Charger deployments. ChargePoint asserts that allowing site hosts to choose multiple networks is essential, regardless of which parties hold title to a station. It also insists that site host control over EV infrastructure is similarly important, as site hosts are in the best position to consider both charging and parking needs in setting prices.



City of Albany

The City of Albany argues that limiting incentives for charger installations based on public accessibility requirements will eliminate many urban areas from program coverage.

Electrify America

Electrify America supports near-term flexibility in eligibility requirements for the program. However, it maintains that overly prescriptive requirements around specific network protocols and payment methods can discourage innovation in charging station design. It is especially concerned that eligibility requirements could prohibit issuance of payments for Contribution in Aid of Construction (CIAC) or Excess Distribution Facilities before construction is confirmed, thereby disqualifying projects in early, more uncertain stages of development. Electrify America warns that this would create an unfair competitive advantage for developers who delay construction and could encourage developers to abandon projects. It recommends that eligibility be based on construction having commenced by the date of the order approving the program.

Estates NY

Estates NY urges the Commission to adopt a flexible approach to make-ready program implementation in line with recommendations by the Joint Utilities, including making both public and nonpublic locations eligible for make-ready incentives. Estates NY predicts that a disproportionate number of large EV fleets will be operated from nonpublic facilities, and will therefore be ineligible for funding under the current proposal.

EVBox

EVBox opposes the public access requirement, claiming that public charging only addresses a small proportion of market needs, and that preferential incentive treatment will not yield a maximum return on program investment. It recommends greater support for workplace and multi-unit dwelling infrastructure instead, noting that public access in the latter is often impossible and that making workplace chargers publicly-accessible removes access assurance for its intended users.

EVBox warns that requiring credit card readers would increase installation costs that would be unjustified by their infrequent use.

### EV Industry Coalition

The EV Industry Coalition contends that public access criteria unnecessarily fragment the market and do not reflect customer needs for alternatives to home-charging. It foresees high demand for chargers from multi-unit dwelling residents and transportation network company (TNC) drivers, and warns that lower incentives may be insufficient to overcome the significant capital costs of installations at these locations. According to the EV Industry Coalition, the development of DC Fast Charger stations to support electrification of TNC, taxi, and other light-duty vehicle fleets should be a priority for New York.

The EV Industry Coalition advocates collaboration with state and local agencies to ensure that chargers are installed at multi-unit dwellings greater than four units where parking is included in the development plans. Customers who live in multi-unit dwellings will have a high barrier to purchasing, or sharing, an EV without charging infrastructure installed in parking structures at or near their buildings. None of this parking would likely meet the Whitepaper's definition of "public" and therefore would be reimbursed at a lower rate that may fail to overcome significant capital cost barriers that are characteristic of EV supply equipment deployment at multi-unit dwelling locations. It also urges the Commission to investigate incentivizing neighborhood charging hubs with both Level 2 and DC Fast Charger facilities, and adds that DC Fast Charger stations for light-duty fleets should be prioritized.

The EV Industry Coalition explains its criticism of the current DC Fast Charger-per-plug incentive, citing low participation and what it alleges is a burdensome and complex program design. It notes that credits are not paid out until 13 months after a participating station begins service, and that market participants must bear all near-term risks and wait 20 to 24 months for payment after first incurring costs. The EV Industry Coalition advises that avoiding these drawbacks of the DC Fast Charger per-plug incentive is essential in developing new EV programs.

Greenlots

Charging stations leveraging public funds should not charge a membership fee, and that point-of-sale payment options for charging services be made available, according to Greenlots. While Greenlots agrees with Staff that a majority of stations should serve the public, they argue that tying accessibility to pay-to-park requirements is inconsistent with the way New Yorkers drive and park, and would considerably limit opportunities for charging station deployment. Asking businesses and localities to forgo parking revenues in order to install EV charging is an unreasonable request, as these funds are built into business models and budgets.

Greenlots further encourages parity for incentives that are not publicly accessible, as these stations nonetheless deliver benefits, for example by managing charging in such a way that contributes to downward pressure on rates and reducing transportation emissions. In particular, both commercial and government fleets represent significant opportunities for electrification and any program focused on rapidly transforming the transportation sector should provide strong support for meeting the needs of these market segments. Fleet managers are uniquely focused on operating costs, and for this reason are more likely to develop predictable charging patterns that can align with grid realities.

Greenlots notes that, in certain cases, non-public stations also address market segments that will be harder to reach and therefore need maximum support. Charging opportunities for residents of multi-unit dwellings are also likely to be constrained under the current model. In Greenlots' experience, multi-unit dwellings are one of the most challenging sectors to serve, due to split incentives between landlords and tenants and the often-limited capital and attention of building owners. In many cases, residents of multi-unit dwellings pay to park at their homes and workplaces. Ensuring that charging station deployment is adequately incented, even in pay-to-park lots, will offer meaningful access to a large group of drivers who would not otherwise be served by the proposed program. Downstate investment in strategically-located fast charging hubs can also be an effective strategy.

Joint Utilities

The Joint Utilities request modification of the public access requirement to allow incentives for infrastructure at multi-unit dwellings, workplaces, and paid parking facilities, particularly in the New York metropolitan area where free public parking is scarce and development costs are greater. The Joint Utilities recommend that all plug types, (proprietary and non-proprietary), site types (public and private), and customer segments (including workplaces, multi-unit dwelling, and light-duty fleets) should be eligible for the incentives on an equal basis.

NYC

NYC cites low participation in the existing DC Fast Charger Per-Plug Incentive Program as a warning that overly prescriptive policies may inhibit charger development and EV adoption. NYC opposes the public access requirement, arguing that it would create unnecessary obstacles for deployment in NYC. NYC cites its sustainable transportation goals that call for 80 percent of trips to be made by walking, biking, or mass transit by 2050, and notes that parking fees collected by the New York City Department of Transportation are required to meet revenue targets to fund these initiatives. It requests that the Commission recognize NYC's power to establish its own parking policy. It also recommends the Commission grant full access to incentives for charging stations located in restricted or paid parking facilities, and notes this position is supported by several other parties.

NYCP

NYCP recommends that streamlined, easily accessible payment at stations will foster EV adoption.

NRDC-SC

NRDC-SC argues that the Commission should expand the definition of public accessibility to include pay-to-park parking garages, and that publicly-funded or utility-owned non-fleet charging stations should accept forms of payment commonly used today by drivers of all vehicle types, regardless of membership to a particular charging network.

Tesla

Tesla advocates that its proprietary wall connectors should at a minimum be eligible under the program at nonpublic locations, including workplaces, multi-unit dwellings, and fleet depots.

III. Eligibility Criteria - Future-ProofingAuto Innovators

Auto Innovators cautions against prematurely overbuilding sites through encouragement of future-proofing without specific justifications, especially at sites unlikely to require upgrades. It also encourages the State to consider existing vehicle grid integration efforts developed in other states to inform policies and pilot programs.

ATE

ATE agrees with Auto Innovators' concerns about overbuilding, and recommends that the Joint Utilities work together with stakeholders to establish best practices.

ChargePoint

ChargePoint urges adoption of the Joint Utilities recommendation that future-proofing costs constitute a separate budget item, which will allow more effective cost tracking and evaluation.

Drive Electric LI

Drive Electric LI acknowledges that while DC Fast Chargers are not part of utility distribution systems, it is important to develop infrastructure to manage anticipated future use by medium- and heavy-duty EVs. It recommends that DC Fast Charger infrastructure on major thoroughfares be built as large as possible (preferably a 350 kW systems) to accommodate future use by trucks and buses and to minimize charging times. Drive Electric LI argues that this would avoid comparable capacity problems that emerged in the compressed natural gas infrastructure deployment of the late 1990s and early 2000s.

EDF

EDF argues that an imminent and comprehensive utility grid impact study conducted in collaboration with industry partners is necessary for determining futureproofing requirements, adding that all utilities should pilot and evaluate non-wires solutions to obviate the need for some oversizing.

Enel X

Enel X agrees that oversizing customer-side, make-ready components can be a cost-effective method to future-proof sites, but should be an option rather than a requirement.

EVgo

EVgo argues that future-proofing should be optional, noting that while it may be warranted in some cases, requiring it in all cases compromises cost-effectiveness.

FreeWire

FreeWire alleges that the oversizing requirements limit EV supply equipment siting opportunities and could delay deployment. It recommends the use of infrastructure-light technology instead.

Greenlots

Greenlots agrees that the Commission should encourage oversizing where reasonable. It opposes strict requirements and prefers upfront cost containment. Greenlots points out that future-proofing can entail many solutions that the Commission should consider. Greenlots encourages the Commission to require Open Charge Point Protocol (OCPP) certification for any project receiving full incentives.

Joint Utilities

The Joint Utilities support future-proofing and recommend that it include additional connection point installations, trenching, and conduit for future station expansions, as well as system upgrades including larger transformers or additional transformer pads. The Joint Utilities argue that future-proofing expenditures are

incremental and not tied to initial location capacity, and that they should be recognized separately in the program budget. The Joint Utilities propose consideration of the following criteria to determine the extent of future-proofing necessary at each site: expansion plans specifying plug numbers or increased power; feasibility of additional installations; increased power and parking capacity; and costs of increased service power.

#### NYC

NYC agrees with recommendations by the International Council on Clean Transportation (ICCT), cited by Staff in the Whitepaper, to oversize connection points for future fast chargers and anticipate transformer upgrades. NYC recommends that any future-proofing be done in a measured manner to accommodate changes in EV supply equipment technology.

#### NRDC-SC

NRDC-SC argues that the Commission should not be overly prescriptive in over-sizing requirements, but should encourage cost-effective future-proofing when site upgrades are expected. NRDC-SC argues that expensive retrenching should be avoided, and DC Fast Charger stations should plan for higher power chargers entering the market by future-proofing electric panels and transformers. NRDC-SC agrees with Greenlots that future-proofing should also include open standards and interoperability. It also concurs with the Joint Utilities that site characteristics should be considered in assessing the extent of future-proofing necessary.

#### NYPA

NYPA agrees with Staff on its future-proofing proposal, and supports reasonable constraints to prevent overbuilding, such as limiting station capacity to no more than 50 percent over current needs (absent a signed agreement to expand by a greater percentage within two years). NYPA also maintains that the Commission should limit grid upgrade costs to a maximum of 10 percent, and consider providing developers an incremental incentive to install higher-power chargers.

Tesla

While initially arguing that future-proofing should be optional, Tesla acknowledges that the Joint Utilities outline a reasonable approach to determine necessary future-proofing that balances costs and feasibility. Originally, Tesla contended that future-proofing should not be a requirement of the program given the potential added costs, and site host and location considerations. Recommendations for future-proofing, however, could be made, including building larger transformer pads or space for additional panels or switchgears in case of future expansion. It argues that this is particularly relevant for new construction, or sites and fleets with clear future expansion plans, where it may make sense to plan for future EV charging needs upfront in order to save significant costs.

Vrinda

Vrinda states that the Commission should make it mandatory for the utilities and developers to pair storage with charging stations as a requirement of future-proofing. This will support de-carbonization and address congestion in the network. This will also eliminate the need for costly upgrades which may get stranded in the future as EV utilization and ranges change.

IV. IncentivesAEEI-ACE

AEEI-ACE requests that the Commission clearly specify that the maximum incentive level functions as a cost reduction for utility-side costs, rather than a reimbursement to developers. This is important because 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. 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.



AEEI-ACE recommends 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 options could provide a boost to the speed and cost-efficiency of development, while preserving cash flow during the challenges created by COVID-19.

AEEI-ACE argues that existing programs should be allowed to continue as currently structured as they do not fully address the charging infrastructure gap. AEEI-ACE also notes that it is important to minimize market disruptions during the current public health crisis.

#### ATE

ATE argues that utilities should have the flexibility to fund the appropriate number of Level 2 and DC Fast Chargers per site, stating that a preferable approach would be based on broad criteria such as availability, geographic diversity, and equity.

#### Auto Innovators

Auto Innovators recommends greater program funding for DC Fast Chargers, and requests clarification that the program will provide 90 percent of funding to all DC Fast Charger ownership models.

#### ChargePoint

ChargePoint does not support setting maximum incentive levels now, and recommends that this be delayed until the first biannual review when the Program Advisory Council can provide appropriate recommendations. ChargePoint supports the Joint Utilities recommendation to replace the proposed maximum incentive level with a less restrictive framework comprised of a total budget and performance incentives, which it predicts would permit greater utility and developer flexibility in selecting locations to best meet user, site host, and system needs.

### Clean Transportation Coalition

Clean Transportation Coalition recommends program flexibility to better match incentives with costs, and contends that additional incentives for EV developers (e.g., the DC Fast Charger per-plug incentive currently offered by utilities) will be important for program success. The Clean Transportation Coalition recommends eliminating the difference in incentives available to public and nonpublic locations, particularly downstate where free charging is an unreasonable constraint. It also argues that the program should allow EV service providers and utilities to offer locations and independent sites hosts to directly participate.

### DEC

DEC asserts that the existing DC Fast Charger per-plug incentive and proposed Level 2 and DC Fast Charger make-ready incentives should complement current and proposed DEC efforts to promote light-duty EV adoption through EV supply equipment development.

### Drive Electric LI

Drive Electric LI submits that existing EV programs like the New York State Energy Research and Development Authority (NYSERDA) Charge Ready NY program and the DEC ZEV infrastructure program complement the proposed program, and should continue to combat range anxiety and other EV adoption impediments.

### Electrify America

Electrify America notes that the proposal states that maximum incentive levels will be determined based on utility-specific average deployments costs, and seeks clarification on how these costs would be derived. Electrify America observes that the incentive levels considered in the whitepaper, approximately \$45,000 per plug for Upstate and \$82,000 per plug for New York metropolitan sites, may be insufficient to cover make-ready costs particularly for high-power stations. Electrify America agrees with ChargePoint that a more effective design would be to establish a range of make-ready development costs that better reflect the current industry, and cites an

observation by the Joint Utilities that actual costs could significantly exceed Whitepaper estimates.

Electrify America suggests that utilization assumptions in the Whitepaper be revisited in view of existing rates at ultra-fast charging stations and COVID-19 effects on utilization, noting that investor concerns about cost recovery may inhibit ultra-fast charger installations. Electrify America cautions that the public health crisis is expected to limit new vehicles sales, with EV sales particularly affected by lower gasoline prices. It also notes that the Commission analysis assumed higher projected utilization rates than were recorded by any Electrify America public station in 2019. Furthermore, Electrify America points out that when utilization is measured as a percentage of time, ultra-fast chargers exhibit lower utilization rates than 50kW DC Fast Chargers due to shorter charging times.

#### Enel X

Enel X states that allowing projects to claim a specified percentage of their actual costs rather than calculating a set incentive, would provide a much more simplified and streamlined program design that would result in greater program uptake. Enel X points out that fixed incentive amounts applied across an entire charging level based on average historical costs raises questions regarding the cost data used to set the incentive, and masks the many variables that contribute to an individual project's overall costs at a given charging level. Enel X argues that without differentiating incentive levels to account for any of these differences, developers would be incentivized to seek out relatively low cost, low-capacity projects at the expense of seeking to maximize station utilization.

The proposal to allow bundling of DC Fast Charger project costs within a single utility service territory may address this issue, but would skew program participation to more sophisticated developers who are able to develop multiple sites to increase the coverage of the incentive. Enel X argues that developers installing a reduced number of charging ports per project could be penalized because per plug costs for such projects typically run higher than projects with a greater

number of ports. Enel X also suggests that cost containment could be encouraged through alternative methods such as determining a reasonable percentage of increased ratepayer costs by netting societal costs and increased revenue, and by promoting advanced rates and smart charging options that incentivize the cost-effective grid integration of EV charging.

#### Estates NY

Estates NY supports the initial comments by the Joint Utilities alleging that proposed make-ready incentives do not reflect market conditions, and should be increased to support EV charging development. Estates NY expresses concerns that the proposed incentives will be insufficient to foster development, noting that make-ready costs and other project economic considerations are a significant deterrent to residential and commercial charging installation development.

#### EVBox

EVBox submits that maximum incentive levels set according to the currently limited number of EV supply equipment installations in the State could prove inaccurate, with detrimental effects. EVBox acknowledges the importance of cost containment, but cautions against overemphasizing it in program design. It notes the immaturity of the EV charging market, and warns that standards applicable to more established distributed energy resources (DER) should not be applied.

#### EV Industry Coalition

The EV Industry Coalition argues that the maximum incentive level would unnecessarily constrain development of valuable but higher cost stations, and argues that other cost containment measures should be investigated. It suggests that sites developed under the proposed maximum incentive level could qualify for a higher percentage of eligible costs (e.g., 100 percent), than those that are developed at actual greater costs than the maximum incentive level (e.g., 80 percent of eligible costs).

### Joint Utilities

The Joint Utilities contend that flexible incentives are necessary to address evolving market needs, customer preferences, and demand, especially in the first years of implementation when appropriate levels should be determined according to these factors. Incentives should also be sufficient to support a variety of EV charger business models, as well as stations with variable levels of use. Concerning incentive funding, the Joint Utilities propose that NYSERDA could expand incentive availability with other funding sources, using collected and unallocated funds.

The Joint Utilities raise several concerns about the proposed maximum incentive levels, and argue that these may be incompatible with the wide range of possible make-ready infrastructure costs, deter implementation of higher cost (and value) stations, and may inadvertently encourage less expensive installations to inflate their costs to qualify for greater incentives. The Joint Utilities suggest instead that a more flexible framework be adopted, with overall budgets and performance incentives. They propose an incentive covering 90 to 100 percent of make-ready costs for Level 2 and DC Fast Charger stations, on average. The Joint Utilities recommend that all plug types, (proprietary and non-proprietary), site types (public and private), and customer segments (including workplaces, multi-unit dwelling, and light-duty fleets) should be eligible for the Make-Ready Program on an equal basis.

The Joint Utilities allege that Staff's proposed prescriptive incentive structure is premature, and suggests that a more flexible incentive structure would increase the likelihood of success for the Make-Ready Program. The Joint Utilities recommend flexibility in setting and adjusting incentives to increase charger numbers and capability, accommodating customer segment needs, and accounting for business model diversity. The Joint Utilities also recommend determining Level 2 and DC Fast Charger station distribution, setting a trajectory through 2025 to evolve and respond to market needs and trends, and setting and adjusting customer acquisition and go-to market strategies.

The Joint Utilities propose three criteria for assessing installation applications: cost per plug, the number

of drivers each site would serve (and associated education and marketing reach of each installation), and the equitable distribution of plugs across each service territory. The Joint Utilities also recommend additional consideration be given for sites that serve low- and moderate-income communities, workplaces where employers provide incentives for employee EV purchases, and workplaces where charging installations can support both fleet and personal vehicles.

#### Mirabito

Mirabito recommends that incentives should be biased toward DC Fast Charger installations, which it argues will be most needed to foster customer adoption of EVs.

#### NRDC-SC

NRDC-SC argues that the Make-Ready Program should complement existing programs, arguing that if lower incentive levels were in place previously (i.e., under a REV paradigm), those incentive levels should be increased to align with levels prescribed in this Make-Ready Program. Stations supported by existing programs should count toward the overall goals.

#### NYPTA

NYPTA supports providing financial incentives covering up to 90 percent of make-ready costs to accelerate EV charging infrastructure development.

#### Vrinda

Vrinda proposes an incentive sharing structure in which a station whose utilization exceeds ten percent of the projected assumptions would redeposit an amount equivalent to the difference between assumption and projection in a fund after the cost recovery period. This could be used to support future station develop and avoid the difficult prediction of utilization rates. Vrinda also argues that this solution would mitigate the possibility of windfall profits to stations that achieve utilization exceeding projections.

V. Incentive AdjustmentsAEEI-ACE

AEEI-ACE recommends that utilities be able to adjust the payment percentages and other program requirements prior to program review. AEEI-ACE also maintains that EV registrations and EV supply equipment deployments should be central to any examination of incentive step-downs, and cautions that, if the nascent EV charging market has not responded, a stepdown may not be warranted. AEEI-ACE advises that the Commission promote transparency in the evaluation process and timing of any potential step-downs to the developer community through a regularly updated dashboard or similar measure.

ATE

ATE does not oppose the concept of reviewing incentive levels later, but explains that market development is too premature to debate the process and nature of a step-down process. ATE contends that debating future incentives at this point could have a dampening effect on EV infrastructure investment. ATE notes that when it becomes appropriate to reduce incentive levels, there should be ample notice with perhaps several alternatives put forth, supported by data and experience from other forward-leaning jurisdictions.

DEC

DEC recommends that the Commission remain flexible to account for the effects of COVID-19, and if necessary, consider further modification of the per-plug incentive and Make-Ready Programs if EV market development is insufficient under the current schedule.

Enel X

Enel X recommends that incentive decreases should be infrequent, ideally occurring once at most during the five-year budget cycle to provide program certainty. Enel X does not anticipate sufficient changes in key indices over the five-year budget to justify more than one step-down. Enel X argues that the midpoint review of the program should include a review of

incentive levels that considers current empirical economic factors.

#### EVgo

EVgo advocates deferring incentive step-downs until program review takes place.

#### FreeWire

FreeWire urges a cautious approach to incentive decreases, noting that the Make-Ready Program should complement rather than replace current utility incentives. FreeWire argues that existing EV supply equipment incentive programs should integrate with the Whitepaper proposal to constitute a total cost of deployment comprising equipment, installations, and upgrades. FreeWire suggests the proportion of these constituent costs would vary between each project, allowing caps on total funding based on tiers (i.e., Level 2, 50 - 74 kW, 75 - 150 kW, etc.). It recommends that this approach would yield a greater EV supply equipment deployment across strategic locations. Rather than stepping down incentives, FreeWire encourages the Commission to consider mechanisms within the Make-Ready Program that could provide a portion of avoided infrastructure costs for deployments of advanced systems, like its "Boost Charger."

#### Greenlots

Greenlots asserts that the aggressive stepdown schedule and program model proposed is based on a perilously optimistic view of current market conditions and the associated need for utility investment. Greenlots remarks that the current Joint Utilities per-plug incentive offer for DC Fast Charger serves as a warning of the risks in designing stepdown mechanisms for nascent markets. It notes that DC Fast Charger deployment is extremely limited statewide and the current per-plug incentive step-down schedule outpaces the market, and warns that designing a new schedule with scant current evidence would harm the market. Greenlots currently opposes implementing stepdown mechanisms of any type, but expects that as EV deployment increases charging station economics will improve in line with policy expectations.



Greenlots observes that a stepdown mechanism could facilitate market transformation necessary for greater private sector economic confidence in charging station investment. It recommends using criteria of utilization data, EV ownership trends, and station availability, and notes that some installations may still require significant public support even when conditions at other sites indicate stepdown measures should be taken. Greenlots notes that more expensive stations will require more capital investment from site hosts, and cautions that decreasing incentives prematurely could threaten their development. Noting that charging stations (particularly DC Fast Charger) require lengthy project schedules, Greenlots recommends utilities finance projects through a reservation system to avoid depleting or altering fund availability prematurely. This could involve partial payments on an intermittent schedule, which might be helpful in the current economic environment in which many developers have limited liquidity.

#### Joint Utilities

The Joint Utilities state that a program that provides certainty is critical to fostering a positive business environment for EV market stakeholders, rather than a predetermined, regularly scheduled incentive step-down. The Joint Utilities claim that it would be appropriate to review the effectiveness of the Make-Ready Program incentives during the mid-term review. Such a review could lead to recommendations to decrease, increase, or make no changes to incentive levels. Furthermore, the Joint Utilities recommend that each utility should conduct regular and transparent evaluations of applicants, thereby obviating the need to provide additional notice of incentive reductions.

#### NYAPP

NYAPP asserts that incentive levels should only decline as penetration rates achieve milestones, and not be linked to specific dates due to the recent pandemic.

NYC

NYC observes that the rate of EV adoption is a key variable in determining a proper incentive level. NYC advises that any potential phase-down should consider the time it takes for a program of this magnitude to ramp up, and should also avoid stepping down levels at such a rapid pace that developers are unable to complete their projects within an allowed timeframe to be eligible for such incentives. NYC requests that stakeholders receive adequate notice of impending step-downs, and that the process should be fully transparent.

NRDC-SC

NRDC-SC cautions that initial assumptions concerning the rate of change in charging station economics may be misleading, and that it may be appropriate to decrease incentives at various times in different service territories based on the rate of EV deployment. NRDC-SC observes that several parties opine against a premature and prescriptive incentive reduction schedule, and agree with these other parties in deferring these actions until midterm review. However, NRDC-SC opposes use of EV deployment as a metric for devising a step-down schedule, recommending instead that station utilization is a more appropriate measure, particularly when assessed against the ratio of EV registrations to charging stations.

NYPA

NYPA argues that incentives should be reduced over time when specific milestones are met, specifically a utility-specific number of DC Fast Charger ports installed based on the National Renewable Energy Laboratory (NREL) Electric Vehicle Infrastructure Projection Tool Lite.

PIA

PIA states that considering the disruption to both EV sales and construction projects caused by the COVID-19 pandemic, the per-plug incentive level of 2019 should be maintained until at least mid-2021.

Tesla

Tesla argues that any potential step-downs in incentive levels should arise from the review process, and stakeholders should have an opportunity to comment. Further, Tesla states that if a step-down occurs, program applicants and charging developers should be provided at least 12 months' notice because of long lead times involved in developing charging locations.

VI. BundlingChargePoint

ChargePoint is concerned that bundling would inadvertently favor EV service providers over independent site hosts, who are generally unable to spread costs across multiple locations. ChargePoint suggests allowing site-specific capital cost variability that would alleviate these concerns.

EV Industry Coalition

The EV Industry Coalition insists that the bundling proposal is inconsistent with typical site development, and is concerned that its applicability and usefulness will be limited. It warns that aligning all milestones with bundling periods will be difficult, in part, due to varying funding streams.

Enel X

Enel X recommends that the Commission adopt an incentive for the Make-Ready Program that covers a given percentage of actual project costs, which would obviate the need to bundle DC Fast Charger project costs across a utility territory. The proposal to allow bundling of DC Fast Charger project costs could skew program participation to more sophisticated developers who are able to develop multiple sites to increase the coverage of the incentive. Enel X argues that developers installing a reduced number of charging ports per project could be penalized because per plug costs for such projects typically run higher than projects with a greater number of ports. Enel X also advises that cost containment could be encouraged through alternative methods such as determining a reasonable percentage of increased ratepayer costs

by netting societal costs and increased revenue, and by promoting advanced rates and smart charging options that incentivize the cost-effective grid integration of EV charging.

#### EVBox

EVBox cautions that Staff's bundling proposal favors owners and operators who own a network of multiple chargers across the State, and penalizes single site installers in high cost areas. EVBox recommends that utilities evaluate applications from site hosts for specific DC Fast Charger sites based on complete information including costs, geography, and availability of alternative sites, and potential customer traffic/site visibility.

#### FreeWire

FreeWire supports the bundling proposal, but recommends reducing the period in which all of the bundled chargers must be completed from 18 months to 12 months to encourage faster deployment.

#### Greenlots

Greenlots recommends that bundling remain an option for encouraging development of higher cost sites, but should not be the only mechanism for spurring build-out of these locations.

#### Joint Utilities

The Joint Utilities predict that the proposed bundling approach will be difficult to implement due to diverse locational and temporal eligibility requirements that could create administrative complexities that may impede infrastructure development. They recommend that projects that propose bundling at different locations include all relevant plugs in a single, filed application to allow comparisons against other applicants.

#### Tesla

Tesla appreciates the Whitepaper's novel design for developers to bundle project costs as part of the program. However, it acknowledges that administrative burdens may impede

implementation, and notes that the concept may not work for all charging business models.

## VII. Program Budgets

### ATE

ATE advocates the use of both the Electric Vehicle Infrastructure Projection Tool Lite from NREL, as well as estimates by NYPA and the Joint Utilities, which both have a thorough understanding of the distribution grid and other local needs and conditions. ATE recommends that a program management budget of 10 to 15 percent of the total budget, ideally in addition to funds already earmarked, is sufficient to accomplish program goals.

### ChargePoint

ChargePoint advocates revising program capital cost projections to reflect greater cost variability and inclusion in utility rate base. It states that indirect costs like overhead and allowance for funds used during construction are not included in the program's projected costs. ChargePoint contends that the assumptions on direct capital costs are significantly below market expectations. Regarding operating costs, ChargePoint warns against basing program requirements on station utilization assumptions because they may ignore direct and indirect revenue streams and value propositions of successful deployments. Noting that the Whitepaper assumes that a 4 x 50 kW DC Fast Charger configuration will average two to three sessions per port a day in the first year of the program, ChargePoint proposes a more conservative assumption of 0.5 to 1.5 sessions per day.

ChargePoint notes its agreement with other parties in favor of including a greater range of capital program costs. It reiterates its request that more conservative budget estimates be used (between 125 percent and 200 percent of the average capital cost per site), and adds that this is consistent with the Joint Utilities proposal.

DEC

DEC recommends distributing the proposed \$582 million in make-ready investments between investor-owned electric utilities based on projected Level 2 and DC Fast Charger needs, and progress toward overall goals in five and ten years.

Enel X

Enel X does not oppose combining existing make-ready utility budgets with the make-ready infrastructure budgets considered presently, assuming such budgets target the same market segments at issue.

EVgo

EVgo supports maintaining existing programs until allocated funds are exhausted.

EV Industry Coalition

The EV Industry Coalition is concerned about the validity of cost assumptions used to size program incentives on a per-site and overall basis, noting that development costs can be heterogeneous but are on average significantly higher, particularly downstate. The EV Industry Coalition warns that greater utility investment than proposed in the Whitepaper will be necessary to increase EV adoption.

Electrify America

Electrify America suggests that further economic assessment is required, and recommends sensitivity analysis modeling of utilization factors and policy effects on charger installation and operation costs. In particular, it urges an evaluation of the effects of utilities minimizing demand charges and fixed service costs, while allowing recovery of only marginal costs to serve without riders or other non-bypassable surcharges associated with historical infrastructure costs and unrelated programs. Doing so would help to determine if the Make-Ready Program combined with other EV incentive programs would result in an economically-sustainable construction and operation of EV stations in New York.

FreeWire

FreeWire requests that the Whitepaper proposal complement existing program budgets, and that EV supply equipment funding and permitting efforts be streamlined to accelerate deployment.

GMP

GMP contends that the forecast ratio between battery EVs and plug-in hybrid EVs overstates the percentage of plug-in hybrid EVs, and will result in misallocated ratepayer funds. An updated forecast will ensure more accurate long-term funding. GMP criticizes the Make-Ready Program for failing to determine which charger types most effectively foster EV adoption, and recommends a proposal to study the merits of Level 2 versus DC Fast Charger installations to accelerate market development. This would allow more cost-efficient program design, especially if a mechanism is developed to incorporate changing market conditions and forecasts, as GMP recommends.

Greenlots

Greenlots argues that EV make-ready investment is an obligatory utility service rather than a discretionary program model, stating that utilities have a requirement to serve new EV load as they would accommodate new residential or commercial customers. It urges the Commission to adopt mechanisms to offer reliable support for the deployment and hosting of this infrastructure. Greenlots recommends that as a fundamental utility service, the provision of make-ready EV infrastructure should be funded in utility rate cases rather than separate program filings, and suggests that coupling this regulatory strategy with programs that focus on managed charging would reduce a major barrier to widespread transportation electrification. This structure will provide assurance to developers that necessary funding will not be subject to regulatory delays or program budget constraints, as well as making programs more equitable and improving market certainty.

Greenlots submits that any approved program should supplement established programs, and that the Commission should encourage utilities to introduce new programs to better serve customers and all market segments. Rather than placing all

utility investments under a single program, Greenlots advocates a range of program designs to best facilitate private market competition and meet the various needs of all customers.

Greenlots concurs with several parties warning that the overall program budget is likely insufficient, adding that the total investment required to meet the State's transportation electrification goals exceeds the Whitepaper estimates. Greenlots advises that this deficiency requires Commission attention, and recommends additional utility programs to address these concerns by the end of 2020.

### Joint Utilities

The Joint Utilities recommend establishing incentives and budgets necessary to achieve state EV goals, and urges the Commission to consider the integration of demand-based delivery rate and time-varying supply charges to provide accurate price signals to EV customers. The Joint Utilities plan to integrate their existing make-ready programs with this new Make-Ready Program. For Con Edison, program funds authorized in its current rate plan will continue to be used incrementally or in combination with the Make-Ready Program to offset utility-side interconnections and EDF costs for both publicly-accessible and fleet DC Fast Chargers. The Joint Utilities recommend continuing the NYSERDA Charge Ready program for Level 2 plugs and the DC Fast Charger Per-Plug Incentive Program through the Make-Ready Program midpoint review.

### NYC

NYC recommends that utilities design make-ready programs based on existing programs and that any funding should be in addition to any funds already approved. However, NYC notes that authorizing excessive programmatic budgets will have significant effects on ratepayers, especially during uncertain economic conditions.

### NYPA

NYPA argues that the assumption that 75 percent of EV owners have sufficient home charging capability is misleading because of significant differences in charging conditions between urban, suburban, and rural residential areas. NYPA



contends that this creates problems for NREL's Electric Vehicle Infrastructure Projection Tool Lite, which is especially sensitive to data inputs, and using simple statewide averages can result in inaccurate estimates of necessary charging infrastructure. NYPA proposes that more refined, regional demographic information on residential charging be used in generating infrastructure estimates. NYPA also contends that estimates of the proportion of battery EVs to plug-in hybrid EVs are similarly inaccurate and suggests that the battery EV numbers should be increased. NYPA adds that modeling inputs should include vehicle miles traveled categorized by private vehicles versus ridesharing and taxi services.

#### PIA

PIA observes that Staff's estimates using the Electric Vehicle Infrastructure Projection Tool Lite from NREL may not accurately reflect a likely future vehicle mix that should determine charging investment. PIA suggests that Staff's allocation of \$431 million to make-ready for public Level 2 and \$151 million to public DC Fast Chargers are roughly the reverse of what would be an appropriate mix. PIA recommends that Staff redo this analysis using a more sophisticated tool, reflecting the geographic heterogeneity of EVs that cannot charge at home and reflecting a forward-looking vehicle mix. PIA supports plug-in hybrid EVs, but notes they require a significant investment of resources to enable them to operate entirely in all-electric mode. Therefore, forecast models using a small number of 100-mile battery EVs significantly increases the Direct Current Fast Charger estimate. PIA observes that changing the battery EV assumption to model all battery EVs with 250-mile ranges reduces by 55 percent the number of DC Fast Charger chargers required.

#### Tesla

Tesla contends that existing utility make-ready or line extension programs are more ambitious than the proposed Make-Ready Program, and should remain in place until fully subscribed or funds are exhausted before implementing a new program. However, Tesla argues that existing utility programs that provide less support than the proposed program should be

replaced by it. Tesla also recommends that other funding sources be investigated before moving ahead with a competitive procurement, such as grants from New York's share of the Volkswagen Appendix D funds.

#### VIII. Cost Recovery and Allocation

##### ATE

ATE supports the proposal to allocate program costs to all customer classes based on transmission and distribution revenues.

##### Electrify America

Electrify America supports allowing utilities to cover the cost of make-ready investments, and recover the costs of these necessary investments to support new DC Fast Charger infrastructure.

##### Enel X

Enel X agrees with a conventional cost-of-service ratemaking approach based on allocating program costs to customer classes according to transmission and distribution revenues.

##### EV Industry Coalition

The EV Industry Coalition encourages the Commission to provide guidance on transportation electrification policy for rate cases for the next three-to-five-year rate periods.

##### Clean Transportation Coalition

The Clean Transportation Coalition contends that a statewide program should be a foundation for all utilities to follow, with the option to extend further assistance according to the terms agreed upon in their own negotiated settlements in rate cases.

##### Multiple Intervenors

Multiple Intervenors allege that the proposed cost allocation is inequitable and should be modified. Multiple Intervenors claim that if the purpose of the program is to

develop publicly-accessible EV charging stations for mass-market customers, incentives for nonpublic chargers (e.g., employee charging stations) force large, nonresidential customers to subsidize benefits for which they should not be responsible.

Multiple Intervenors warn that most commenting parties accept the premise that electricity customers should fund not only the decarbonization of the generation sector, but also residential heating and transportation. They oppose the imposition of additional costs on customers to fund these initiatives and recommend that the Commission and Staff explore alternative funding sources (e.g., the transportation sector).

## IX. Performance-Based Regulation

### AEEI-ACE

AEEI-ACE is concerned with the proposal that utilities be expected to demonstrate enhanced resilience to receive performance incentives. AEEI-ACE is not confident that embedded cost-of-service incentives (i.e., bias toward capital) will work as effectively for EV charging infrastructure as compared to their use in energy efficiency and demand response programs, and recommends a cautious approach to performance incentive use. It suggests that it may be possible to promote both utility cost efficiency and individual charging station success through a single metric based on overall megawatt hour use for all stations supported through the program. Additionally, AEEI-ACE claims that 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.

### ATE

ATE suggests that station utilization is not an appropriate metric for performance incentives, as many consumers do not rely heavily on public station charging, and recommends instead using the number of electric vehicles in the market.

### EDF

EDF contends that utilities should be encouraged with incentives to provide customer benefits through actions they

might not otherwise pursue. These could include greater reliance on energy storage and renewable generation, decreasing infrastructure investments, and other cost reductions.

#### Enel X

Enel X opposes a Make-Ready Program earnings adjustment mechanism (EAM), but suggests the Commission could forbid utility ownership of customer-side make-ready infrastructure to encourage rapid and efficient EV supply equipment deployment.

#### EVgo

EVgo supports performance incentives for utilities based on metrics like customer satisfaction, application processing, and program participation.

#### FreeWire

FreeWire advocates shared performance incentives for utilities and technology providers for cost reductions achieved through use of novel technology products, if the comparative capital costs of the traditional charging equipment are higher. It also recommends that utility make-ready and equipment incentive expenses (total deployment costs) should be divided by the number of chargers to derive a cost-per-charger metric.

#### Greenlots

Greenlots argues against applying performance incentives to utilities for program features they do not control. Rather, if implemented, incentives should align with broad portfolio goals, as well as encourage programs most beneficial for their respective utility service territories. Any incentives should encourage broader EV supply equipment program effects including equitable access, and environmental, ratepayer, and system benefits. Greenlots also endorses consideration of program costs within the broader context of utility portfolios, arguing that an emphasis on reducing individual station costs could come at the expense of optimal siting. Instead, utilities should be encouraged to maximize deployment within established budgets using strategies to reduce infrastructure development.

### Joint Utilities

The Joint Utilities recommend developing performance incentives that align utility incentives with State policy in a way that fosters EV infrastructure deployment cost effectively and under budget. The Joint Utilities recommend that the Commission recognize differing conditions in utility service territories, and suggests six performance metric options that could be used to assess program implementation: number of Level 2 plugs, number of DC Fast Charger plugs, cost effectiveness of Level 2 plugs (either based on cost per installed power or cost per plug), cost-effectiveness of DC Fast Charger plugs (on a cost per installed power or cost per plug basis), total power enabled by Level 2 installations, and total power enabled by DC Fast Charger installations.

The Joint Utilities contend that these metrics would encourage cost-effective deployment while considering local market needs, demographics, vehicle mix, jurisdictional policies, and other factors that affect development. The Joint Utilities contend that past EAM development should inform the design of EV make-ready deployment incentives, incorporating program ramp-ups, actual installation costs, and market conditions like EV adoption rate and vehicle mix. The Joint Utilities cite support by several parties for their recommendation that performance incentives be used as an effective cost containment mechanism.

### The City of New York

The City of New York warns the Commission to avoid incentives that encourage utilities to pursue EV infrastructure deployment at cost-efficient but otherwise suboptimal locations, noting that electric system capacity is not the only important criterion in siting infrastructure.

### NYCP

NYCP agrees that utilities should be rewarded for implementing rate designs that encourage charging during off-peak times and provide sufficient customer education on time-of-use rates.

NRDC-SC

NRDC-SC proposes rewards for several utility actions, including station cost reductions, beneficial siting at locations avoided by the private market, off-peak charging motivated through price signals, EV rate design development for commercial and industrial customers, and low- and moderate-income and Environmental Justice community assistance. It argues that performance should be assessed according to the extent it supports the achievement of State policy goals.

Tesla

Tesla recommends utility performance incentives for program cost reductions, customer satisfaction, application processing times, participation, and performance relative to location budgets. Tesla also notes that utility involvement in siting can involve additional costs related to station redesign, permitting, and contract and easement renegotiation that can lead to project delay or abandonment.

X. ReportingAEEI-ACE

AEEI-ACE concurs with the proposal to require the quarterly and annual submission of reports and program overviews, but argues that that these should be filed by individual utilities and not the Joint Utilities. AEEI-ACE suggests that the individual utilities should develop a generic shared format for these documents.

ATE

ATE cautions that quarterly reporting may impose undue administrative burdens, and recommends full annual reports complemented by abridged semiannual reports in the first years of the program. Key criteria could include project milestones, charging session totals, power per session, and participation.

ChargePoint

ChargePoint argues that data reporting should support meaningful program evaluation, and recommends that the Commission amend proposed requirements to align with the dataset

proposed by the EV Industry Coalition, which it contends would provide detailed analysis, minimize compliance burdens, and ensure personal security protections.

#### EDF

EDF recommends annual load research reports from each investor-owned utility, encompassing total load, program investment, load coverage by rate, charging data by station type, as well as relevant pilot program descriptions and results.

#### Enel X

Enel X warns that data reporting requirements could constitute a significant administrative burden if undertaken at the proposed quarterly frequency, adding that a profusion of reporting would exceed the level of information needed to inform program design changes. Instead, it proposes limited quarterly reports that convey utilization statistics, charging session totals, total power dispensed, average power and duration per session, charger inactivity (as a percentage), and operating costs.

#### EVgo

EVgo supports simplified reporting requirements.

#### EV Industry Coalition

The EV Industry Coalition alleges that proposed data collection requirements are administratively burdensome, costly, and may discourage program participation. It argues that a more abridged dataset could achieve the same results and that much of the recommended information is already available through meter data. It recommends a narrower data collection effort limited to charging session counts, unique vehicle connections, power dispensed, average power dispensed per session, and average duration per session.

#### FreeWire

FreeWire recommends billed usage detail and operational costs (including demand charges) by station type and model.

Greenlots

Greenlots supports quarterly reporting by individual utilities using a shared general format, while acknowledging that new project information may be limited at this frequency because of extensive implementation times. It advocates greater detail in annual reports, requesting narrative accounts regarding process and experience that could inform policy changes before the midpoint review. Greenlots speculates that assessments by market segment would be especially valuable, and suggests that utilities could also report on rate and bill impacts of managed charging.

Joint Utilities

The Joint Utilities recommend detailed annual reporting instead of the quarterly requirements proposed by Staff, insisting that more frequent filings will impose significant burdens on utilities and stakeholder, especially at the beginning of the program. However, they propose monthly short-form reports as submitted now for community distributed generation projects, as well as filed letters to mark program achievement or spending highlights. The Joint Utilities also recommend developing a program website, and ratepayer funded third-party support in collecting and processing data, and requests use of program data for planning, assuming adequate privacy is ensured.

City of New York

The City of New York requests that quarterly and annual reports include charging station and plug locations to assess program performance regarding the equitable geographic siting of these facilities. It also recommends that added charging capacity per station be reported.

NRDC-SC

NRDC-SC supports data collection as a precondition for participation in transportation electrification programs, and making nonpriority data publicly available. It recommends collecting information regarding installation costs by site type, usage rates by site type and by charger type, charging load profiles, site host EV pricing plans (updated quarterly),



and installations costs (assuming site availability). NRDC-SC requests that the Commission ensure that sufficient data are collected to address key concerns such as the development of appropriate incentives, adequate geographic coverage, variety of site types, utilization, and pricing.

#### Tesla

Tesla is satisfied that the proposed data categories are adequate for utility reporting purposes, and supports the proposal by the Joint Utilities to adopt an annual reporting schedule. It also argues that utilities should justify the need for charging session data for distribution planning purposes before gaining access to this information. Tesla recommends that the Commission limit the data sharing requirements to categories that inform grid planning and general usage trends.

#### XI. Program Review

##### ATE

ATE contends that creating an advisory council for program review will be duplicative and unnecessary in view of extensive reporting and performance assessment requirements proposed in the Whitepaper. It also notes that Staff and the Commission can request additional information if necessary, using powers of oversight and investigation.

##### ChargePoint

ChargePoint supports regular program review with stakeholder participation, as well as a midpoint review that should take place before October 2023. It also recommends establishing a Program Advisory Council comprising all relevant stakeholders, that would meet quarterly to evaluate the program and its metrics and inform the Commission biannually. ChargePoint proposes delaying implementation of budgetary and programmatic controls until an initial biannual review.

##### Enel X North America

Enel X North America declares that the program would benefit from additional procedural discussions on relevant program design elements not discussed in the Whitepaper,

particularly the processing and distribution of incentives, use of budget allocations through 2025, allocation of developer caps, and electric vehicle service provider qualifications as eligible program vendors. It also seeks confirmation from the Commission that the midpoint review of the per-plug DC Fast Charger incentive program will be conducted as a holistic assessment.

#### EVgo

EVgo supports the annual review process proposed by Tesla to begin in January 2022.

#### EV Industry Coalition

The EV Industry Coalition suggests scheduling a programmatic review after 18 months of implementation, which should be focused on evaluating aggregate costs and program design elements that may require adjustments based on participation and other metrics.

#### Greenlots

Greenlots recommends quarterly stakeholder sessions to solicit developer opinions and review program progress. According to Greenlots, utilities should be able to make program adjustments based on stakeholder reactions without formal refiling requirements to facilitate more responsive implementation. Utilities should also be engaged in program design and deployment in collaboration with third parties, particularly in assessments or project costs and viability.

#### Joint Utilities

The Joint Utilities argue that creating an advisory council for program review will be duplicative and unnecessary in view of extensive reporting and performance assessment requirements proposed in the Whitepaper, and notes that Staff and the Commission can request additional information if necessary using powers of oversight and investigation.

#### Tesla

Tesla supports holding an annual program review process beginning in January 2022, and suggests it may be

beneficial for the Commission and utilities to host review sessions for interested stakeholders that coincide with quarterly program reports.

## XII. Capital Planning Process

### AEEI-ACE

AEEI-ACE endorses active stakeholder engagement, and recommends that each utility host sessions in development of distributed system implementation plans (DSIPs) to gather information and responses on handling the effects of EV adoption on distribution system planning.

### EDF

EDF suggests that fleet owners are better suited to informing projections of load growth resulting from medium- and heavy-duty EV use than developers, and recommends that utilities solicit their collaboration.

### Enel X

Enel X concurs that utilities should forecast EV charging scenarios in the capital planning process, including identification of customers likely to develop high-capacity charging requirements and appropriate outreach through marketing, education, and outreach efforts. It recommends that utilities should cultivate strong business practices for project initiation, interconnection, and upgrades, but cautions that upgrades should only be implemented assuming high-confidence commitments for new charging installations.

### EVgo

EVgo submits that the private market already has sophisticated mapping tools to inform station siting in locations that maximize utilization, and claims that it would take utilities years to develop similarly sufficient capabilities to compete with third-party providers. Instead, it argues that utilities should prioritize providing developers with tools to guide development (e.g., load capacity maps) to guide EV infrastructure deployment.

### EV Industry Coalition

The EV Industry Coalition argues that utilities should not dictate charging locations to third-party developers, suggesting instead that siting should result from collaboration. It acknowledges, however, that utilities can provide valuable information to EV infrastructure developers to inform the siting process

### FreeWire

FreeWire advises that developer input inform utility planning, along with data on EV sales and charging behavior. Developers should be regularly asked about current and future plans for transportation electrification.

### Joint Utilities

The Joint Utilities agree that the impacts of EVs and EV charging should be built into their capital forecasting process, but do not believe the details defined in the Whitepaper are needed to assess the impacts on the electric system. The Joint Utilities have been including the impact of EV load into their load forecast in their DSIPs, and state that each utility's own electric load forecast needs to reflect its unique distribution system feature and utility programs. The scenarios identified in the Whitepaper are too prescriptive for process improvements associated with forecasting and the development of system impacts and capital plans. The Joint Utilities recommend that utilities collaborate with developers and note that an open discussion will result in a more complete understanding of possible EV deployment scenarios to be incorporated in distribution planning. For this purpose, it suggests that program participants submit estimates to the utilities of new load generated by each project.

### Tesla

Tesla recommends that utilities survey EV charging developers on expansion plans and needs in order to inform long-range planning, and suggests that potential sites for medium- and heavy-duty fleet charging can be identified through existing diesel fleet locations and transportation hubs.

Vrinda

Vrinda advocates creating a planning advisory council that includes utility, Staff, developers, community representatives, and city planning and permitting office representatives. It states that this group should have oversight over the planning process.

XIII. Site SelectionATE

ATE agrees that the proposed process to identify suitable locations for charging can serve as useful guidance, but urges the Commission to permit flexibility and not force adherence to a rigid matrix.

ChargePoint

ChargePoint acknowledges that utilities should play a significant role in infrastructure deployment, but it is concerned with the proposal that utilities identify and select locations and site host participants. ChargePoint argues that this process could exclude strategic charging locations, and burdens utilities with the daunting task of designing a statewide charging network without the valuable input of experienced private sector actors. Instead, ChargePoint recommends that the program allow a variety of participants, and avoid imposing eligibility criteria based on load capacity and site host business models.

Enel X

Enel X endorses free-market competition for the efficient location of EV charging installations, and adds that utilities should implement suitability criteria to promote specific circuits and customers for charger siting.

Joint Utilities

The Joint Utilities will consider load serving capacity and the strategic location when assessing a proposal. However, it argues that it should be up to charging station operators, site hosts, and developers to evaluate their own business opportunities and workable business cases. The Joint

Utilities propose to play an active role in linking EV charging developers with site hosts as part of the Make-Ready Program implementation.

#### NYCP

NYCP agrees that utilities should work with municipalities in siting charging stations, especially municipalities involved in the Climate Smart and Clean Energy Communities programs.

#### XIV. Load-Serving Capacity Maps

##### City of Albany

City of Albany requests assessments of power grid capacity in areas under consideration for DC Fast Charger installations, to avoid imposing constraints on existing infrastructure that would limit future development.

##### EDF

EDF recommends that capacity maps include EV load forecasts and planned capacity upgrades.

##### Enel X

Enel X contends that tools like load serving capacity maps can convey adequate information to developers without increasing the planning role of utilities, adding that the competitive market should guide development without distracting utilities from foundational activities with burdensome analytical requests.

##### FreeWire

FreeWire states that utility development of load serving capacity maps produced by the utilities by the end of 2020 is reasonable.

##### Joint Utilities

The Joint Utilities agree that load serving maps are useful for developers, and states their intention to develop and submit these on each utility system data portal. The Joint Utilities recommend that use cases and project implementation

plans should be developed in the EVSE Readiness Technical or Information Sharing Working Groups.

#### NYC

NYC recommends that load-serving capacity maps should be made available to developers as soon as possible.

#### NYPA

NYPA agrees with the development and publication of load serving capacity maps. NYPA proposes that the utilities should be required, at minimum, to provide the voltage of each circuit, peak theoretical summer amperage, actual summer amperage over the past five years, and the net kilovolt amps or kW that can be connected to that circuit data.

### XV. Strategic Locations

#### ChargePoint

ChargePoint advises the Joint Utilities to set a minimum power threshold for Regional Economic Development Council (Regional EDC) deployment, warning that an arbitrarily high level will increase capital and operating costs and provide a materially different charging experience.

#### DEC

DEC supports the recommendation to locate 28,150 kW DC Fast Chargers within upstate economic development regions.

#### Enel X

Enel X recommends that utilities that serve upstate Regional EDCs should administer the competitive process according to consistent guidelines established by Staff. Enel X agrees that the Commission has a high-level policy role in guiding development in disadvantaged communities and REDCs on the condition that such projects are eligible for greater incentives. Absent that, Enel X supports free-market competition for the efficient location of EV charging installations, and adds that utilities should implement suitability criteria to promote specific circuits and customers for charger siting. Enel X advises that the local electricity

utility should develop broad geographic guidelines for the Regional EDC to ensure appropriate site dispersal and then allow free-market competition to select host sites and projects in each zone.

#### EVgo

EVgo recommends further assessment of the necessity of solicitations for each Regional EDC.

#### FreeWire

FreeWire argues that any competitive process be streamlined through the Regional EDC application gateway, and recommends a rolling process for qualifying eligible equipment. It suggests that in place of a competitive solicitation, funding could be administered through vouchers or rebates, with equipment qualified through a registration process with a funding cap. FreeWire predicts this would foster faster deployment and reduce sales impediments.

#### Greenlots

Greenlots agrees with the Whitepaper assessment that developing EV charging infrastructure in a comprehensive manner is critical, even in areas with limited EV adoption. To address the challenges of EV charging deployment in rural areas, Greenlots posits that flexibility in program design provides a better balance between cost containment concerns and equitable and sufficient infrastructure deployment. Greenlots is concerned that a procurement process with overly prescriptive site locations and private market ownership requirements will delay much-needed infrastructure deployment, citing impediments caused by similar conditions in New Hampshire and Vermont.

Greenlots encourages the Commission to allow utilities to explore alternative program structures in Regional EDCs such as direct utility ownership, which may simplify and expedite the process, particularly when a single utility can plan deployment across several Regional EDCs. A direct ownership model would also address cost concerns, allowing utilities to make bulk purchases and capitalize on replicable site designs at many locations.



Joint Utilities

The Joint Utilities state that each utility that provides service in an Regional EDC will work together to structure similar procurements in the program's first year. It recommends several clarifications and modifications to enhance the Regional EDC proposal. First, they recommend that the utilities solicit bids on a dollar per-plug basis for at least 16 plugs for each Regional EDC. The utilities will divide the plug total by Regional EDC according to customer counts in each Regional EDC with appropriate rounding. The Joint Utilities also propose bid restrictions to allow a minimum of two and maximum of six chargers per site. This competitive procurement should be funded in addition to the overall program budget. The utilities will collaborate to determine the lowest cost mix for at least 16 DC Fast Charger plugs per Regional EDC and the minimum power charging rate should be consistent with the recent Commission decisions in this proceeding on the DC Fast Charger incentive program.

The Joint Utilities stress that collaboration with NYSERDA and NYPA is required in handling DC Fast Charger sites in Regional EDCs. It predicts that a competitive procurement for DC Fast Chargers in seven upstate Regional EDCs could have merit, but suggests NYSERDA assume the lead role to avoid conflicts with current NYSERDA procurement efforts. To this end, the Joint Utilities endorse the allocation and use by NYSERDA of \$5 million of previously collected, unallocated ratepayer funds.

NYC

NYC suggests that the Regional EDC approach is too broad to appropriately incentivize EV supply equipment deployment where it is most needed. It notes per-capita disparities between charger access and EV registrations by Regional EDC, and recommends that a more geographically refined county-based assessment of allocations based on vehicle registrations and density would be more appropriate. NYC also acknowledges that ensuring equitable geographic distribution of chargers in its jurisdiction is difficult, noting the disproportionate deployment of EV supply equipment deployed in

Manhattan. NYC contends that its proposed county allocation approach would address needs in communities across the state.

#### NRDC-SC

NRDC-SC recommends locating upstate DC Fast Charger installations according to expected trip types for an area. In rural areas, local drivers are likely to rely on home charging and therefore fast chargers should be located along major highway corridors. In areas without sufficient home charging access, chargers should be sited to support intra-urban travel. NRDC-SC recommends use of the MJ Bradley EV Infrastructure Location Identification tool to identify locations for DC Fast Charger station sites according to trip distribution, trip generation, and other transportation planning characteristics.

#### NYPA

NYPA argues that developers should be responsible for siting EV infrastructure development at strategic locations, and notes that these efforts should be closely coordinated with existing or planned stations to avoid undue clustering. Furthermore, NYPA requests that the Commission align EV infrastructure development in strategic locations with plans to install ten or more fast-charging sites in each Regional EDC by the end of 2022.

#### PIA

PIA notes that network value is determined by the comprehensive coverage it provides. It notes that drivers may not frequently travel to rural areas but will consider that capability when purchasing an automobile, and base decisions to buy an EV on the expectation of adequate charger network coverage statewide. Accordingly, PIA encourages grants to support installations in more remote locations, noting that their actual utilization fails to represent the entirety of their value.

#### Tesla

Tesla suggests that the Regional EDC competitive solicitation could be designed to request proposals for specific

and discrete areas in each region (e.g., within two miles of the New York State Thruway between mile markers 350 and 410).

XVI. Resiliency and Storm Hardening

AEEI-ACE

AEEI-ACE warns against expecting charging infrastructure to perform functions for which they are not designed. It predicts that unwarranted resilience requirements for these installations will only exacerbate economic challenges facing the industry and potentially stall market acceleration. However, AEEI-ACE recommends that pending further market maturation, overall network resilience should be assessed for emergency preparedness and evacuation feasibility.

ATE

ATE concurs that an emphasis on resilience will contribute to regulatory barriers already confronting EV supply equipment deployment, noting that various electrical and building codes already exist to ensure resilience.

Bloom Energy

Bloom Energy recommends that resilience be considered during the earliest stages of EVSE construction to avoid social and economic risks. Noting that over 90 percent of electricity service loss is caused by distribution failure, it recommends developing a charging network that avoids complete reliance on the distribution grid, perhaps employing onsite microgrids of distributed non-combustion direct current generation that might be particularly useful at bus and other fleet depots. Besides mitigating distribution-related outage risks, microgrids could help avoid peak system demand charges, avoid power inversion and line losses, and obviate or defer capital investment in transmission and distribution networks. Bloom Energy adds that new EV infrastructure be backed by independent systems for resilience.

EDF

EDF notes that EVs with vehicle-to-grid capability can function as grid assets by providing emergency power during

outages, citing recent implementation at Los Angeles Air Force Base. It recommends a local approach to EV supply equipment resilience, remarking that communities will best understand pertinent risks and needs.

#### FreeWire

FreeWire contends that battery-integrated charging systems provide inherent resilience during power outages. It approves of resilience considerations for EV infrastructure development and endorses recommendation in the DEC Draft New York State Flood Risk Management Guidance for Implementation of Community Risk and Resiliency Act.

#### Greenlots

Greenlots predicts that managed charging integrated with DER can forestall development of additional capacity, and recommends that utilities develop pilot resilience projects that investigate this combination. It suggests that a comprehensive strategy that complements charging infrastructure with distributed generation and storage can ensure available charging during emergencies and foster EV adoption. However, Greenlots warns against overly-prescriptive site selection and construction requirements, and recommends coordination with local jurisdictions to optimize permitting processes for expedited development.

#### Joint Utilities

The Joint Utilities recommend that EV developers comply with applicable electric codes and other resilience requirements, and suggest that flood vulnerability and other climate-related risks be considered as a program application criterion.

#### NYC

NYC notes the importance of flood risk in siting charging infrastructure, and advocates identification of existing and future risks to infrastructure in vulnerable areas. Developers should determine flood risk according to Federal Emergency Management Agency flood insurance products and 2050 floodplain projections where available and take appropriate

floodproofing measures. NYC recommends that siting costs related to flood risk assessment should be covered by the Make-Ready Program, and developers should cover costs of flood protection for customer-side infrastructure not otherwise covered by the Program.

### Tesla

Tesla maintains that resilience should not be a consideration in program eligibility, noting that such review is already included in local planning, building, and electrical code evaluation and permitting.

## XVII. Outreach and Education

### AEEI-ACE

AEEI-ACE argues that it is in the interest of all ratepayers for utilities to take advantage of existing relationships to educate customers on EV and EV infrastructure options. AEEI-ACE recommends that utilities improve access to this information, and submits that utility EV programs include customer education and outreach efforts funded through rates.

### ATE

ATE stresses that education and outreach are essential for widespread transportation electrification, and utilities have a vital role to play in these efforts, especially considering their existing relationships with customers and ongoing role providing information on other advanced energy programs. ATE advises that the Commission allow the utilities to propose reasonable budgets for these efforts to be funded through rates.

### GECA

GECA agrees that EV-related outreach and education should be ratepayer-funded initiatives. It cites a substantial degree of consumer misinformation and confusion regarding EV market issues, and alleges that the automobile industry and dealers are doing an unsatisfactory job educating customers. To address these deficiencies, GECA requests a well-funded EV education program supported with public money and administered

by a State agency. It strongly supports state-level consumer rebates for EVs but argues that allocating additional funds for consumer education will generate a strong return on investment, and adds that it is relatively easy and cost-effective for utilities to combine existing EV outreach and education with additional information on charging infrastructure and off-peak charging incentives.

#### Greenlots

Greenlots encourages the Commission to bolster expectations for outreach and education to ensure that utilities use existing relationships with ratepayers to engage not only with current EV owners, but all New York ratepayers to further drive adoption. Greenlots alleges that insufficient customer awareness is the most significant barrier to EV adoption. It claims that relying on stakeholder funds alone for outreach will considerably inhibit the scale at which these activities will be conducted most effectively. It urges meaningful and comprehensive customer outreach to complement a highly visible and widely available EV infrastructure program as a means to foster adoption.

#### Joint Utilities

The Joint Utilities contend that the Whitepaper proposal is inconsistent with the cost recovery treatment of outreach and education expenses, and is similarly at odds with the economic signals generated by the outcome-based beneficial EAM mechanisms approved and in place for Con Edison, National Grid, and Orange and Rockland Utilities.

#### NYCP

NYCP urges the Commission to prioritize equity and education in the development of the Make-Ready Program, and offers to work with Staff on a public engagement plan to work with a variety of stakeholders to EV adoption and infrastructure. Furthermore, NYCP supports targeted education and outreach to non-EV-owners to encourage future EV adoption. It calls for substantial investment in public education programs about EVs, and suggests that utilities work with community organizations to educate customers. NYCP encourages the

Commission to direct utilities to educate their customers about beneficial rate designs, charging station locations, opportunities to buy home charging equipment, and consider offering rebates for these to encourage adoption.

#### PIA

PIA agrees that outreach and education to stimulate EV sales should be ratepayer-funded initiatives. It notes that utilities have an extensive record of encouraging technology adoption, and are similarly well-suited to conducting customer education on rate design. PIA is hopeful that there may be outreach and education opportunities that are ratepayer-funded and carried out by third parties.

#### Vrinda

Vrinda argues that utilities can be the key matchmakers between EV station developers and station hosts, and therefore should be leading in this effort utilizing ratepayer funding to do so.

#### ZappyRide

ZappyRide advocates a sustained, utility-centered approach to EV outreach and education to meet policy goals, and adds that ratepayer funding is the most effective approach to ensure the success of these efforts Statewide.

### XVIII. Interconnection

#### AEEI-ACE

AEEI-ACE recommends clarity and transparency, dedicated utility staff, and an expedited review process as interconnection improvements.

#### Electrify America

Electrify America requests that the Commission define and enforce rules on expedited interconnection for EV charging infrastructure and associated energy storage, citing interconnection costs and delays as significant barriers to charging station deployment.

EV Connect

EV Connect supports the standardization of the EV infrastructure interconnection process to facilitate deployment speed and efficiency. It proposes that EV infrastructure be deployed, operated and managed in a uniform manner, particularly as it relates to high-speed EV charging.

FreeWire

FreeWire recommends that the Commission consider greater flexibility on the proportion of various connectors at each charging location.

Konrad

Konrad advises allowing electric utilities to rate-base interconnection investments to align utility incentives with increased ESVE&I deployment. Konrad requests clarity regarding rate-basing of these investments to minimize utility uncertainty about the program, which could prevent utilities from prioritizing interconnections.

NYPA

NYPA suggests that the Commission should require utilities to establish a single point of contact for EV developers, and conduct desktop evaluations for EV infrastructure interconnection requests.

XIX. Application PortalATE

ATE questions the cost-effectiveness of an interconnection online application portal, adding that it does not consider differences in service applications between utilities, and does not consider load-serving capacity maps essential for EV charging. It contends that developers should be able to identify basic infrastructural requirements, and proposes that the State's distribution system is capable of supporting EV supply equipment without costly upgrades.



EDF

EDF argues for the expeditious availability of an interconnection online application portal, noting that its absence will impede the ability of stakeholders to evaluate proposals.

Enel X

Enel X defers to the Joint Utilities for estimating time necessary to develop interconnection resources, but assumes that the interconnection online application portal will be simpler to implement than hosting capacity maps.

EV Industry Coalition

The EV Industry Coalition recommends an online application for developers and site hosts, and supports streamlined timelines, ideally standardized across service territories, and notes that a 90-business day assessment has been feasible in several jurisdictions. It suggests that utilities provide constructive comments to developers, even for nonviable sites. The EV Industry Coalition also proposes that information on rejected applications be assessed at the midpoint review to address concerns about potentially overburdensome criteria. Additionally, utilities can facilitate network planning of electric vehicle service providers by providing transparent interconnection cost estimates, including the costs incurred by internal resources and costs covered by distribution allowances.

FreeWire

FreeWire states that utility development of an interconnection online application portal by the end of 2020 is reasonable.

Greenlots

Greenlots contends that an efficient interconnection process can promote cost reductions, and urges the Commission to consider other methods for expediting review. It recommends that utilities prioritize frequent communication with stakeholders on developing interfaces and portals, including but not limited to quarterly meetings.

Joint Utilities

The Joint Utilities note that existing procedures should be capable of addressing new load associated with charging infrastructure development, and suggests a portal is unnecessary as each utility still bears responsibility for developing hosting capacity and sharing relevant load-serving data. It recommends that following a Commission Order on EV infrastructure development, utilities either develop EV hosting capacity maps or add substation-level load hosting capacity to existing maps made available on utility system data portals. The Joint Utilities also suggests that the EV Readiness Stakeholder or Information-Sharing Working Group collaboratively develop schedules for further refinement of relevant information.

NYC

NYC recommends that an interconnection online application portal be made available to developers as soon as possible.

NYPA

NYPA endorses a standardized review process with an interconnection online application portal to streamline the interconnection process and capture efficiencies for EV infrastructure interconnections. Further, utilities should be directed to implement an interconnection online application portal for EV infrastructure interconnection applications as soon as possible.

Vrinda

Vrinda submits that utilities should create or enhance an interconnection portal to view the interconnection queue of EV supply equipment projects, provide hosting capacity maps and suggested locations of EV supply equipment infrastructure, publish the status of the application for interconnection in more granular steps to allow transparency, and to establish a dispute resolution mechanism to address developer and utility concerns about a specific site development.

XX. Managed Charging and Vehicle-to-GridAEEI-ACE

AEEI-ACE recognizes that flexible EV charging can provide valuable load relief when deployed correctly through managed charging, or conversely, be used to increase consumption on demand when excessive generation results in low wholesale prices (thereby also preventing renewable generation curtailments). With a significant extensive charger network and widespread EV adoption, EVs could be deployed as non-wires alternative assets and be incorporated in distribution planning.

Bloom Energy

Bloom Energy suggests that direct current distributed resources like fuel cells, energy storage systems, and solar generation that are deployed in microgrid formats can support extremely fast charging systems.

FreeWire

FreeWire asserts that EV charging can be coupled with energy storage to yield grid benefits, and argues that this combination is the best way to minimize grid impacts of EV adoption. Also, FreeWire states that the charger-to-grid paradigm may be more beneficial to overcome the inherent issues and conflicts that arise with vehicle-to-grid issues. Furthermore, if the Commission initiates EV rate reform efforts, FreeWire requests that the Commission investigate equitable inclusion of technology solutions like its proprietary Boost Charger system, which limits demand effects on ratepayers by throttling grid draw to 27 kW or less.

GMP

GMP recommends the provision of equivalent rebates for battery storage used to reduce or eliminate local infrastructure costs.

Greenlots

Greenlots propose that the utilities develop load management programs for ratepayer-funded charging infrastructure. It warns that unmanaged load contributions from

EV charging could amplify system peaks and generate local constraints according to the density of EV adoption. Greenlots argues that any authorized EV supply equipment program should ensure grid benefits through managed charging, citing a recent benefit-cost analysis by NYSERDA that predicted a near doubling of societal benefits in such a scenario.

Greenlots argues that smart, networked chargers capable of supporting load management, time-varying rates, and technology-enabled managed charging should be required for all ratepayer-funded make-ready infrastructure. It also advises that networks eligible for maximum incentives should be built according to independent open standards such as OCPP that can accommodate and integrate developing technologies that optimize infrastructural investment and minimize the risk of stranded assets. Greenlots endorses EV-charger communications through ISO 15118, the most widely adopted international standard.

Greenlots suggests that load management is the most important factor in developing at-scale charging programs for ratepayer benefit. It cites a study by M.J. Bradley & Associates that determined that the absence of managed charging would likely lead to significantly higher peak demands resulting in higher costs for ratepayers. Greenlots requests that the Commission reassess utility roles in deploying EV infrastructure considering drastic changes in market conditions to support a more viable and flexible functions.

### Joint Utilities

The Joint Utilities stress the importance of developing cost-reflective rate design for EVs and EV supply equipment that encourages optimal charging to improve system efficiency. In the future, EVs and EV supply equipment may provide significant load control or grid injection capabilities, the current state of the market and vehicle-to-grid technology precludes scaling of these use cases. However, the Joint Utilities note current investigations of such potential benefits, including the Con Edison vehicle-to-grid bus pilot and the National Grid bus partnership in Massachusetts. The Joint Utilities propose that cost-based EV rates will encourage future software system deployment, technology improvements, and managed charging, adding that advanced metering or other time-sensitive

metering will be critical in enabling smart charging, especially with third-party collaboration. The Joint Utilities also recommend that utilities should design managed programs for Level 2 chargers.

The Joint Utilities acknowledge that managed charging is an important consideration for fleets or concentrated workplace charging. The Joint Utilities submit that properly designed cost-reflective rates such as Standby Rates offer the appropriate incentives for managed charging by customers.

#### NRDC-SC

NRDC-SC notes that EVs generate greater utility revenue than incurred costs (even on off-peak charging) and managed charge, which can be facilitated through rate design or direct management, and can be operated to coincide beneficially with intermittent renewable generation. It recommends requiring utilities to consider load management and sustainable rate design practices now rather than at waiting for a midpoint review. NRDC-SC suggests that utilities should require inexpensive smart charging stations or more costly second meters at each station. NRDC-SC adds that not all use cases require a smart charging station.

#### NYPA

NYPA submits that pairing energy storage with EV infrastructure for fleet charging is not feasible for most transit agencies in the State given the economic and technical challenges of fleet electrification.

### XXI. Metering & Technology Standards

#### AEEI-ACE

AEEI-ACE advises that the Commission establish a stakeholder working group that can evaluate industry standards for possible Commission adoption. AEEI-ACE does not recommend that such a working group develop new standards, citing the existence of sufficient standards and experienced industry standards organization. AEEI-ACE supports smart charging efforts to address demand increases and agrees with Staff in opposing separate submeter requirement, noting the adequacy of

built-in vehicle or charging station for this function. It adds that interoperability standards support fair and equitable access.

#### ATE

ATE strongly supports open protocols to reduce costs, increase options, mitigate stranded asset risks, increase security, and improve customer experience. ATE maintains that any EV infrastructure connected to utility-supported make-ready infrastructure must be interoperable and compliant with OCPP 1.6, and recommends requirements for open design and architecture for vendors bidding on make-ready interconnection hardware. ATE also recommends that the proposed technical standards stakeholder group include experts from all sectors and be given a defined mission and schedule. ATE endorses adding OCPP to the list of relevant standards, and notes that it is relatively inexpensive and easy to obtain Open Charge Alliance certification. Finally, ATE cautions that a firm with dominant market share today can restrict new competitors by locking its existing non-OCPP hardware, much of which was paid for with federal, state, local, or utility funds, to its own network.

#### ChargePoint

ChargePoint supports Staff's proposal of a working group to develop standards and protocols for adopting baseline standards for infrastructure programs. ChargePoint agrees with AEEI-ACE and Enel X that the proposed working group is the appropriate venue for evaluating industry standards before adopting baselines for infrastructure programs and adds that it is a strong supporter of open protocols. ChargePoint warns that the recommendation by NRDC-SC proposing active use of open access standards by all EV supply equipment would create implementation problems.

#### EDF

EDF contends that New York can benefit from existing best practices, including OCPP requirements for Open Automated Demand Response (Open ADR) and credit card readers at publicly-accessible stations. EDF suggests establishing a standing

stakeholder working group comprising participants familiar with emerging practices in other jurisdictions.

#### Enel X

Enel X agrees that interoperability is a key concern for deployment of ratepayer-funded EV charging infrastructure, and supports open, standards-based communication protocols.

#### EVBox

EVBox strongly supports an industry-wide adoption of open standards and communication protocols, and supports timing regulation to correspond with market adoption.

#### FreeWire

FreeWire recommends further consideration of the requirement for OpenADR integration once a path to certification emerges. It also supports (International Electric Code (IEC) Standard 15118 for vehicle-to-charger communications.

#### Greenlots

Greenlots encourages the Commission to require Open Charge Point Protocol (OCPP) certification for any project receiving full incentives. Greenlots strongly supports requiring third-party OCPP certification as a standardized and verifiable mechanism for ensuring the development of a flexible charging statewide system that can be upgraded to accommodate new market participants, and evolving user needs, and technologies. This mechanism should encourage competition and permit compliant charging stations to connect to open networks. Greenlots notes that OCPP has also evolved to support new technologies and use cases and expects this to continue. Greenlots recommends that the Commission include requirements for the use of open standards in any order relating to EV supply equipment development.

#### Joint Utilities

The Joint Utilities acknowledge that protocols such as OpenADR provide opportunities to standardize and streamline operations involving different stakeholders and technology providers, but warn of risks of using specific technologies at

this early stage. They recommend that the EV Technology Standards working group address this issue.

#### NYC

NYC recommends that the Make-Ready Program be adaptable to accommodate new standards from industry interest and argues that any interim program evaluation should review recent EV technology standards and make any necessary efforts to adopt these. The Make-Ready Program should also be able to accommodate nonstandard EV supply equipment to pilot new EV technologies.

#### NRDC-SC

NRDC-SC recommends that open-access communication standards be used for qualifying EV supply equipment and that these standards should be installed and used on all EV supply equipment at deployment.

#### Tesla

Tesla advises that the Make-Ready Program should focus on establishing electricity service in a nondiscriminatory fashion instead of imposing interoperability requirements now. It argues that following customer preferences and new technologies during program evaluations are enough to maintain currency.

### XXII. Utility Ownership

#### AEEI-ACE

AEEI-ACE concurs on allowing utility possession of utility-side infrastructure, but also recognizes potential scenarios in which customer-side utility ownership would provide value, particularly before market failures are resolved. It urges the Commission to remain accommodating on this issue and continue to evaluate market failures that may justify utility ownership.

#### ATE

ATE supports the case for utility ownership of customer-side infrastructure and recommends that utilities be



allowed to propose ownership for certain use cases. ATE acknowledges that utility ownership could help avoid vendor lock-in and achieve full-scale deployment more quickly. It also claims that since the program is relying on ratepayer funds, utilities should retain some control in ensuring continuous and reliable utilization. ATE maintains that market conditions and the regulatory environment have changed significantly since the Commission last ruled on utility ownership, adding that its decision was rooted in concerns over stifling market participation but in seven years, this caution has only produced an underdeveloped EV infrastructure market. ATE also notes that the precedent for prohibition of utility ownership in California cited by the Commission in 2013 has since reversed, resulting in improved market development.

#### Auto Innovators

Auto Innovators cautions that it is too early in market development to determine an exact role for utilities. It acknowledges that there may be conditions in which a utility ownership model can overcome market barriers efficiently and requests an adaptable approach in assessing possible utility roles.

#### ChargePoint

ChargePoint states that utility ownership of EV infrastructure would require the establishment of consistent review standards that consider market competition, and notes that this process would require additional stakeholder participation.

#### EV Industry Coalition

The EV Industry Coalition suggests that distribution system impediments to infrastructure development can be overcome more rapidly with utility investment and ownership.

#### Electrify America

Electrify America supports the proposed approach of customer-side infrastructure, warning that allowing utility ownership could create challenges to site hosts and lease terms.

Enel X

Enel X does not oppose utility ownership in principle, but it argues that utility ownership is inconsistent with the exclusion of municipal and cooperative utilities and non-jurisdictional public agencies like the NYPA from using ratepayer funds intended to foster free market development.

EVBox

EVBox argues that utility ownership may be beneficial in neglected rural areas, and stresses that public utilities and private sector operators need to coexist in a maturing market.

Greenlots

Greenlots criticizes the alleged implications of utility ownership in the proposal for several reasons. It argues that the proposed approach undervalues benefits and mischaracterizes costs based on a limited view of infrastructure deployment models. Greenlots argues that utility ownership can provide broad benefits, especially in prioritizing faster, more efficient deployment and private sector support during deteriorating economic conditions. It requests that the Commission refrain from prematurely invalidating potentially beneficial ownership models and program designs that may bolster market development and states that the Commission should outline processes by which utilities can propose additional programs to overcome particular market challenges.

Greenlots adds that utility ownership has been proven effective in facilitating charger deployment in more difficult segments and advises the Commission not to overlook this valid approach at this early stage. As an example, Greenlots cites a pilot by San Diego Gas and Electric named Power Your Drive, which was designed around turnkey utility provision and ownership of infrastructure, which exceeded its goal to locate stations in disadvantaged communities with over 30 percent of pilot sites located in these areas and nearly 40 percent at multi-unit dwellings.

Joint Utilities

The Joint Utilities generally agree with the Whitepaper recommendation that utilities should be primarily

occupied with the provision of make-ready infrastructure in support of third-party developers. However, they request that the Commission not prohibit utility ownership outright, particularly given current public health and economic concerns related to the COVID-19 pandemic. They note that utility ownership may be especially helpful in addressing market failures related to EV infrastructure deployment serving low- and moderate-income customers. The Joint Utilities recommend that utility ownership models should allow utilities to recover costs over an appropriate depreciation schedule.

#### NYCP

NYCP acknowledges that there may be some benefits to utility ownership, but suggests deferring a decision on this issue. It maintains that EV infrastructure is a public good and government entities should not arbitrarily be disqualified from developing it.

#### XXIII. NYPA and Other Participants

##### ATE

ATE argues that NYPA should be eligible for make-ready incentives, noting that it uses in-state vendors and labor and provides important economic and job training development. ATE claims that once stations are operation, NYPA will likely establish charging prices that reflect current market conditions and ensure price competitiveness with other charging service providers, and with conventional fossil-based transportation fuels.

##### CCCN

CCCN contends that NYPA participation would benefit ratepayers and support program implementation. It notes that many areas of the state are underserved by publicly-accessible chargers and notes that NYPA is a trusted and qualified entity to foster EV adoption in developing charging sites with transparent pricing practices.

ChargePoint

ChargePoint requests clarification of the definition of “competitive third-party developers” of EV infrastructure, noting that it includes neither investor-owned nor public utilities that are capable of exercising market power. ChargePoint proposes that the proposed eligibility requirements be revised to allow participation by NYPA as a developer, conditioned on an adherence to technology-neutral specifications and the REV Framework Order and Operational Guidance.

City of Albany

The City of Albany agrees that NYPA makes a compelling argument for its program eligibility, and states that incentives should be available to public agencies as well as established market actors. The City of Albany argues that such eligibility would foster the development of EV infrastructure on publicly-owned properties.

DEC

DEC requests that eligibility of the Commission-approved programs be extended to DEC’s existing and proposed EV infrastructure programs. It notes that DEC, DPS, and the Joint Utilities should coordinate efforts to advance publicly-accessible charging while avoiding duplicative actions.

DOS

DOS notes that it is examining the feasibility of NYPA investment in DC Fast Charger stations in Downtown Revitalization Initiative (DRI) communities to assist potential EV customers concerned about charging access. DOS suggests that NYPA participation will facilitate equitable infrastructure development in these areas, especially where current economic conditions might otherwise preclude investment. DOS strongly supports NYPA access to make-ready program funds to support state transportation decarbonization efforts.

DOT

DOT supports the request to allow NYPA market participation, noting that the authority currently operates several programs that support DC Fast Charger development and

has stated it will refrain from building in areas with ongoing or committed private sector activities. DOT also points out that NYPA is committed to returning its network to private-sector control when economic conditions allow.

#### Electrify America

Electrify America supports program eligibility for participation by public entities.

#### Enel X

Enel X reiterates its position that access to ratepayer funds by municipal and cooperative utilities and non-jurisdictional public authorities is inconsistent with goals to foster free market development. Enel X requests that the Commission deny similar program eligibility requests by the NYPA and the NYAPP and affirm the role of ratepayer funding in stimulating private sector market development. Alternatively, Enel X suggests that these parties develop proposals that complement the Whitepaper proposal.

#### EV Connect

EV Connect strongly supports participation by NYPA and other public entities, maintaining that their eligibility will ensure deployment in underserved areas in an appropriate and nondiscriminatory fashion.

#### EVgo

EVgo argues that public power authorities should not be permitted to compete with the private sector and participate in the program. It alleges that allowing NYPA access to ratepayer funds to compete with the private sector violates the REV Framework Order, and would undermine fair and healthy market competition. EVgo acknowledges that NYPA may fulfill a role in developing infrastructure in rural, less-populated areas but any market participation should be conditioned on public hearings on the progress of the Evolve NY program and its market effects.

#### Greenlots

Greenlots contends that a variety of market actors and business model is necessary to achieve state goals and requests

that the Commission encourage participation by NYPA and other non-private sector actors.

#### Joint Utilities

The Joint Utilities consider NYPA an important EV infrastructure developer and recommends incentive eligibility, noting that any customers that receive incentives (including NYPA acting as a station owner and operator) should be allocated program costs through delivery rates.

#### Konrad

Konrad argues that market participation by NYPA and other government entities will benefit ratepayers and should be eligible for incentives.

#### Mirabito

Mirabito claims that NYPA plays an essential role working with critical private sector entities to advance electric transportation for the public and it applauds current work by NYPA in siting chargers as efficient and equitable.

#### NYAPP

NYAPP supports expanded eligibility for the program for not only NYAPP municipally and cooperatively-owned utility members, but also NYPA directly. NYAPP suggests that Staff and the Commission should coordinate with NYAPP members, NYPA, NYSERDA, DOT, and DEC to ensure holistic approaches to the charging infrastructure.

#### NYC

NYC requests that the Commission clarify that non-private sector entities, including municipal governments, are eligible to participate in the Make-Ready Program.

#### NYPA

NYPA argues that the exclusion of itself and other public entities is counterproductive to state sustainable transportation policies. NYPA notes that it uses competitive procurements to enlist private companies to build and maintain EV infrastructure, which is consistent with the stated program

objective of developing private market expertise. NYPA states that it participates in the market as an EV infrastructure developer for the public good and is willing to accept a long-term investment horizon across a statewide portfolio of sites, helping to build out a balanced portfolio of charging sites.

NYPA also maintains that predicating eligibility for the Make-Ready Program on a connection to surcharge contributions is not necessary where ratepayer collections are used to develop large-scale infrastructure projects for general public use and argues that this contravenes policy goals encouraging developers to enter the marketplace. It contends that there is no basis to distinguish NYPA from other EV infrastructure developers by requiring its customers to pay a surcharge to establish NYPA access to program funds and adds that it would not be participating as a load-serving entity on behalf of its customers. Furthermore, NYPA asserts that some of its customers are taxpayer-supported governmental entities that should not be subject to paying for this program twice.

NYPA submits that if the Commission approves NYPA participation as a developer on the condition that a related contribution to the surcharge that recovers program costs, the payments made by NYPA as a station owner should be considered sufficient. NYPA reiterates that its proposed program eligibility as a developer is separate and distinct from its commodity customers and its role as a load-serving entity.

NYPA addresses initial comments by ChargePoint that imply that NYPA will acquire or exercise market power as a station owner or selector of vendors. It states a commitment to own and operate stations it develops for a limited time only, before selling this infrastructure to private market actors when they become more attractive to private investment. NYPA contends that it is assuming a more significant market risk during this initial period of low utilization rates as EV adoption develops.

NYPA also counters that its efforts as an infrastructure owner are to stimulate competitive market development and states its commitment to fair and equitable cooperation with the EV industry in New York, citing its current portfolio of awarded contracts to many private sector vendors.

NYPA reiterates that its intention is not to acquire excessive market power.

NYPA accuses ChargePoint of unfairly equating its market role with similar participation by public utilities. NYPA objects to this characterization and notes that without a defined service territory or ownership of a distribution network, it possesses no alleged advantages in EV infrastructure market participation. It further notes that its investment outlays cannot be recovered through cost-based rates as its role as an infrastructure developer and a load-serving entity for commodity customers remain separate and distinct. NYPA argues that its stations will rely on market revenues and it anticipates recovering capital costs upon anticipated transfers to private sector ownership, and further notes that its revenue is supplied by generation and transmission operations, rather than taxpayer revenues.

Finally, NYPA asserts that it operates two infrastructure development models that are distinct from utility ownership cases. In one, NYPA invests capital to own charging equipment located on a public or private site host and establishes a commercial relationship to invest, build, own, and operate the facility. NYPA explains that its investments are subject to the same market risks that confront private sector developers and NYPA relies on site performance to cover operating costs, as do private sector developers. Under its second model, NYPA provides independent advisory services to customers that own and operate charging infrastructure, supplying guidance, procurement and construction support to the customer following a transparent and competitive procurement open to all prequalified vendors. NYPA claims that in assuming the same risks as other developers, it should be eligible for program participation and affirms its commitment to be subject to the same rules and requirements as other participants.

#### NYTA

NYTA urges the Commission to support the request by NYPA to participate in the program, arguing that this will encourage a faster and broader deployment of charging infrastructure statewide.



PIA

PIA supports program participation by NYPA and other public entities. It argues that as supplier of public power, NYPA should play a key role in developing EV infrastructure. Furthermore, PIA notes that municipalities are frequent leaders in installing EV charging infrastructure in their jurisdictions.

Tesla

Tesla advises that the assessments of current and future development by other charging developers such as NYPA are required.

XXIV. Underserved CommunitiesAEEI-ACE

AEEI-ACE supports increasing EV use by low- and moderate-income customers and encourages the Commission to allow utilities to develop separate program proposals to address the medium- and heavy-duty vehicle sectors expeditiously.

ATE

ATE cautions that there will not be a "one-size-fits-all" solution to serving disadvantaged communities. ATE recommends that Staff and the Joint Utilities identify best practices in serving these customers by engaging disadvantaged communities directly to learn their needs.

ChargePoint

ChargePoint recommends that the Commission authorize utilities to propose additional incentives to support EV supply equipment deployment at strategic locations and underserved communities. ChargePoint suggests that authorization for additional incentives may be granted temporarily and reassessed during review.

City of Albany

The City of Albany criticizes the proposed ten-mile radius requirement as too broad to isolate infrastructure development for disadvantaged residents in urban areas with abrupt geographical variation in socioeconomic status. The City

of Albany proposes including public transportation electrification in the program as a more beneficial approach.

#### Clean Transportation Coalition

The Clean Transportation Coalition urges more work to deliver benefits to all customers and low- and moderate-income customers in particular.

#### DEC

DEC generally supports the White Paper's proposed inclusion of DC Fast Chargers near environmental justice areas. DEC notes that the Clean Transportation New York mitigation plan prioritizes the use of New York's VW Settlement allocation to site light-duty Level 2 and DC Fast Chargers in or adjacent to DEC potential Environmental Justice areas (within 0.5 miles, according to current DEC criteria). DEC states that it recently completed an evaluation of Level 2 charger locations funded by the Charge Ready NY program and found that approximately 20 percent of Level 2 chargers are located within a half mile of a DEC PEJA. Because this frequency of Level 2 chargers near Environmental Justice areas was achieved without any incentive or program requirement, DEC recommends that the DPS consider reducing the proposed 10-mile radius of DC Fast Charger from an Environmental Justice area to five miles.

#### DOT

DOT supports suggestions by NYPA in proposing additional criteria to ensure that EV supply equipment benefits are realized by disadvantaged communities. DOT recommends station utilization designation according to DEC PEJA and NYSERDA low- and moderate-income definitions, and adding deployment of electric buses as another criterion for considering the effects of EVSE investment on these communities. DOT suggests the a 10-mile radius should be modified to more directly focus on the potential of the infrastructure to be used by or directly benefit residents of these communities. DOT acknowledges this approach will require greater involvement of the Commission but is likely to address the needs of disadvantaged communities more effectively. Lastly, DOT suggests that the program increase its investment goals to 30 or

40 percent to align with Climate Leadership and Community Protection Act (CLCPA) targets for clean energy investment.

#### Enel X

Enel X agrees with the proposal but requests clarification on whether the purpose of identifying "disadvantaged" or "environmental justice" communities is to target communities with low income levels, high proportions of renters, high pollution burdens, or some combination of these characteristics. Enel X agrees that providing greater incentives is appropriate in incentivizing DC Fast Charger development in disadvantaged communities but reiterates concerns that the proposed radius may inadvertently encourage EV supply equipment installation in adjacent communities.

#### EVgo

EVgo supports deploying chargers in low- and-moderate-income communities, and notes that more than 40 percent of EVgo's sites in California are in low-income communities.

#### FreeWire

FreeWire recommends additional incentives ranging from \$20,000 to \$30,000 to encourage DC Fast Charger deployments in disadvantaged communities. It also advocates the development of a platform similar to CalEnviroScreen, a mapping tool by the California Office of Environmental Health Hazard Assessment that identifies communities vulnerable to pollution.

#### Greenlots

Greenlots contends that charging infrastructure investment in disadvantaged communities can encourage transportation electrification in these areas but should not be conflated with the need for or promotion of a broad shift to single-passenger vehicles. Instead, chargers could better serve rideshare drivers and passengers in disadvantaged areas by being located there, rather than ten miles away or more.

Greenlots warns that establishing minimum requirements for numbers of chargers in disadvantaged communities, rather than a wide radius, may result in less station development in these smaller areas. It suggests that rather than drawing a

wider circle that will diffuse the beneficial impacts for these communities, utilities should be able to offer more turnkey solutions that simplify charger installation and access for developers.

Greenlots maintains that efforts should focus on medium- and heavy-duty EVs for all communities - including Environmental Justice and low- and moderate-income communities - to benefit from transportation electrification. In addition to disadvantaged communities relying on transit vehicles, they also disproportionately endure transportation-related air pollution attributed to port activities and the trucking industry. Greenlots urges the Commission to direct utilities to propose programs that address the medium- and heavy-duty EV sector. Greenlots also states that utilities need flexibility to meet the needs of low- and moderate-income and Environmental Justice communities and suggests that the Commission establish nonprescriptive guidance and targets for serving these customer classes.

#### Joint Utilities

Joint Utilities state that the Commission should use existing definitions for low- and moderate-income and Environmental Justice communities such as the DEC list of proposed Environmental Justice communities organized by county. Joint Utilities suggests that utilities should target a certain percentage (5 or 10 percent) of total installations for siting in low- and moderate-income communities.

#### MTA

MTA disagrees with the proposal that 20 percent of the program budget for publicly-accessible DC Fast Charger make-ready infrastructure go to stations within ten miles of disadvantaged communities, arguing that this is not an appropriate or effective plan to serve EV needs in these areas. MTA alleges that the proposal ignores population density and demographic distribution characteristics particular to New York City, where areas exhibiting extreme socioeconomic differences can be in proximity (under 10 miles). It also observes that many disadvantaged communities can be compact and that many low- and moderate-income residents do not drive and rely on public

transportation. Instead, the MTA advocates the use of existing demographic and transportation access resources like the Accessibility Observatory of the University of Minnesota to provide a more refined approach to target appropriate charging infrastructure investment. Finally, the MTA agrees with the charge by EDF that omitting medium- and heavy-duty EV infrastructure misses an opportunity to achieve environmental benefits in environmental justice areas.

#### NYC

NYC alleges that the Staff proposal to facilitate EV supply equipment deployment in underserved communities would be inappropriate and ineffective. In this proposal, most of NYC would be defined as an environmental justice area. Instead, NYC recommends that the proposed 10-mile rule be applied only to areas with lower population densities and that an alternative means of supporting electrified transportation for Environmental Justice communities in dense areas be identified.

NYC explains that most low-income residents in its jurisdiction do not drive and suggests that existing surveys (e.g., the Accessibility Observatory at the University of Minnesota) of areas with limited transportation supply may provide a more appropriate and refined means of targeting effective investment. It also notes that investment in fleet charging likely would have a greater effect on disadvantaged communities than the proposed approach.

NYC also notes that light-duty EV adoption may fail to realize anticipated health benefits for at-risk communities with low car ownership rates and warns that locating charging infrastructure in their vicinity may achieve the perverse effect of increasing road traffic in these areas. It also disagrees with Staff's prediction of an increase in EV ridesharing mileage in disadvantaged areas, as these services are not always offered at affordable prices for low-income residents. NYC recommends that the proposal should instead focus on encouraging fast-charging EV infrastructure in depots, near the residences of rideshare drivers, and areas with significant trip volume.

NYC warns that EV deployment is even more urgent during the current public health crisis caused by the novel coronavirus, noting that low-income residents already bear the

brunt of transportation-related air pollution and exhibit higher rates of respiratory illness. Air quality improvements in disadvantaged communities are even more necessary as transportation emissions can exacerbate the effects of COVID-19 and other respiratory ailments. NYC recommends that the program also foster workforce development opportunities during the gradual economic recovery from the pandemic.

#### NYCP

NYCP recommends that a sufficient number of EV charging stations be installed in disadvantaged communities, especially at multi-unit apartment buildings. NYCP warns that the proposed requirement to locate stations within a maximum distance of ten miles of disadvantaged communities will result in ineffective siting and recommends this limit be reduced to two miles. NYCP also notes that disadvantaged communities are often located near ports and transit hubs with excessive air pollution problems and recommends EV adoption to counter these effects. It recommends collaboration between utilities and other stakeholders to develop program and incentives to electrify commercial vehicles and public transportation fleets.

#### NRDC-SC

NRDC-SC argues that CLCPA Climate Justice Working Group or the federal Environmental Protection Agency (EPA) definitions could be used to accurately identify disadvantaged communities. It also cites definitions provided in the State of California Greenhouse Gas Reduction Fund Investment Plan and Communities Revitalization Act, and suggests the use of the EPA EJSCREEN, an Environmental Justice screening and mapping tool. NRDC-SC foresees difficulties in identifying low- and moderate-income communities by relying on census data, federal poverty guidelines, and income due to the density of the NYC metropolitan area.

NRDC-SC also maintains that the proposed ten-mile radius is too large for some urban areas and may inadvertently result in charging station "deserts" in vulnerable communities. It recommends a minimum 20 percent of DC Fast Charger make-ready infrastructure installations in urban areas be installed within one mile of a disadvantaged community. In upstate and nonurban

areas, they suggest that the Commission should shrink the distance that charging infrastructure can be installed from a disadvantaged community. NRDC-SC recommends that all make-ready infrastructure in disadvantaged communities be eligible for a 90 percent cost rebate and 15 percent of Level 2 make-ready funds be allocated to these communities. It also argues that utilities that exceed expectations in serving disadvantaged communities be entitled to performance incentives.

#### NYPA

NYPA accepts the proposed ten-mile radius for rural areas, but advocates a smaller, four-mile radius for use in urban and suburban locations. To increase the likelihood that qualifying infrastructure is developed to benefit disadvantaged communities, NYPA recommends that the conditions for maximum incentive eligibility be expanded to include the following criteria: expected station utilization, designation according to DEC PEJA, NYSERDA low- and moderate-income, and "transit desert" definitions, and indicators from the Environmental Protection Agency EJSCREEN Environmental Justice Screening and Mapping Tool. NYPA also suggests eliminating the proposed developer contribution for public Level 2 charger deployments, warning that the current definition of "public accessibility" will inhibit infrastructure development in disadvantaged communities without high rates of vehicle ownership that rely on ridesharing. Lastly, NYPA requests program funding for transit fleet electrification that provides direct benefits to environmental justice communities.

#### Tesla

Tesla recommends that utilities work with local stakeholders to design criteria for serving disadvantaged communities based on service territory conditions, where higher incentive levels should be applied. Tesla also supports program eligibility for medium- and heavy-duty EVs to reduce transportation-related air pollution in disadvantaged communities.

Vrinda

Vrinda posits that the development of charging infrastructure in low- and moderate-income communities should be linked to the availability of EVs in these communities. If there are affordable EV programs launched in a community, that community should get EV supply equipment infrastructure on a priority basis. But the arbitrary allocation of funds and rules to deploy EV supply equipment in a specific community may lead to wastage of resources and ultimately burden all ratepayers, including low- and moderate-income and environmentally impacted communities.

XXV. Commercial FleetsAEEI-ACE

AEEI-ACE states that exceptional regulatory considerations for medium- and heavy-duty EV use require urgent attention, and recommends that utilities propose programs to counteract barriers to adoption in these sectors immediately. AEEI-ACE notes a range of benefits with this approach, including air pollution mitigation, noise pollution reductions, and lower fuel and maintenance costs. It argues that the Commission should address this market segment promptly and effectively to meet CLCPA targets and without waiting for program maturation, and adds that utilities should be required to propose separate fleet programs. AEEI-ACE does not support the proposed new Fleet Assessment service, but urges that alternative action in this area is needed immediately.

ATE

ATE recommends urgent action on medium- and heavy-duty EV charging policy, noting that because current municipal and commercial demand exceeds supply, adoption is taking place where costs are lowest. ATE proposes additional program funding for this transportation sector, arguing that it should not compete with the light-duty market financially. ATE states that managed charging and customer outreach are the most effective ways to promote fleet electrification with minimal grid impacts, and adds that providing fleet advisory services to customers would be prudent.



ChargePoint

ChargePoint agrees with the MTA recommendation to include medium- and heavy-duty garages, depots, and other fleet electrification components in the program. ChargePoint also notes that the environmental and economic benefits of commercial fleet electrification will accrue for all customers and residents regardless of EV ownership.

DEC

DEC predicts that transportation electrification of the light-duty market will significantly affect medium- and heavy-duty EV transportation locally, and recommends establishing a schedule for developing infrastructure for the latter. It also advises that utilities consider electrified transit bus charging requirements in assessing light-duty make-ready investments.

DOT

DOT strongly supports the NYPA recommendation to extend eligibility to public transportation fleets in the first phase of the program.

Drive Electric LI

Drive Electric LI cites the benefits of developing charging infrastructure to accommodate medium- and heavy-duty EVs and in using charging facilities to complement DER capabilities. Drive Electric LI maintains that solar generation and energy storage can complement DC Fast Charger infrastructure to benefit fleet electrification and the distribution grid, and suggests that the Commission could assess costs and benefits through field demonstration projects. Drive Electric LI stresses that mitigating demand charges for medium- and heavy-duty EVs at DC Fast Charger facilities is a critical issue. It recommends continuing the per-plug incentive to help offset demand charges and adds that complementary energy storage or solar generation could also be beneficial in minimizing these costs.

EDF

EDF urges recognition of the particular concerns facing medium- and heavy-duty EV adoption, and emphasizes that lot charging at fleet depots requires special attention to efficient rate design and mitigation of grid constraints and installation costs. EDF recommends that effects of transportation electrification on the distribution grid can be minimized with a comprehensive impact study that evaluates incremental load attributed to EV charging on the transmission system and at the feeder level. EDF notes that this will only be successful with planned cooperation between utilities and fleet operators and recommends rate design considerations for fleet EV charging to achieve economic and environmental benefits. It cites California data that demonstrate that EV rate design can result in lower charging costs without shifts to non-EV customers.

EDF cautions that electrification of the medium- and heavy-duty EV transportation sector requires distinctly different approaches than those for the light-duty EV market. It recommends a potential study to identify market barriers to prevent costly delays to EV adoption in the sector and to mitigate air quality problems prevalent in disadvantaged communities. EDF acknowledges that the Make-Ready Program is likely to develop charging infrastructure that could be used by some medium- and heavy-duty EVs, but alleges the scale of the program is too limited to induce wholesale electrification of these transportation sectors.

Enel X

Enel X recommends the development of commercial rate options for fleet EV charging with price signals that reflect temporal and locational costs to achieve grid benefits to keep fleet charging under specified capacities. Enel X contends that development of commercial EV charging tariffs that avoid noncoincident demand charges would benefit all electric transportation sectors equally. These rate design alternatives could incorporate coincident demand or capacity subscription charges and could expose ratepayers to time-dependent price signals through time-varying volumetric components. Enel X suggests that there are possible rate designs that can provide

needed relief from noncoincident demand charges while reflecting cost causation and cites the current Standby and Buyback Proceeding as a model for EV charging rates.

#### EV Connect

EV Connect proposes that public transportation fleet charging infrastructure be eligible for incentives, as it would aid in achieving state environmental policy goals.

#### EV Industry Coalition

The EV Industry Coalition recommends that utilities propose complementary programs within the year to support medium- and heavy-duty EV charging and address fleet charging concerns neglected by the Staff proposal, noting that five public transit agencies are currently subject to a State mandate to convert to zero-emissions vehicles. The EV Industry Coalition warns that without immediate and decisive action to authorize utility investments for fleet electrification and to design complementary rates, efforts to foster commercial EV adoption will fall short. Citing its own experience in organizing the largest deployment of electric school buses in North America, the EV Industry Coalition recommends that utilities develop program proposals allocating a minimum of \$10,000 per bus for charging infrastructure. It calls on the Commission to provide guidance to the utilities on developing appropriate charging programs to support commercial fleets and require that utilities develop and file program proposals within the year, with a total statewide program budget of at least \$300 million. Alternatively, the EV Industry Coalition suggests that Staff convene a workshop to explore best practices for commercial fleet programs and that delays in addressing this transportation sector are not in the public interest.

Fleet charging can also generate greater load concentrations per site that require appropriate make-ready investment and comprehensive services to enable scaling. Conversely, fleet charging also represents a greater source of load management potential if appropriate rates are used to shift charging from system peaks. These issues can be addressed with commercial EV rates and would promote charging access for fleet operators. The EV Industry Coalition cites TOU EV rates in

California and elsewhere that facilitate off-peak charging, and recommends review of work by the California VGI working group.

#### FreeWire

FreeWire acknowledges that larger EV classes create specific charging challenges, especially in grid-constrained areas and advocates managed charging, energy storage, and other innovations to support medium- and heavy-duty vehicle electrification.

#### Greenlots

Greenlots proposes that the Commission issue guidance and a time-bound directive for utilities to develop programs to serve medium- and heavy-duty EV customers to avoid further delays in addressing this transportation class. It also recommends development of a Fleet Assessment Service to advise on technology-enabled managed charging solutions that address system constraints and generate ratepayer benefits. Greenlots recommends greater make-ready infrastructure incentives for fleet charging projects as it predicts the State will not be able to achieve EV infrastructure targets without extensive fleet electrification. Greenlots requests prompt efforts to electrify commercial transportation, and urges the Commission to develop protocols for serving these markets as well as recommending utility-administered EV programs designed for medium- and heavy-duty EVs within the year. Greenlots concurs with the EV Industry Coalition in proposing an additional \$300 million statewide budget to serve the medium- and heavy-duty EV sectors.

#### Joint Utilities

The Joint Utilities urge the Commission to propose additional incentives for fleet charging, and suggest that the utilities could fulfill the fleet advisory service role proposed in the Whitepaper to coordinate large-scale fleet electrification, but note that these activities. The Joint Utilities will generate administrative costs not covered by proposed incentives. The Joint Utilities note that Con Edison is already administering a medium- and heavy-duty EV fleet program, and observe that the other utilities are engaged in

program development and expect imminent proposals. Noting the greater air pollution mitigation and GHG reduction potential of larger EV classes, the Joint Utilities state their support these efforts and emphasize the urgency in implementing fleet and medium- and heavy-duty EV charging infrastructure. Finally, the Joint Utilities propose that utility performance incentives can play in promoting cost containment for these activities.

#### MTA

MTA submits that utilities should take an active role in fleet charging station planning, and should offer a Fleet Assessment service. MTA suggests that the Commission adopt a deadline of 45 days for a utility's detailed response to additional power supply applications associated with medium- and heavy-duty EV fleet charging. MTA requests that the Commission not disrupt the Con Edison fleet-specific program included in its most recent rate case.

MTA submits that the Make-Ready Program should also apply to fleet vehicles and proposes that a statewide fleet electrification program could complement the light-duty Whitepaper proposals. MTA contends that some of the incremental revenues gained by the increased EV load could be considered as an offset to some portion of the program costs. MTA requests that the Commission address the challenging operating costs incurred by electric fleet operators, such as the disparity in operating costs based on fleet location. It also suggests that the Commission establish separate service classifications for electrified fleet charging using the same load and cost criteria used to develop conventional utility service classifications.

MTA asserts that the submetering of fleet charging is essential for allowing EV operators and utilities to effectively monitor energy usage and increase efficiency. For instance, during the its own electric bus pilot, MTA observed that manufacturer specifications for charging telematics were often inaccurate.

MTA identifies several more impediments to public transit fleet electrification. It notes that significant capital and operating costs still preclude wholesale adoption, including expensive infrastructure development necessary for time-constrained (e.g., overnight) charging of entire fleets and

the cost of consuming large quantities of electricity. MTA requests that the Commission order the creation of a Fleet EV infrastructure Working Group to consider the challenges of fleet electrification, a Fleet EV infrastructure Make-Ready Program, and a new service classification for medium- and heavy-duty EV fleets.

MTA also recommends that the Commission authorize incentives for transit electrification in the first round of the Make-Ready Program, and direct utilities to develop smart charging programs for transit fleets to alleviate the system impact of transit fleet electrification and reduce the cost to operate electrified transit fleets. It notes that opportunities to support the electrification of varied types of fleets differ from one utility service territory to another. The MTA adds that bus and related transit services fleets represent an opportunity that can have a substantial impact on reducing greenhouse gas emissions in disadvantaged communities. Accordingly, MTA requests that the Commission designate all transit bus depots located in Environmental Justice areas as Strategic Locations as defined in the Whitepaper.

#### NYC

NYC stresses the importance of developing protocols for encouraging fleet electrification as soon as possible. It recommends that any fleet-oriented make-ready program in the Con Edison service territory should exploit the \$9 million in funds allocated for fleet infrastructure approved in the company's present three-year rate plan. NYC also warns that proposed public accessibility standards would limit the value of the program for dedicated fleet charging. NYC advises that the Commission commit to creating procedures for medium- and heavy-duty EV make-ready infrastructure development and direct Staff to issue a Whitepaper addressing this subject.

#### NYPTA

NYPTA urges immediate extension and expansion of the Make-Ready Program to public transit services to meet state fleet electrification goals for this sector. NYPTA acknowledges that public transit charging sites will not be open to the general public, but recommends that they be eligible for funding

at the higher 90 percent level, noting that fleet electrification of public transit provides significant public service and health benefits. It argues that lower incentive levels will be insufficient to cover the significant investment required for transit fleet electrification. NYPTA recommends that at least \$50 million be reserved to cover early estimated make-ready costs for transit systems and argues that MTA costs should be added to this amount.

NYPTA notes several challenges particular to fleet electrification, including access to sufficient electrical power to charge hundreds of vehicles at a single location, power connections to bus depots, and retrofitting existing or constructing new facilities to accommodate these vehicles and their charging requirements. NYPTA also observes that transit charging must continue functioning during power outages and that emergency backup resources for resilience should be included in eligible make-ready costs. It further recommends coordinating local power needs of transit facilities and light-duty EV charging to ensure capacity for all users.

Finally, NYPTA suggests that additional utility revenue generated by transit electrification and off-peak charging can fund continued make-ready program expansion, rather than being allocated to government-subsidized public transportation systems.

#### Nikola Corp.

Nikola Corp. also supports the inclusion of medium- and heavy-duty EV issues in this proceeding, including rate design proposals. It cites developments in hydrogen vehicle production, and encourages the Commission to consider this emerging technology and applicable rate design options to support the advancement of zero-emissions transportation.

#### NRDC-SC

NRDC-SC advises the Commission to develop fleet electrification guidance expeditiously. It also notes that projects that exploit vehicle-to-grid technologies will provide grid support and additional financial incentives for fleet electrification. NRDC-SC concurs that investment in charging infrastructure for medium- and heavy-duty EVs is essential to

support electrification by 2035 of the five largest transit fleets outside of New York City. It recommends developing guidance to support electrification of these sectors as soon as possible. Citing recent analysis by the California Electric Transportation Coalition that predicts electric trucks and buses will have the lowest total ownership costs by 2030 even without purchase incentives, NRDC-SC recommends electrification of the medium- and heavy-duty automobile sector for both economic, environmental, and public health reasons.

NRDC-SC observes that most parties recommend extensive investment in medium- and heavy-duty EV infrastructure, citing beneficial mitigation of grid impacts (larger EVs use larger batteries) and pollution emissions associated with conventional fossil fuel automobiles. NRDC-SC advocates adequate price signals, managed charging, and rate design to minimize grid impacts and maximize benefits for all customers. It urges the Commission to issue guidance of the electrification of this transportation sector and related infrastructure development.

#### NYAPP

NYAPP recommends the expansion of the program to include all utility light-duty vehicles in the program. NYAPP adds that the Commission should also urge support from DEC for use of the VW settlement funds for this purpose. NYAPP urges the Commission to acknowledge that NYAPP is also interested in EV infrastructure on a statewide basis and is engaged in deployment of EVs and charging infrastructure. NYAPP notes some of their members' efforts in investing in EV infrastructure have been hindered by others that have not installed EV infrastructure, and therefore funding through the Commission is crucial.

#### NYC

NYC urges the Commission to include fleet electrification in the program.

#### NYPA

NYPA advises the Commission to authorize Make-Ready Program incentives for public transit electrification in the first round, arguing that this will benefit disadvantaged



communities that rely on public transportation in areas where EV adoption is otherwise minimal. NYPA recommends smart charging programs to promote fleet electrification with minimal distribution grid impacts, especially through off-peak charging.

### Tesla

Tesla argues that the program should be expanded to include medium- and heavy-duty EV applications to address public health problems in disadvantaged communities associated with diesel fuel use in commercial transportation applications. Tesla notes that from a technical perspective, there is little difference between a large DC Fast Charger charging station and fleet charging infrastructure. Tesla advocates rate reform to encourage fleet electrification, particularly recommending TOU rates.

## XXVI. Other Issues

### AEEI-ACE

AEEI-ACE contends that it is crucial to remove any elements of the proposed program that slow implementation in view of the public health concerns around the COVID-19 pandemic.

AEEI-ACE requests that the Commission commit to addressing fundamental rate design issues in a separate track, and recommends this should occur within the year. AEEI-ACE claims that demand charges comprise a substantial portion of EV supply equipment operating costs, especially for DC Fast Charger sites, which are difficult to recover through revenues while station utilization is low. It alleges that non-coincident peak (NCP) demand charges provide an insufficient signal to developers and customers to modify charging behavior. AEEI-ACE recommends that the Commission conduct a comprehensive review of EV rate design that assesses the overall effectiveness of the DC Fast Charger Infrastructure Program and the current reliance on NCP demand charges. AEEI-ACE also notes that commercial rate reform is a foundational effort in developing vehicle-to-grid capabilities, especially employing time-of-use rates.

ATE

ATE considers ratemaking an issue best addressed on a case-by-case basis by the utilities, stating that market conditions are too premature to address these concerns. However, ATE agrees with Staff that it may be prudent to assess ratemaking issues at the midpoint review of the DC Fast Charger Per-Plug Incentive Program.

ChargePoint

ChargePoint argues that developing appropriate commercial rate designs for EV charging is essential for the success of the Make-Ready Program. If the Commission chooses to delay these considerations, ChargePoint recommends that in the meantime it modify definitions in the Tier 1 incentive of the DC Fast Charger per-plug program. It states that a Tier 1 plug incentive should include plugs capable of simultaneously charging at or above 75 kW or plugs capable of independently charging at or above 62.5 kW and sharing power to charge one vehicle at or above a combined 125 kW. ChargePoint claims that there is no difference in charging times between 125 kW and 175 kW DC Fast Chargers and that modifying this definition will decrease average deployment costs and increase and accelerate the deployment of high-value plugs, all while providing a similar charging experience.

EDF

EDF recommends tariffs that incentivize optimal consumption and provide sufficient transparency on grid conditions. It predicts that smart charging practices will change as the grid develops to accommodate EV adoption, with time-varying price signals encouraging beneficial off-peak charging initially before a range of more sophisticated methods develop. EDF also proposes investigating more refined price signals through submetering, updated billing software to allow smart pricing, and OCPP and Open ADR standards. EDF contends that rates calibrated for EV charging can be reconciled with the principles of cost-of-service ratemaking. It urges the Commission to examine pricing structures to foster cost-effective and beneficial medium- and heavy-duty EV fleet electrification.

Electrify America

Electrify America observes that some utilities have imposed additional requirements and conditions on applicants to the DC Fast Charger Per-Plug Incentive Program that were not included in the Commission order. Electrify America recommends a single non-utility program administrator for any incentive programs with clearly defined requirements that facilitate developer confidence. Electrify America requests that the Make-Ready Program proposed in the Whitepaper be administered expediently, consistently, and in compliance with the Commission Order.

Enel X

Enel X points out that the COVID-19 crisis has affected uncertainty around the implementation of the program.

Enel X suggests that increased electric demand from EV charging can avoid exacerbating capacity constraints and instead increase overall grid use to increase reliance on renewable generation. This could ensure that any cost increases resulting from greater load are minimized and offset by greater revenue. Enel X agrees that it is important to integrate new EV charging load in a manner that increases utilization of the existing distribution system and maximizes ratepayer benefits. It stresses that the most efficient way to accomplish this is through utility solutions that enable and develop the third-party charging market. In addition to rate design, Enel X recommends dynamic load balancing across on-site EV chargers to avoid consumption increases and optional tariffs for certified load management solutions that partially avoid distribution interconnection upgrades. It also proposes that the Commission examine incentive extensions for customers enrolled in smart charging options that match load with intermittent renewable generation or performance incentives for installations that permanently produce off-peak load.

EVgo

EVgo agrees that rate reform and TOU rates are critical to furthering EV adoption and cites nationwide efforts in developing commercial and technology-neutral, low-load factor rates in several jurisdictions.

EV Industry Coalition

The EV Industry Coalition predicts that the proposal will fall short of achieving its goals due to programmatic complexities not present in make-ready programs administered in other jurisdictions. It warns that this complexity risks setting the market on an unsatisfactory trajectory that cannot be reviewed and course-corrected until 2023. The EV Industry Coalition is concerned that the program will see limited participation due to an overly complex structure, administratively burdensome data reporting, and prescriptive requirements. The EV Industry Coalition maintains that the proposed site evaluation methods will inadvertently delay deployments by months and significantly increase costs. It also alleges that the make-ready proposal fails to address other near-term market needs including commercial EV rate design, load management strategies, and fleet charging applications. The EV Industry Coalition advises that Staff consider program design best practices to create simple incentives as used in other programs across the country. It also encourages Staff to look at best practices from the recently approved Con Edison program, which provides a more streamlined program design and includes an annual allotment for fleet funding that is accessible by medium- and heavy-duty EV fleets.

The EV Industry Coalition recommends developing EV charging rates for residential and commercial EV charging applications (i.e., public and private; light, medium, and heavy-duty), as well as developing utility programs and policies that encourage managed charging strategies that can put downward pressure on electricity rates, especially rate design and managed charging to reduce operating costs. It argues that EV charging costs must be easily understood by all customers and lowering these costs below the expense of refueling with fossil fuels should be a program goal. While acknowledging that the Commission has avoided technology-specific rates, the EV Industry Coalition suggests that optional rates aligned with grid constraints that accommodate the low load-factors associated with EV charging could remove significant barriers to EV adoption for several customer classes. It suggests that general service rates could be modified to provide more refined price signals about optimal charging times or include demand

limiters to foster lower load-factor charging. It also recommends that all utilities file programs to develop cost-based, technology neutral charging rates for commercial customers.

The EV Industry Coalition also encourages the Commission to consider technology-enabled strategies to manage load, especially for fleet depots and other longer dwell-time locations that permit greater flexibility on charging schedules and speeds. This could reduce costs for station owners, site hosts, and ratepayers and the EV Industry Coalition advocates a working group to develop managed charging solutions. The EV Industry Coalition also recommends investigating the load management potential of vehicle-to-grid technologies involving large EV fleets acting as aggregated DERs that could generate additional revenue for operators.

The EV Industry Coalition asserts that establishing commercial rate options that are available for opt-in by EV site hosts will ensure that EVs are price-competitive for consumers and facilitate EV adoption. The EV Industry Coalition recommends that Staff work with utilities and relevant industries to develop new rate options that better reflect the cost-causation profile of EVs. While acknowledging that Staff proposes a demand charge holiday as one option, the EV Industry Coalition notes that there are other rate design options for mitigating the effects of demand charges on EV customers and that a demand-based rate is only one of several possible rate structures. The EV Industry Coalition remarks that utilities in other jurisdictions have recently implemented other technology-neutral economic development or low load-factor rates.

Additionally, the EV Industry Coalition notes that subscription-style rates, though they impose added administrative burdens, have recently emerged as new options, and that many utilities also incorporate load management components in their offerings to help shape EV load as appropriate for specific use cases to complement EV-specific rates. These programs, most of which are optional and focus on Level 2 and fleet applications, exploit smart-charging capabilities to help respond to grid- and site-specific conditions through load shifting and demand response. The EV Industry Coalition contends that DC Fast Charger stations will

not proliferate at the rate needed without removing systemic barriers that undermine fundamental economics. In the near term, EV Industry Coalition suggests New York consider a novel rate design that could serve all nonresidential applications for EV charging, applicable to large Level 2 stations, DC Fast Chargers, and fleets alike. The EV Industry Coalition notes that the DC Fast Charger per plug incentive has failed to realize the market-moving effects of comprehensive rate design in other jurisdictions. Therefore, the EV Industry Coalition suggests the Commission require utilities to file new commercial tariffs applicable to all nonresidential EV use cases within the year in which proposals should be cost-based and include time-of-use elements.

### Greenlots

Greenlots agrees with other parties that EV charging should increase effective utilization of existing grid resources and respond to grid constraints. It contends that it is essential to develop rates that send accurate price signals that reflect both system and local grid constraints. Instead of TOU rates, Greenlots encourages the Commission to examine technology-based managed charging strategies either as an independent method or in concert with various rate structures to shape, utilize, and dispatch flexible EV loads. It asserts that managed charging and real-time pricing can maximize system benefits and reduce costs for ratepayers and site hosts. Greenlots stresses that smart networked chargers are critical in allowing consumers and site hosts to benefit from advanced rates and charging programs, as in customized "set it and forget it" options. Managed charging programs offer maximum customer control while simplifying engagement, effectively responding to individual price signals and charging needs without relying on active and ongoing behavior changes, by allowing customers to set technology-facilitated preferences.

Greenlots acknowledges the difficulties in ensuring sufficient participation in new rate options, but it notes that managed charging supports Commission preferences for limiting technology-specific rates as technology can enable load management with both conventional and dynamic rate designs, whether general or EV-specific. Greenlots encourages the

Commission to require that all chargers be networked and to mandate or encourage customer participation in managed charging and demand response programs in a future Order but states that these approaches need not be prescriptive.

### Joint Utilities

The Joint Utilities urge the Commission to consider the integration of demand-based delivery rate and time-varying supply charges to provide accurate price signals to EV customers. The Joint Utilities support Commission actions that promote the use of cost-based rates and suggests that potential ratemaking improvements could include volumetric (per kWh charges), fixed charges (per meter charges), and demand-based charges (per kW charges) for delivery. Improvements could also be made to the supply portion of the bill for those customers who take supply from the utility so that energy costs more closely align with market prices. The inherent flexibility of EV charging schedules will allow EV customers to benefit from more refined rate designs. However, the Joint Utilities contend that discounted rate design is not an efficient method for scaling transportation electrification. The Joint Utilities maintains that it is critical for the Commission to clearly define make-ready investments and establish guidance for investments in future-proofing infrastructure.

The Joint Utilities support standby rates as a sound delivery rate design option for EV charging. To complement the granular delivery rate, the Joint Utilities recommend that the Commission finish the process begun in the Standby Order and permit customers of all classes to opt into the standby rates. Joint Utilities suggest that the Commission reject recommendations from stakeholders that the utilities establish one or more new rate classes specifically for EV and EV infrastructure customers. The Joint Utilities warn that structuring a rate design specifically to promote a given technology is inconsistent with the fundamental rate design principles of technology neutrality, cost causation, and transparency, which the Commission has endorsed as guiding principles in other proceedings.

NRDC-SC

NRDC-SC encourages the Commission to examine ratemaking activities that may complement the existing DC Fast Charger Per-Plug Incentive Program now rather than waiting for a midpoint program review, citing the downward pressure on rates exerted by transportation electrification for all utility customers in those service areas. NRDC-SC proposes EV time-of-use (TOU) "whole-house" rates, active management charging programs, and demand response programs as solutions to managing EV load and ensuring charging benefits the grid.

NYC

NYC suggests that Staff investigate technologies that eliminate the need for separate EV charging metering to reduce costs. NYC proposes that meters in smart Level 2 chargers might be considered revenue-grade sub-meters for residential TOU rates according to the Commission's metering policies and suggests this be investigated as a solution to the additional cost associated with separate meters for residential charging. It also recommends examining fleet charging load profiles and the possibility of developing specific rates for this customer class.

NYCP

NYCP supports this proposal for statewide electrification of the transportation sector by developing light-duty EV infrastructure, and recommends swift action to address inadequate and unreliable current charging infrastructure to reduce impediments to EV adoption like range anxiety.

NYPA

NYPA recommends the Commission approve the proposed program after incorporating the following revisions: expansion of program eligibility criteria to allow participation by NYPA and other public entities as EV infrastructure developers, consideration of regional differences in determining installation numbers for each service territory, standardization of interconnection practices, incorporation of public transportation fleet electrification efforts, confirmation that



disadvantaged communities receive tangible benefits, future-proofing requirements, declining incentives over time, and coordinated development of infrastructure at strategic locations.

#### PIA

PIA cites the ratepayer benefits of off-peak charging, citing the downward pressure on rates caused by this behavior.

#### Tesla

Tesla recommends the program be divided into two tracks. According to Tesla, the first track would be an EV Make-Ready Program that covers infrastructure investments in front of the meter and is rooted and integrated into existing line extension and service request processes. Tesla states that this track would direct utilities to update tariff sheets with new allowances for commercial EV charging accounts without other technology, process, or program requirement, and that support for a customer's EV charging deployment would come in the form of waiving all, or a portion, of CIAC or EDF charges. Tesla suggests that cost containment could include setting a per site or stall allowance for upgrades on the utility side of the meter or extending the revenue test to ten or more years. The second track would encompass a program that includes make-ready investments on the customer side of the meter which follows the form described in the Whitepaper. Tesla argues that proposed program requirements that are redundant or in conflict with external processes such as electrical and building permit requirements should be removed.

Tesla argues that the program should build off of the tried-and-true non-discriminatory service connection process, rather than imposing arbitrary eligibility and technology requirements that are not based on safety or reliability standards. Instead, Tesla asserts that the Make-Ready Program should be strongly rooted in the BCA framework. The program should seek to be as inclusive as possible and avoid program requirements that may increase program costs or ultimately hinder transportation electrification. Tesla contends that the program is administratively cumbersome with prescriptive requirements, steps, and processes.

Tesla states that time-of-use rates are the most effective way to ensure potential value of EV charging to the grid. Tesla argues that attempts to change EV charging behavior with software or administrative interjections without providing clear price signals through time-variant rates will be economically and administratively inefficient and lead to poor customer experiences. Tesla advises that delaying an examination of rate design until 2023 is far too late and, rather than encouraging investment through near-term rate reform, is likely to put more ratepayer funding at risk. Tesla recommends that the Commission direct utilities to develop rate proposals specific to commercial EV accounts or general TOU rates applicable to all commercial customers.

APPENDIX B

Plug Counts

	Make-Ready Program	Consolidated Edison	Central Hudson	New York State Electric & Gas	Niagara Mohawk	Orange & Rockland	Rochester Gas and Electric
Workplace Level 2	35,217	12,776	2,091	5,821	10,105	1,765	2,659
Public Level 2	18,556	5,763	1,113	3,458	5,623	1,080	1,519
Total Level 2	53,773	18,539	3,204	9,279	15,728	2,845	4,178
DC Fast Chargers	1,500	457	69	250	504	71	149

	Rest of State
Workplace Level 2	9,898
Public Level 2	6,129
Total Level 2	16,027
DC Fast Chargers	510

Program Budgets

	Statewide Total	Consolidated Edison	Central Hudson	New York State Electric & Gas	Niagara Mohawk	Orange & Rockland	Rochester Gas and Electric
Level 2 Plugs	53,773	18,539	3,204	9,279	15,728	2,845	4,178
Level 2 Budget	\$ 385,777,871	\$ 191,643,671	\$ 17,653,800	\$ 51,126,000	\$ 86,658,600	\$ 15,675,600	\$ 23,020,200
DC Fast Charger Plugs	1,500	457	69	250	504	71	149
DC Fast Charger Budget	\$ 94,705,747	\$ 42,015,747	\$ 3,487,000	\$ 12,628,000	\$ 25,459,500	\$ 3,586,000	\$ 7,529,500
Incentive Budget	\$ 480,483,618	\$ 233,659,418	\$ 21,140,800	\$ 63,754,000	\$ 112,118,100	\$ 19,261,600	\$ 30,549,700
Futureproofing	\$ 38,438,689	\$ 18,692,753	\$ 1,691,264	\$ 5,100,320	\$ 8,969,448	\$ 1,540,928	\$ 2,443,976
Implementation & Fleet Assessment Service	\$ 72,072,543	\$ 35,048,913	\$ 3,171,120	\$ 9,563,100	\$ 16,817,715	\$ 2,889,240	\$ 4,582,455
Make-Ready Program	\$ 590,994,850	\$ 287,401,084	\$ 26,003,184	\$ 78,417,420	\$ 137,905,263	\$ 23,691,768	\$ 37,576,131
Transit Authority Make-Ready Program	\$ 10,000,000	\$ 2,960,000	\$ -	\$ -	\$ 5,090,000	\$ -	\$ 1,950,000
Total	\$ 600,994,850	\$ 290,361,084	\$ 26,003,184	\$ 78,417,420	\$ 142,995,263	\$ 23,691,768	\$ 39,526,131

Environmental Justice Programs	
Expanded Mobility Pilot	\$ 25,000,000
Environmental Justice Innovation Prize	\$ 40,000,000
MHDV Make-Ready Pilot Program	\$ 15,000,000
MHDV Competitive Pilot	\$ 20,000,000
Total Budget	\$ 700,994,850

**Level 2 EAM metric**

$$\begin{aligned}
 EAM\ Award = & \left\{ \left[ \left( \frac{\$ incentive}{plug} \right)_{Public,baseline} (Plugs\ incented)_{Public,actual} \right] \right. \\
 & + \left( \frac{\$ incentive}{plug} \right)_{Non-public,baseline} (Plugs\ incented)_{Non-public,actual} \\
 & + \left. \left( \frac{\$ incentive}{plug} \right)_{DAC,baseline} (Plugs\ incented)_{DAC,actual} \right] \\
 & - [(\$ incentive)_{Public,actual} + (\$ incentive)_{Non-public,actual} \\
 & + (\$ incentive)_{DAC,actual}] \} (30\%)
 \end{aligned}$$

**BASELINE PER-PLUG INCENTIVE COSTS**

<b>Plug Type</b>	<b>Upstate</b>	<b>Con Edison</b>
Public Level 2	= \$6,000/plug * 90% <b>= \$5,400/plug</b>	= \$11,257/plug * 90% <b>= \$10,131/plug</b>
Non-public Level 2	= \$6,000/plug * 50% <b>= \$3,000/plug</b>	= \$11,257/plug * 50% <b>= \$5,629/plug</b>
Disadvantaged Communities (DAC)	= \$6,000/plug * 100% <b>= \$6,000/plug</b>	= \$11,257/plug * 100% <b>= \$11,257/plug</b>

**MINIMUM PLUG REQUIREMENTS**

<b>Utility</b>	<b>Minimum Number of Plugs Required to earn Mid-point EAM</b>	<b>Minimum Number of Plugs Required to earn End of Program EAM</b>
Central Hudson	641	3,204
Con Edison	3,708	18,539
Niagara Mohawk	3,146	15,728
NYSEG	1,856	9,279
Orange and Rockland	569	2,845
RG&E	836	4,178

**DCFC EAM metric**

$$EAM Award = \left\{ \left[ \left( \frac{\$ incentive}{kW} \right)_{Public,baseline} (kW incented)_{Public,actual} \right] + \left[ \left( \frac{\$ incentive}{plug} \right)_{DAC,baseline} (kW incented)_{DAC,actual} \right] - [(\$ incentive)_{Public,actual} + (\$ incentive)_{DAC,actual}] \right\} (30\%)$$

**BASELINE PER-kW INCENTIVE COSTS**

<b>Plug Type</b>	<b>Upstate</b>	<b>Con Edison</b>
Public DCFC	= \$55,000/plug / 150 kW/plug * 90% <b>= \$330/kW</b>	= \$100,109/plug / 150 kW/plug * 90% <b>= \$601/kW</b>
Disadvantaged Communities (DAC) DCFC	= \$55,000/plug / 150 kW/plug * 100% <b>= \$367/kW</b>	= \$100,109/plug / 150 kW/plug * 100% <b>= \$667/kW</b>

**MINIMUM PLUG REQUIREMENTS**

<b>Utility</b>	<b>Minimum Number of Plugs Required to earn Mid-point EAM</b>	<b>Minimum Number of Plugs Required to earn End of Program EAM</b>
Central Hudson	14	69
Con Edison	91	457
Niagara Mohawk	101	504
NYSEG	50	250
Orange and Rockland	14	71
RG&E	30	149

APPENDIX C

	BASELINE						PROGRAM PERFORMANCE INPUTS						COMPUTATION OF EAM					
	Average [1]	Public L2 [2]	Non-Public L2 [3]=[1]*[2]	Disadv Community L2 [4]	Disadv Community L2 [5]=[1]*[4]	Disadv Community L2 [6]	Public L2 [8]	Non-Public L2 [9]	Disadv Comm L2 [10]	Disadv Comm L2 [11]	Disadv Comm L2 [12]	Disadv Comm L2 [13]	Target Program Cost [14]=([3]+[8])+([5]+[10])+([7]+[12])	Actual Program Cost [15]=([9]+[11]+[13])	Savings Share [16]	Company Share [17]=([14]-[15])*(16)	EAM Award [18]=([17]-[9]-[12]-[13]-[16])	
Con Edison Con Edison 20% savings at Midpoint Review	\$ 11,257	90% \$ 10,131	50% \$ 5,629	100% \$ 11,257	100% \$ 11,257	927 \$	7,513,372	2076 \$	9,347,813	705 \$	6,348,948	\$ -	\$ 29,012,666	\$ 23,210,133	30% \$	1,741 \$	\$ -	1,741
Update Utilities NMPC 20% savings at Midpoint Review (NMPC)	\$ 6,000	90% \$ 5,400	50% \$ 3,000	100% \$ 6,000	100% \$ 6,000	912 \$	3,939,840	1636 \$	3,926,400	598 \$	2,870,400	\$ -	\$ 13,420,800	\$ 10,736,640	30% \$	805 \$	\$ -	805
Public Cells																		

APPENDIX C

	BASELINE						PROGRAM PERFORMANCE INPUTS						COMPUTATION OF EAM					
	Average Make-Ready per Plug	Average kW/Plug	Incentive %	Public DCEC Target Incentive (\$/kW)	Disadv. Comm DCEC Incentive %	Target Incentive (\$/kW)	Public DCEC KWS Installed	Public DCEC \$ Incentive spent	Disadv Comm DCEC KWS Installed	Disadv Comm DCEC \$ Incentive spent	Target Program Cost	Actual Program Cost	Savings Share	Company Share (\$ 000s)	EAM Award (\$ 000s)			
	[1]	[2]	[3]	[4]=[1]/[2]*[3]	[6]	[7]=[1]/[2]*[6]	[8]	[9]	[10]	[11]	[12]=[4]*[8]+[7]*[10]	[13]=[9]+[11]	[14]	[15]=[12]-[13]*[14]	[16]=IF([15]>0, [15], 0)			
Con Edison	100,109	150	90%	601	100%	667	7,583	3,643,807	6,067	3,239,260	-	-	30%	-	-			
EXAMPLE: 20% savings at Midpoint Review	100,109	150	90%	601	100%	667	7,583	3,643,807	6,067	3,239,260	8,603,835	6,883,068	30%	516,230	516,230			
Uprate Utilities	55,000	150	90%	330	100%	367	8417	2,222,088	6733	1,975,013	-	-	30%	-	-			
EXAMPLE: 20% savings at Midpoint Review (NMPC)	55,000	150	90%	330	100%	367	8417	2,222,088	6733	1,975,013	5,246,377	4,197,101	30%	314,783	314,783			
Input Cells																		