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April 27, 2020

VIA ELECTRONIC DELIVERY

Honorable Michelle L. Phillips
Secretary
New York State Public Service Commission
Three Empire State Plaza, 19th Floor
Albany, New York 12223-1350

**RE: Case 18-E-0138 – Proceeding on Motion of the Commission Regarding
Electric Vehicle Supply Equipment and Infrastructure**

**JOINT UTILITIES' INITIAL COMMENTS ON THE DEPARTMENT OF
PUBLIC SERVICE STAFF WHITEPAPER REGARDING ELECTRIC
VEHICLE SUPPLY EQUIPMENT AND INFRASTRUCTURE
DEPLOYMENT**

Dear Secretary Phillips:

In response to the Public Service Commission's February 5, 2020 *Notice Soliciting Comments* regarding the Department of Public Service Staff Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure Deployment and additionally soliciting responses to seventeen specific question ("Notice"),¹ enclosed please find the initial comments of 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 (collectively, the "Joint Utilities") inclusive of the responses to the questions posed in the Notice.

Respectfully submitted,

/s/ Janet M. Audunson

Janet M. Audunson

Enc.

¹ On March 30, 2020, the Commission extended the filing date for initial comments to April 27, 2020 with reply comments due on May 11, 2020.

**STATE OF NEW YORK
PUBLIC SERVICE COMMISSION**

Proceeding on Motion of the Commission)
Regarding Electric Vehicle Supply)
Equipment and Infrastructure)

Case 18-E-0138

**JOINT UTILITIES INITIAL COMMENTS ON THE DEPARTMENT OF PUBLIC
SERVICE STAFF WHITEPAPER REGARDING ELECTRIC VEHICLE SUPPLY
EQUIPMENT AND INFRASTRUCTURE DEPLOYMENT**

The Department of Public Service Staff (Staff) filed a Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure Deployment on January 13, 2020 for Level 2 (L2) and Direct Current Fast Charger (DCFC) equipment (EVSE&I Whitepaper or Whitepaper).¹ The EVSE&I Whitepaper described a statewide “Make-Ready Program” (MRP) that would provide incentives to both L2 and DCFC stations with an estimated statewide budget of \$582.3 million to accelerate the development of charging infrastructure within New York State (NYS or the State). The Public Service Commission subsequently requested parties to comment on the EVSE&I Whitepaper and provided a series of questions for parties to consider in such comments.² The

¹ Case 18-E-0138, *Proceeding on Motion of the Commission Regarding Electric Vehicle Supply Equipment and Infrastructure* (EV Proceeding), Department of Public Service Staff Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure Deployment (filed January 13, 2020) (EVSE&I Whitepaper or Whitepaper).

² See EV Proceeding, Notice Soliciting Comments (issued February 5, 2020). See also EV Proceeding, Notice Clarifying Comment Period and Provision of Meeting Details (issued March 30, 2020) which extends the deadline for filing initial comments to April 27, 2020 with reply comments due on May 11, 2020.

Joint Utilities³ submit these initial comments responding to the Commission's questions and suggesting modifications to improve the MRP proposed in the EVSE&I Whitepaper.

I. **Introduction**

The Joint Utilities support New York State's clean energy objectives, including its leadership in the transition to clean transportation. As the EVSE&I Whitepaper notes, because statewide emissions from transportation are the largest source of greenhouse gas (GHG) emissions in the State, electrifying the transportation sector is critical to meeting the GHG emissions reduction goals established by the Climate Leadership and Community Protection Act (CLCPA).⁴ Achieving these objectives will require the broader electric vehicle (EV) market to work together, including auto manufacturers, dealerships, charging station developers, site hosts, New York State Electric Research and Development Authority (NYSERDA), government at all levels, and utilities. The Joint Utilities look forward to implementing programs that seek to build adequate utility and charging infrastructure to support broad-based EV adoption throughout NYS in a cost-effective manner.

The EVSE&I Whitepaper objectives are ambitious in scale and pace. As the State develops the EVSE&I program, the Commission should consider lessons learned in several recent clean energy program implementations as well as experience from other states. These lessons include the need for program flexibility and appropriate incentive levels. Additionally, given the COVID-19 global pandemic, the economic situation facing the clean energy industry and customers must also be considered.

³ The Joint Utilities are Central Hudson Gas & Electric Corporation (Central Hudson), Consolidated Edison Company of New York, Inc. (Con Edison), New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation d/b/a National Grid (National Grid), Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation.

⁴ Available at <https://legislation.nysenate.gov/pdf/bills/2019/S6599>

First, in the energy efficiency (EE) space, the Commission has allowed the development of individual utility programs under a common statewide framework under the New Efficiency: New York (NENY) proceeding. Initially, the Commission’s Energy Efficiency Portfolio Standard (EEPS) framework established prescriptive program budgets and guidelines that prevented utilities from adapting to changing market conditions. Given the challenges associated with this framework, the Commission subsequently restructured the delivery of EE programs to the more flexible Energy Efficiency Transition Implementation Plan (ETIP) framework. The ETIP framework emphasizes flexibility with accountability through reporting and performance incentives to incentivize utilities to manage programs effectively. The MRP proposed in this EV Proceeding should adopt the ETIP and NENY flexibility principles given that transportation sector needs will vary by utility service territory, driven by differences in mode share,⁵ demographics, development costs, and other market and economic factors.

Moreover, lessons from other EV make-ready programs, including those in California and Massachusetts, as well as National Grid’s program in New York, further demonstrate the importance of flexibility. Implementation flexibility allows program administrators to adapt to evolving market, technology, and consumer conditions by changing incentives, customer acquisition strategies, and eligibility criteria as long as these changes fit within the overall framework of budgets, targets, and performance incentives. National Grid’s experience has illustrated the importance of adequate and appropriate make-ready infrastructure incentives (in the 90-100 percent range) to establish New York as a desirable market environment for developers.

⁵ Mode share describes the number of trips or percentage of travelers using a particular form of transportation (e.g., car, public transit, bicycle, walking).

The design of an effective MRP in New York is complicated by the current uncertain business environment faced by EV market stakeholders in NYS and throughout the nation caused by the COVID-19 crisis. Many individuals and businesses may lack revenues and cash flows to adopt and develop new clean energy options, potentially limiting consumer and business expenditures and thereby negatively impacting the MRP program outcomes.

The Joint Utilities urge the Commission to consider the issues and lessons learned described above in its efforts to accelerate the development of EVSE&I. The Joint Utilities specifically emphasize the importance of: (i) a flexible program allowing each utility to implement the MRP in a manner that fits the needs of its service territory; (ii) program budgets that align with expected costs; and (iii) meaningful and reasonable utility performance incentives to drive utility achievement of program goals at reasonable costs for customers. In the interests of furthering a statewide framework that recognizes these priorities, these Joint Utilities comments recommend changes to the proposed MRP structure, including to the Maximum Incentive Level (MIL), public and private plugs, and outreach. The Joint Utilities also offer proposals concerning performance incentives associated with the MRP and medium- and heavy-duty vehicles.

During these uncertain times, strategies that simultaneously help to moderate overall costs for customers and advance the State's clean energy objectives will be even more important in the coming months and years than in the past. The Joint Utilities offer these comments in the interests of advancing solutions that can help to strike this balance. The Joint Utilities commit to working alongside the Commission, DPS Staff, and stakeholders to support the clean energy transition and our customers through market responsiveness, creativity, and innovation.

II. Make-Ready Program Definition, Budgets and Targets

The EVSE&I Whitepaper preliminarily estimates that a \$582 million budget would provide sufficient make-ready incentives to support the installation of approximately 102,327 L2 plugs and 2,597 DCFC plugs across the State by year-end 2025.⁶ Below, the Joint Utilities outline their recommendations as to: (1) the infrastructure that falls under the definition of “make-ready;” (2) program estimates and make-ready budgets to meet the EVSE&I Whitepaper’s targets, considering additional analysis; and (3) insights regarding the number of plugs that can be deployed at various budget levels.

a. Make-Ready Definition

The infrastructure required to “make-ready” a site for EV charging is a significant cost for developers and site hosts, requiring investment in both utility-side and customer-side infrastructure. Such infrastructure has many components (*e.g.*, transformers, conduit, wire, underground facilities, risers, transformer pads, etc.) and rules vary among utilities regarding asset ownership and component treatment when new service is requested.

The following criteria generally reflect current utility practices and should be included in the definition of “make-ready” work for the MRP:

- 1) **Utility side** – Make-ready costs on the utility side include all incremental service costs that would otherwise have been paid for by the customer as Excess Distribution Facilities (EDF), contributions in aid of construction (CIAC) and accommodation investments. Under the EVSE&I Whitepaper and as recommended by the Joint Utilities, such costs will be included in rate base as utility assets.
- 2) **Customer-side** – Make-ready costs on the customer side include equipment costs for customer transformers and pads, conduit and cabling, trenching, and panels. When such costs are paid for by the MRP, they will be treated as a regulatory asset and amortized over 15 years.

⁶ All budget estimates referenced exclude the Long Island Power Authority territory.

Figure 1 provides an illustration of typical components of make-ready costs and the entity responsible for each component.

Figure 1: Utility Make-Ready Components

	System Reinforcement	New Business	Utility side Make-Ready			Customer side Make-Ready			Developer Costs ²⁾
	Substation	Distribution above/under-ground	Distribution transformer & pad	EDF, CIAC & Accommodation ¹⁾	Meter	Customer transformer & pad ¹⁾	Trenching	Panel & pre-EVSE wiring	Charger, pedestal installation
Make-Ready Incentive				✓		✓	✓	✓	
Who pays³⁾	Utility	Utility	Utility	MRP Incentive	Utility	MRP Incentive	MRP Incentive	MRP Incentive	Customer
Budget	System Reinforcement	New Business	New Business	MRP	New Business	MRP	MRP	MRP	n.a.
Who owns	Utility	Utility	Utility	Utility	Utility	Customer	Customer	Customer	Customer
Cost recovery	Capex: • General rate base	Capex: • General rate base	Capex: • General rate base	Capex: • General rate base	Capex: • General rate base	Reg Asset (15 year)	Reg Asset (15 year)	Reg Asset (15 year)	n.a.

Point of entry

 New business
 Make-Ready ("MR") components
 Developer costs

1) EDF and similar or associated costs are treated as utility-side Make-Ready; 2) Developer costs are not within the Make-Ready program scope and are not paid by utility customers; 3) Make-Ready Program incentive is up to 100% and set at a global 90% level

The Joint Utilities are operating on the principle that costs to interconnect a new load that would otherwise be included in the utility's capital budget and socialized (*i.e.*, as part of New Business⁷ expenditures) will continue to apply during the implementation of MRP. However, a new cost recovery mechanism, such as a mechanism to collect incremental revenue requirements in the current rate period via a surcharge with subsequent incorporation into delivery rates in the next rate proceeding, may be needed to recover costs associated with the MRP that were not included in a particular utility's calculated revenue requirement as established in its most recent rate case.

⁷ "New Business" generally refers to utility budgets designed to cover the socialized expenses of connecting new customers and load to the system.

b. Budgets

The EVSE&I Whitepaper provided initial make-ready cost estimates for L2 and DCFC plugs. The Joint Utilities have reviewed and built upon these estimates, subsequently developing revised MRP budgets. These budgets are higher than those proposed in the Whitepaper and are based on a combination of observed costs in existing New York State utility programs and projects, observed costs in other states' utility programs, and internal engineering and construction estimates. The overall MRP budgets developed by the Joint Utilities reflect three components: (1) the make-ready incentive payments (incentive budget); (2) program implementation costs; and (3) future-proofing expenditures. The Joint Utilities also estimate the New Business costs associated with the implementation of the MRP.

1. Observed Program Costs

National Grid has operated a make-ready incentive program in New York since 2018 under which potential participants submit an application for an incentive to cover all of their applicable make-ready costs. The L2 plug proposals that National Grid has received as part of this program reflect a range of make-ready costs, many of which extend above the \$5,000 assumption in the EVSE&I Whitepaper for L2 plugs in upstate New York.

Experience from Massachusetts and California is similar. In 2018-2019, under National Grid's Massachusetts' affiliate, make-ready costs for L2 plugs were approximately \$6,000 per plug. In California, actual make-ready costs under Southern California Edison Company's 2016-2019 pilot were roughly \$12,500 per L2 plug, about 60 percent higher than that program's

estimated cost.⁸ For Pacific Gas & Electric Company (PG&E), where construction costs in the San Francisco area are less than in New York City, actual make-ready costs under their 2017-2019 pilot for an L2 charger were about \$17,100, almost 22 percent higher than the estimated cost per plug.⁹ San Diego Gas & Electric Company's experience produced a similar underestimation of budgeted costs relative to actual costs as that experienced by PG&E.¹⁰ While there is limited information on actual DCFC make-ready costs, the Joint Utilities expect that costs would follow a similar pattern to L2 chargers in California, landing above the Whitepaper estimates considering the higher levels of uncertainty and risks inherent in the more expensive DCFC application.

2. New York Utility Program Estimates

The Joint Utilities have developed a make-ready program cost estimate for the quantity of L2 and DCFC plugs targeted in the EVSE&I Whitepaper. This budget includes incentives for L2 and DCFC make-ready expenses, as well as implementation costs and future-proofing expenses.

For the New York City Metro area (NY Metro), Con Edison estimates that the average L2 make-ready cost estimate is \$16,100 per plug while the average DCFC make-ready cost

⁸ These estimates were derived from analysis that considered the following sources: California Public Utility (CPUC) Decision 16-01-023, Decision Regarding Southern California Edison (SCE) Company's Application for Charge Ready and Market Education Programs (January 25, 2016), and *Southern California Edison Charge Ready and Market Education Programs Pilot Report* (July 9, 2018) available at https://www.sce.com/sites/default/files/inline-files/Charge%2BReady%2BPilot%2BReport%2BSummary_Amended.pdf, and *Southern California Edison Company's Charge Ready Pilot Quarterly Report 4th Quarter, 2019* (February 28, 2020), available at https://www.sce.com/sites/default/files/inline-files/SCE%20Quarterly%20Charge%20Ready%20Pilot%20Report%202019%20Q4_WCAG.pdf

⁹ These estimates were derived from analysis that considered the following sources: CPUC Decision 16-12-065, Decision Directing PG&E to Establish Electric Vehicle Infrastructure and Education Program, (December 21, 2016), and *PG&E's EV Charge Network Quarterly Report, Report Period: July 1, 2019 – September 30, 2019*, available at https://www.pge.com/pge_global/common/pdfs/solar-and-vehicles/your-options/clean-vehicles/charging-stations/program-participants/PGE-EVCN-Quarterly-Report-Q3-2019.pdf

¹⁰ CPUC Decision 16-01-045, Decision Regarding Underlying Vehicle Grid Integration Application and Motion to Adopt Settlement Agreement (issued February 4, 2016).

estimate is \$130,800 per plug. Con Edison performed an analysis, based on a combination of bottom-up internal engineering cost estimates, and analysis of data and costs from other programs and studies. In developing the budget, the Con Edison analysis assumed a plug distribution (*i.e.*, the distribution of plugs per site) and geographical spread (across New York City boroughs and the county of Westchester) consistent with the current plug distribution and spread in the Con Edison service territory. Further, the analysis accounted for the types of parking spots and parking behavior of customers to determine how many EV chargers can be expected to be outdoors.¹¹ Con Edison's study concluded that expected costs in its service territory are substantially above the EVSE&I Whitepaper estimates.

For upstate New York installations, based on the program implementation experience noted above and further internal analysis, the Joint Utilities estimate that the make-ready cost per plug is also higher than the estimates provided in the EVSE&I Whitepaper for L2 and DCFC plugs. The amount is approximately 20 percent higher for L2 at \$6,000 per plug and 10 percent higher for DCFC at \$55,000 per plug. These make-ready cost estimates are based on a combination of conceptual or actual project estimates by each of the upstate utilities.

MRP implementation will also generate program administration and management costs and future-proofing costs. The funding for these necessary program elements was not included in the Whitepaper's proposed \$582 million incentive budget. Program administration and

¹¹ Con Edison analyzed data from the NYSERDA Charge Ready program, and costs considered included the International Council on Clean Transportation (ICCT) Working Paper 2019-14, *Estimating electric vehicle charging infrastructure costs across major U.S. metropolitan areas* (August 2019), available at https://theicct.org/sites/default/files/publications/ICCT_EV_Charging_Cost_20190813.pdf and the Atlas Public Policy report prepared for NYSERDA, *Assessing the Business Case for Hosting Electric Vehicle Charging Station in New York* (June 2019), available at <https://atlaspolicy.com/wp-content/uploads/2019/09/19-31-Business-Case-for-Hosting-Charging-Stations.pdf>.

management costs include critical activities imperative to implementation success. These include: program design; customer acquisition (which includes facilitating collaborative arrangements between willing site hosts and EV charger developers); project management; development of IT systems to manage incentive payments and information flows; measurement and verification; reporting; incentive payments processing; marketing, outreach and education; and other related incremental costs. Experience from successful peer programs indicate that such success is predicated on a robust program design framework that provides for adequate program implementation focus and emphasizes the utility role in actively connecting site hosts with EV charger developers. The Joint Utilities strongly recommend that the Commission allow for such a framework.

The Joint Utilities observe that, generally, these program implementation expenditures represent approximately 15 percent to 20 percent of program costs in peer programs and the budget estimates in Tables 1 and 2 reflect the midpoint of that range. Future-proofing costs discussed in Section IV may represent approximately eight percent of total program costs. Finally, the Joint Utilities estimate New Business expenses associated with meeting MRP targets. New Business expenses associated with the MRP are provided in Tables 1 and 2 as a point of reference but are not included as part of the overall MRP budget. The Commission should 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.

In the development of their budget estimates, the Joint Utilities also modified the Whitepaper's approach to differentiating the make-ready incentives for non-public and public

installations. The budget proposed in the EVSE&I Whitepaper assumes smaller make-ready incentives for non-public installations than public installations and established the MIL as the upper limit on incentives paid out per plug. As explained in Section IV, program results can be enhanced through the relaxation of non-public plug requirements and the replacement of the MIL with more effective cost containment provisions. As a result, it is assumed that the average incentive for all plugs is based on 90 percent of all make-ready costs with the recognition that the Joint Utilities have the flexibility to offer larger or smaller incentives as appropriate. Given these assumptions, the Joint Utilities estimate that the total budget required to install the number of plugs targeted in the EVSE&I Whitepaper is approximately \$1.4 billion. As Table 1 shows, this amount is composed of the incentive budget, program management costs, and future-proofing expenses. Estimates of New Business expenses associated with the MRP are provided for reference.

Table 1: Joint Utilities’ Budget Estimate to Achieve EVSE&I Whitepaper Plug Objectives¹²

	L2 Quantity	DCFC Quantity	\$ Millions					New Business Expense
			Incentive Budget	Program Implementation	Future Proofing	Total MRP Budget		
Central Hudson	6,152	156	\$ 41	\$ 7	\$ 3	\$ 51	\$ 11	
Con Edison	36,267	920	\$ 704	\$ 123	\$ 56	\$ 884	\$ 179	
National Grid	29,890	758	\$ 199	\$ 35	\$ 16	\$ 250	\$ 14	
NYSEG/RGE	24,827	630	\$ 165	\$ 29	\$ 13	\$ 207	\$ 7	
O&R	5,190	133	\$ 39	\$ 7	\$ 3	\$ 49	\$ 10	
TOTAL	102,327	2,597	\$ 1,148	\$ 201	\$ 92	\$ 1,441	\$ 221	

By contrast, the Joint Utilities estimate that if the make-ready incentive budget is fixed at the \$582 million estimate from the EVSE&I Whitepaper, 54,595 L2 and 1,895 DCFC plugs could be supported. In this alternate view, program implementation costs (\$102 million) and future-proofing costs (\$47 million) are incremental to the \$582 million make-ready incentive

¹² New Business does not include fixed labor overheads, nor does it reflect potential system betterments.

budget. Table 2 shows these results for each of the Joint Utilities, with a total budget of \$730 million.

Table 2: Achievable Plug Installations Under EVSE&I Whitepaper Proposed Incentive Budget¹³

	L2 Quantity	DCFC Quantity	Incentive Budget	\$ Millions			
				Program Management	Future Proofing	Total MRP Budget	New Business Expense
Central Hudson	3,723	142	\$ 27	\$ 5	\$ 2	\$ 34	\$ 8
Con Edison	14,988	380	\$ 291	\$ 51	\$ 23	\$ 365	\$ 74
National Grid	18,088	690	\$ 132	\$ 23	\$ 11	\$ 165	\$ 10
NYSEG/RGE	15,025	573	\$ 109	\$ 19	\$ 9	\$ 137	\$ 6
O&R	2,771	110	\$ 23	\$ 4	\$ 2	\$ 29	\$ 7
TOTAL	54,595	1,895	\$ 582	\$ 102	\$ 47	\$ 730	\$ 105

III. Supportive and Complementary Policy Targets

While the EVSE&I Whitepaper focuses on specific targets for L2 and DCFC plugs, there are overlapping policy mechanisms impacting NYS EV adoption in addition to the economy wide GHG targets specified by the CLCPA. The plug targets in the EVSE&I Whitepaper are linked to a State goal of 850,000 EVs on the roads by 2025, which is derived from the Multi-State Zero Emissions Vehicle Memorandum of Understanding (ZEV MOU).¹⁴ However, New York's ZEV legal mandate¹⁵ requires ZEVs to be 16 percent to 22 percent of all new cars offered for sale in the State by 2025 based on the calculation of actual sales that is complex and measured in credits, not vehicles. The number of credits necessary for compliance is a function of the number of overall vehicle sales and the number of available "banked" credits. Moreover,

¹³ *Id.*

¹⁴ On October 24, 2013, Governor Cuomo entered into a Memorandum of Understanding with the Governors of California, Connecticut, Maryland, Massachusetts, Oregon, Rhode Island, and Vermont agreeing to coordinate and collaborate to promote effective and efficient implementation of ZEV regulations. Since 2013, additional states have joined the ZEV MOU. Available at http://www.dec.ny.gov/docs/air_pdf/zevmou.pdf

¹⁵ See 6 CRR-NY 218-4.1 NYCRR.

longer-range ZEVs produce more credits. Thus, the pathway for compliance with the ZEV mandate depends on both the mix of qualifying vehicles and their capabilities.

In short, there are many policy mechanisms that can help propel a transition to an electrified transportation system and many will be necessary to move the State towards reaching its CLCPA goals. A well-designed charging network, supported by a MRP, is an important element of such a strategy, but will also need additional policy and programs that address the transportation sector holistically, including infrastructure, light-, medium-, and heavy-duty vehicles, and consumer needs.

The Joint Utilities also note that in addition to adequate incentives to support make-ready infrastructure development, EV charger developers' business cases are also predicated on availability of sufficient support such as that provided by the NYSERDA Charge Ready program for L2 plugs and the utility per-plug incentive program for DCFC plugs. The Joint Utilities recommend, at minimum, continuation of such support through the MRP mid-point review period.

IV. Implementation of a More Flexible Framework

The business cases for L2 and DCFC plugs will evolve in ways that are difficult to predict. The Commission can help to significantly increase the likelihood of success of the MRP by providing utilities the flexibility to implement programs that will be most effective given diverse customer and service territory characteristics. Flexibility is needed in many areas not only to adjust program parameters and incentive structures over time as use cases and suitability criteria change as discussed above, but also to provide the Joint Utilities the best opportunity to

effectively implement programs and spend MRP budgets. Specifically, the Joint Utilities offer the following suggestions to allow flexibility and therefore enhance the MRP:

1. Utilities should have the flexibility to determine the appropriate number of L2 and DCFC chargers per site for both public and private installations.
2. Program designs should be flexible so they can pivot to address market and technology evolution and consumer demand for types of charging infrastructure that lead to higher EV adoption rather than attempting to predict the future nature and mix of chargers.¹⁶

The Whitepaper's proposed prescriptive incentive structure is premature. The EV and EVSE markets remain at a nascent stage of development from both technological and customer participation perspectives. Based on experience in New York and other states, most MRP incentives will need to provide for most of, if not all, make-ready infrastructure expenses. This level of incentives is consistent with experience in Rhode Island, Massachusetts, and California where the make-ready incentives generally covered between 80 percent and 100 percent of all make-ready costs. In southern California, programs are increasing towards 100 percent in the second phase of programs after a lower level in the pilot phase. These results were also affirmed by statements from stakeholders such as EVgo and ChargePoint at the April 2020 EV technical conferences indicating that significant incentives up to 100 percent of make-ready costs are valuable to spur the market.

¹⁶ Specifically, program designs should be sufficiently flexible to allow for adjustments that consider the EV driving populations in utility service territories, such as the percent of for-hire vehicles and light-duty fleets, the number of customers who live and park in multi-unit dwellings, the number of customers who can benefit from workplace charging, the percent of customers who have access to public parking as described in the EVSE&I Whitepaper, and the driving/charging behavior of EV-user customers.

a. Maximum Incentive Level

The EVSE&I Whitepaper introduced the concept of a MIL, to contain program costs. The MIL would be based on utility-specific estimated average development costs for L2 plugs and DCFC plugs. The program incentive would first offset utility side make-ready costs and then, to the extent that funds are available, would be used as a rebate to offset customer side make-ready costs. If the utility side make-ready costs exceed the MIL for a given installation, the developer would be responsible for paying the remainder of the utility-side make-ready costs, as well as the entire customer side make-ready costs.

The Joint Utilities are concerned that the proposed MIL will set an overly restrictive limitation on incentives, as described below. The proposed MIL should be replaced with a more flexible program framework, including an overall budget and performance incentives to drive achievement. This approach would enable utilities, as program administrators, to allocate incentives to the most effective projects and thus drive infrastructure build to support more plugs for the same budget.

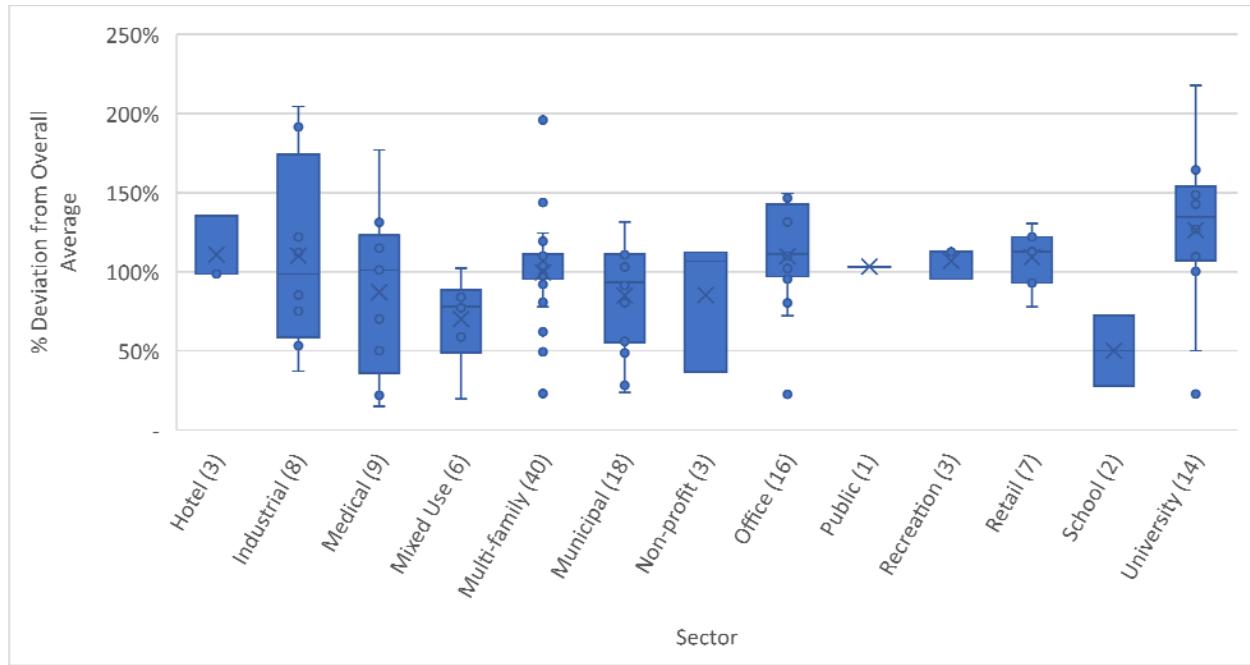
The proposed MIL will set an overly restrictive limitation on incentives that does not reflect the wide range in make-ready costs that vary on a site-by-site basis. The proposed MIL can deter implementation of higher cost/and value charging stations, such as stations in an area of higher density of EVs or in a strategic location, that can otherwise be developed through a robust, carefully managed and continuously evolving program design. Additionally, the proposed MIL may inadvertently set an incentive level in the marketplace that encourages cheaper installations to inflate their costs toward the MIL in order to receive greater incentives. The end result will be fewer plugs at higher prices and lower societal benefits than would have been possible under a more flexible construct.

Further, if the initial MIL is set too low, it will not provide the level of incentive needed to spur broad EVSE deployment nor will it encourage developers to view New York as an attractive place where they choose to dedicate time and resources to build chargers and drive additional commercial investment.

National Grid's experience in New York illustrates the power of a program that recognizes the different cost structures inherent in projects at different sites or for different customer segments. Figure 2 shows the variance of costs by type of project and illustrates the diversity in make-ready costs by customer segment. While National Grid's sample sizes are small in certain segments,¹⁷ there is a divergence in cost structure within as well as among the segments. In implementing its program, National Grid chose the lowest-cost sites by segment. In contrast, the proposed MIL does not recognize different cost structures by site and segment, which would not permit the segmentation that National Grid undertook. Implementing a territory-wide MIL could hinder the development of a robust charging network which serves a variety of sites and segments.

¹⁷ Note that the number of sites in each sector is captured in the parenthetical after the name in the figure.

Figure 2: Percent Deviation from Average Cost per Plug by Sector.



Note: The number of sites in each sector is captured in the parenthetical after the name in the figure.

b. Incentive Approach

The Joint Utilities propose an incentive structure that would, on average, provide between 90 percent and, in some cases, up to 100 percent of make-ready costs for L2 and DCFC stations. To encourage a quick MRP uptake, the Joint Utilities also propose that plugs of all types including proprietary or non-proprietary plugs, public and private sites, workplaces and multi-unit dwellings, and light-duty fleets should all be eligible for the MRP on an equal basis. Making a broad range of sites eligible for the MRP would facilitate a diverse mix of sites, both in terms of plug type and location, and would allow the Joint Utilities to select projects serving low- to moderate-income (LMI) and environmental justice (EJ) communities.

It is also necessary to consider other ways that the MRP can be enhanced by a flexible utility approach to potential projects. Specifically, the Joint Utilities offer the following

recommendations to enhance the program: (1) flexibility in setting and changing incentive levels to effectively deploy limited resources to (a) increase the number and/or capability of chargers that the EVSE development can support, (b) accommodate customer needs of the segments within individual utility service territories (as described more fully below), and (c) account for the diversity of developer business models; (2) flexibility in determining the distribution of L2 and DCFC stations; (3) flexibility in setting a trajectory through 2025 in a manner that evolves with the market so the Joint Utilities can address the demand for the types of charging infrastructure rather than prematurely predetermining the nature and mix of chargers; and (4) flexibility in setting customer acquisition and go-to-market strategies that allow for adjustments to successfully implement the MRP that consider the customer segments in individual utility service territories, such as the percent of for-hire vehicles and light-duty fleets, the number of customers who live and park in multi-use dwellings, the number of customers who can benefit from workplace charging, the percent of customers with access to public parking as described in the EVSE&I Whitepaper, and the driving/charging behavior of customers including those of residents and commuters.

As noted earlier, National Grid has conducted an MRP that demonstrates the efficacy of this flexible incentive approach. Through a transparent review process, National Grid delivered a cost-effective program that served a range of market segments in geographically diverse fashion across its service territory. Flexibility drives lower costs. For instance, as of April 15, 2020 the projects that National Grid approved for incentives applied for a make-ready incentive on average of over \$1,200 per plug less than those projects which National Grid did not approve for L2 projects, a difference of 22 percent in the per-plug costs of the in-flight versus the wait-listed projects. The increased number of sites and chargers envisioned by the Whitepaper will

likely drive per plug costs higher as lower-cost sites are taken. While the National Grid program was largely focused on deploying roughly 1,400 L2 plugs over 130 sites, it has a small DCFC component. All five sites which are currently developing DCFC are co-located with L2 plugs, which indicates the diversity of business models and strategies among site hosts. Finally, National Grid used internal resources and external partners to develop a go-to market strategy. Externally, a network of “trade allies” of electricians, EE vendors, and manufacturers helped recruit site hosts and provide turn-key installation services to deliver about 75 percent of the projects and plugs in National Grid’s program. Trade allies were particularly important in reaching some segments, like multi-use dwellings, and less important in others, including mixed-use sites.

The Joint Utilities suggest using a transparent and consistent review process to manage a continuously evolving program that builds on recent utility experience. For example, in the extant National Grid program, the evaluation team held quarterly meetings to evaluate and approve projects. Under a higher volume of applications, a more frequent cadence may be appropriate. In evaluating applications, National Grid used three primary metrics:

1. Cost per plug;
2. The number of drivers each site would serve and the associated education and marketing reach of each project; and
3. Geographic location such that there was a relatively equitable distribution of plugs across National Grid’s service territory.

National Grid gave additional consideration to sites that served LMI communities, or in workplaces where employers complemented the EVSE with incentives to employees to purchase EVs or where the charging installations could support both fleet and personal vehicles.

c. L2 Limitations

The EVSE&I Whitepaper suggests that the Commission limit L2 installations to no more than half of all plugs in each utility service territory during the program's first three years.¹⁸ Given the large number of L2 plugs specified in the EVSE&I Whitepaper, this proposed limitation could impede implementation progress during the first three years, thereby creating a potential rush of projects in the final two years of the program. In the Commission's 2019 DCFC Incentive Order, the Commission found that "limiting the number of eligible plugs by year may unnecessarily slow DCFC station development."¹⁹ The Joint Utilities suggest that the same will likely be true of limiting the number of L2 plugs and the Commission should provide the Joint Utilities flexibility to support the development of L2 plugs at a pace consistent with both the market evolution and the overall program goals.

d. DCFC Limitations

The EVSE&I Whitepaper establishes a minimum and maximum number of DCFC plugs that an installation must have in order to be eligible for the MRP incentives. These requirements could constrain the types of sites that are developed, potentially impeding implementation progress and increasing overall program costs. There are likely instances where a cost-effective site could be developed with two to three DCFC plugs. On the other hand, as DCFC technologies advance, there may be opportunities to implement a highly beneficial site with a greater number of DCFC plugs than the ten plugs specified by the Whitepaper. With additional consideration to the comments of the parties at the April Technical Conferences, the Joint Utilities believe that establishing a minimum requirement of two DCFC plugs at a given location

¹⁸ EV Proceeding, EVSE&I Whitepaper, p. 36.

¹⁹ EV Proceeding, Order Establishing Framework for Direct Current Fast Charging Infrastructure Program (DCFC Incentive Order) (issued February 7, 2019) p. 40.

would better enable multiple kinds of sites with diverse business models to access make-ready incentives.

e. Public and Non-Public Installations

The multi-faceted public/non-public eligibility criteria proposed in the EVSE&I Whitepaper should also be modified. The public accessibility criteria could limit charging infrastructure at multi-use dwellings, workplaces and parking garages/lots, particularly downstate in the NY Metro and surrounding areas, where free public parking is scarce and development costs are more expensive. Con Edison recently conducted a customer survey and estimates that approximately 42 percent of drivers in its service territory do not have access to home parking and of those drivers, roughly 32 percent park in lots and garages. This represents a significant number of customers who will need EV charging in locations the EVSE&I Whitepaper would deem non-public. In addition, cities and towns across the State will play a large role in deploying public charging equitably and effectively for their communities. Municipal budgets rely on parking fees (including paid lots and meters) and municipalities should not be forced to choose between parking revenue and supporting transportation electrification needs of their residents.²⁰ Parking fees, both municipal and private, are set by established mechanisms (*e.g.*, municipal councils and market rates) and are a legitimate fee for a public service that is distinct from EV charging services. By eliminating these restrictions, the MRP will enable opportunities for a greater range of potential EV drivers and EVSE market participants.

²⁰ Municipal budget shortfalls due to the effects of COVID-19 are likely to make the suspension of parking fees even more unlikely in the coming years.

f. Bundling

The EVSE&I Whitepaper describes a concept that would allow developers to combine DCFC projects to “create their own bundle of site locations, with the plugs all having to be completed during a developer-chosen 18-month period (Bundle Period).”²¹ The total incentive paid by the utility under the bundling approach would “be capped at the lesser of 90% of eligible Make-Ready costs for all plugs completed during the Bundle Period submitted by the developer, or the maximum per plug incentive multiplied by the number of plugs installed during the Bundle Period.”²² The EVSE&I Whitepaper provides an example showing that the bundling proposal would provide greater incentives for a group of sites than an approach capping the make-ready incentive at the lesser of 90 percent of the eligible costs per site or the MIL.²³ Such an approach would drive the overall incentive received by the bundled projects toward the MIL and as such would not incent lower-cost development.

Many parties such as ChargePoint and EVgo raised concerns at the April EV technical conferences regarding the bundling approach in the EVSE&I Whitepaper. The Joint Utilities agree and in advocating for a flexible approach to program design, essentially propose to broaden the bundling proposal in the EV Whitepaper to a utility portfolio level. By contrast, the Joint Utilities’ proposal would enable utilities to offer incentives to projects commensurate with a stronger incentive to drive cost-effective solutions while managing overall program costs on a service-territory wide portfolio basis.

The EVSE&I Whitepaper’s bundling recommendation has the potential to become administratively complex and may not stimulate charging site development. By creating a

²¹ EV Proceeding, EVSE&I Whitepaper, p. 36.

²² *Id.*

²³ *Id.*, p. 37.

bundling process of 18 months, the EVSE&I Whitepaper creates an administrative process that requires tracking project groups with diverse locational and temporal characteristics. The Joint Utilities recommend that if an applicant wishes to bundle a set of projects together to apply for MRP incentives, it can do so on a single application with all relevant plugs in the bundle, so that the utility can compare the proposal against other applicants to drive effective use of customer funds.

g. Future-Proofing

The Whitepaper proposes the concept of future-proofing whereby the charger site would be developed with oversized components at a “minimal incremental cost to accommodate upgrades to the quantity or charging capacity of chargers at the station as EV standards and penetration levels change and increase over time.”²⁴ In general, the EVSE&I Whitepaper noted that future-proofing activities would include oversizing/additional conduit, increasing space available for panel expansion, and the installation of additional connection points and conduit to permit future expansion of charging facilities.

The EVSE&I Whitepaper further recognized that the International Council on Clean Transportation (ICCT) recommended installing necessary connection points for future fast chargers, while also noting the need to recognize situations where future upgrades in transformers may be necessary. The EVSE&I Whitepaper supports these concepts and recommends that the Commission adopt the lessons learned by the ICCT.

The Joint Utilities generally agree that future-proofing should be encouraged to include installing additional connection points, trenching, and conduit for future charging station

²⁴ *Id.*, p. 2.

expansions. However, consistent with the ICCT's lessons learned, there may be situations where future-proofing should be expanded to include broader system upgrades, including larger transformers or additional transformer pads. Because future-proofing expenditures represent additional utility costs that are not tied to the quantity or charging capacity of plugs initially installed at a location, such expenditures should be recognized as a separate line item inside the MRP budget.

The Joint Utilities recommend the use of the following general criteria to determine the extent, if any, of necessary future-proofing required at a specific site.

1. A developer's plan for expansion (number of plugs and/or upgrading to higher kW units).
2. The feasibility of the expansion including whether: (a) the site can accommodate additional charging stations and make-ready infrastructure; (b) the site can support a higher level of kW service; and (c) whether there are additional parking spots available.
3. Costs associated with increased kW of service including: (a) the infrastructure needed to support the expansion; (b) the level of savings associated with incurring future-proofing expenditures today versus the future; and (c) the cost per kW enabled by future proofing versus the cost per kW enabled by the make-ready activities.

h. Treatment of Applicants on Premises with Existing Service

Currently, if there is an existing customer on a premise and a second entity demonstrates site control via a lease or comparable arrangement, National Grid and Central Hudson allow that second entity to apply for service as a new applicant with allowances for service. The remaining utilities do not follow this approach. The Joint Utilities recommend that the Commission provide the remaining utilities the flexibility to allow for the treatment of an EV applicant with site control provisions as a new load applicant given the objectives of this proceeding.²⁵

²⁵ This treatment can be appropriate for EVSE because charging infrastructure is receiving incentives under the MRP designed to reduce make-ready costs.

This is a matter of particular relevance to DCFC sites which are commonly built in the parking lots of land parcels where there is another building with existing service. The Joint Utilities do not propose any other changes to their interconnection processes for load. Rather, this change would entitle new L2 or DCFC applicants to certain cost-sharing provisions common for new load customers. Absent such a treatment, those customers would likely be responsible for the increased costs of new service and such an amount would be included as part of the MRP incentive payment. Thus, this treatment would increase the availability of MRP funding for make-ready costs rather than costs associated with installing new service. As noted previously, the Commission will need to provide utilities the ability to defer and collect incremental new business costs that are not reflected in rates.

i. Outreach and Education Funding

The EVSE&I Whitepaper notes that effective outreach and education is critical to advancing the State’s clean energy agenda but that to the extent the Joint Utilities “choose to conduct consumer outreach targeted at influencing their electric customers to become EV owners, they should use shareholder money.”²⁶ The Joint Utilities have an important role in communicating the benefits of electricity as a transportation fuel source and in promoting the details of the proposed MRP to potential developers and site hosts. Therefore, this recommendation should be rejected by the Commission. Moreover, it is inconsistent with the cost recovery treatment of outreach and education expenses related to other public policy initiatives and unsupported by the EVSE&I Whitepaper and past utility practice. This proposal is also at odds with the economic signals created by the outcome-based beneficial electrification

²⁶ EV Proceeding, EVSE&I Whitepaper, pp. 48-49.

Earnings Adjustment Mechanisms (EAMs) in place for National Grid, Orange and Rockland and Con Edison.

V. Performance Incentives

The Joint Utilities acknowledge the importance of the EVSE&I Whitepaper's support for cost containment and believe that performance incentives are an appropriate mechanism to drive overachievement of plug deployment at a reasonable cost. A flexible programmatic framework coupled with a performance incentive designed to promote the efficient use of finite budgets towards higher achievement would achieve greater progress toward the State's EVSE objectives. In that vein, the Commission should recognize the varied characteristics of each utility's service territory and provide the Joint Utilities a menu of six performance metric options to establish accountability for achieving program objectives at a reasonable cost to customers.

1. Number of L2 plugs;
2. Number of DCFC plugs;
3. Cost effectiveness of L2 plugs (on a \$/kW installed or \$/plug basis);
4. Cost effectiveness of DCFC plugs (on a \$/kW installed or \$/plug basis);
5. kW enabled by Level 2 activities; and
6. kW enabled by DCFC activities.

Each utility will justify its use of metrics as part of their implementation plan filings in this proceeding or as part of ongoing rate case negotiations.

These metrics would be complementary to beneficial electrification EAMs²⁷ already in place at some of the state's utilities. This new performance incentive proposed herein would

²⁷ Beneficial electrification EAMs are generally an outcome-based metric that encourage utilities to facilitate adoption of EV and electrified heating solutions, among other technologies.

encourage utilities to maximize the total amount of charging enabled by the MRP in a cost-effective manner within the boundaries of the program budget. This approach would allow each utility to consider its local market needs, demographics, vehicle mix, and local policies in order to design and implement the MRP in a way that drives EVSE development.

Given the importance of the State's EV initiative and the value of the benefits it will provide customers, it is imperative that appropriate targets are established. The design of performance incentives should draw upon lessons learned in implementing EAMs for the each of the Joint Utilities and should be based on realistic assumptions and recognize the nascency of the program augmented by stretch goals. Targets should be achievable and awards for achieving them meaningful. Each metric should have minimum, average, and maximum outcomes for performance awards to be made. Performance targets should be established based on additional analyses that consider factors such as program ramp up rates, actual installation costs for each utility's service territory, and market conditions including EV adoption rates and mixes.

VI. Utility Ownership

The Commission has historically preserved an opportunity for utilities to own DER infrastructure and assets in conditions where market failure has been identified or in applications that serve LMI customers. The impact of COVID-19 on the economy will, over the next few years, likely diminish the ability and willingness of businesses and developers to make investments in technologies to support a wide-scale deployment of EVs. Achievement of the GHG emission objectives established by the CLCPA may be frustrated without a robust market that includes EVSE developers. The Joint Utilities support the EVSE&I Whitepaper's proposal that the primary utility role should be the provision of make ready infrastructure in support of third-party developers. However, in the current pandemic-driven economic circumstances, the

Commission should not preclude utility ownership of charging infrastructure in situations where it could be beneficial to the general public, as well as for LMI customers, during the next few years. The Joint Utilities recommend that any such ownership would permit utilities to recover these costs over an appropriate depreciation schedule.

VII. REDC Modifications

The EVSE&I Whitepaper proposes a competitive procurement for Upstate DCFC stations across seven Upstate REDCs. The utilities which provide service in the relevant REDCs see merit in this proposal and will work together to structure similar procurements in the program's first year. Certain clarifications and modifications should be made to enhance the REDC proposal.

1. The utilities will solicit bids on a \$/plug basis for at least 16 plugs per REDC.
2. The utilities will divide the number of plugs by REDC according to customer count in each REDC with appropriate rounding to ensure that each company is procuring an appropriate number of plugs in each REDC.
3. The requirements on the number of chargers at each site should be relaxed such that sites may bid for a minimum of two chargers and a maximum of six chargers should be allowed to participate.
4. The results of this competitive procurement should be an incremental addition to the overall budget for the MRP (not reflected in Table 1 and Table 2 estimates). Alternatively, if the Commission determines that the costs of the competitive procurement should not increase the MRP budget, then the targeted amount of DCFC plugs should be adjusted downward based on the result of the competitive procurement.
5. The utilities will collaborate to determine the lowest cost mix for at least 16 DCFC plugs per REDC.
6. The minimum kW charging rate should be consistent with the Commission's recent decision in this proceeding regarding the DCFC incentive program²⁸ balance forward-

²⁸ See EV Proceeding, Order Providing Clarification and Modifying Direct Current Charging Incentive Program (issued March 19, 2020), p. 14, where the Commission modified the DCFC per-plug incentive program rules so that at co-located stations, any plug type capable of simultaneously charging two vehicles at 75 kW or greater receives a full per-plug incentive, and commonly accepted, standardized plug equipment at the site capable of simultaneous charging two vehicles at 62.5 kW to 74 kW receives 60 percent of the full incentive.

looking investment with the capabilities of the current vehicle mix while also anticipating the need to develop a statewide DCFC charging network.

VIII. Fleets

Advancing fleet electrification is crucial to meeting the State's GHG emissions reduction goals. Fleets across all segments have a higher vehicle-miles-traveled per vehicle, and therefore have a larger total cost of ownership benefit from electrifying their vehicles. As such, the Joint Utilities encourage the Commission to move rapidly in proposing additional incentives to electrify medium- and heavy-duty fleets across the state and to support specific utility proposals to address this key segment of the transportation sector. Fleet operations come in multiple forms that include light-duty vehicles (*e.g.*, commercial vehicles, taxis, ride-hailing, and transit fleets), medium- and heavy-duty vehicle fleets (*e.g.*, buses and related transit services, local delivery, long-haul delivery, etc.), and mixtures of the two. Opportunities to support the electrification of varied types of fleets differ from one utility service territory to another. Bus and related transit services fleets represent an opportunity that can have a substantial impact on reducing GHG emissions in LMI communities.

The fleet advisory services envisioned by the Whitepaper could be a reasonable role for the utilities subject to proper program design and cost recovery for any expenses the utility would incur in providing this service. This service will be crucial in assisting customers to navigate the complex process of planning for large-scale fleet electrification in order to meet the State's GHG reduction goals. These services could include an electricity bill impact analysis for the most relevant available cost-based rate designs, a site feasibility analysis (such as cost estimates for infrastructure upgrades on both the utility and customer sides of the meter or recommendations regarding alternate sites for charging depots), and a roadmap to fleet

electrification. Such a service will generate administrative costs through the use of internal and external resources that are not captured in per-plug incentive amounts.

IX. Reporting Requirements

The EVSE&I Whitepaper establishes reporting requirements which apply to charging stations receiving MRP incentives. L2 and DCFC stations are required to provide information to utilities on a quarterly basis.

While the Joint Utilities recognize that quarterly reporting may be desirable in the future, the Commission should initially require simple monthly status reports, similar to those used for community distributed generation (CDG) tranches. Additionally, in similar fashion to the CDG tranches, the utilities should file a letter with the Commission when the MRP hits certain milestones (*e.g.*, 50 percent, 80 percent, 90 percent and 100 percent of targeted plugs or funds deployed) coupled with filing more detailed progress reports on an annual basis. The Joint Utilities also suggest that they create a web presence for the MRP, updated monthly.

The EVSE&I Whitepaper's recommendation that utilities hire third parties to collect, summarize and anonymize the required data is appropriate, as long as the Commission provides the Joint Utilities the ability to recognize such costs in rates. In addition to the value that EV charging data brings to Staff and the Commission, this data is also required for utility distribution planning purposes as the Joint Utilities continue to develop and refine models for forecasting EV load impacts. Utilities should be permitted to utilize collected EV data for planning purposes. Utilities could execute non-disclosure agreements with EVSE developers and/or site hosts as needed to ensure data privacy.

X. Other Implementation Matters

a. Load-Serving Capacity Maps

Load serving capacity is primarily an issue for larger EVSE installations composed of DCFC rather than L2 chargers. The Joint Utilities have some experience working with developers and applicants to guide them to reasonable sites for DCFC installations. To this end, as the volume of EV charger development activity increases within the statewide MRP, load serving capacity maps are a useful tool for developers and installers interested in DCFC applications. The Joint Utilities will expeditiously develop and post a load serving capacity map on each utility's System Data Portal after the Commission issues an Order addressing this Whitepaper.

Some parties may prefer more granular representations of the utility system than the utilities are able to provide initially. The Joint Utilities recognize this and note that while such presentations will require more time, they could be produced on a schedule consistent with improvements in Hosting Capacity Maps. Use cases and a project implementation road map should be developed in the EVSE Readiness Technical or Information Sharing Working Groups.

b. Suitability Criteria

The EVSE&I Whitepaper recommends that the Joint Utilities develop common suitability criteria that marry load serving capacity, a charging business case, and a strategic location. Under the proposal for the flexible evaluation of sites discussed in Section IV, such an approach including the assessment of developer and/or site host business cases is unnecessary. There is already a significant range of charging business cases and more will develop as the number of EVs on the State's roads increases. While utilities will consider load serving capacity and the

strategic location (among many variables) when assessing a proposal, it should be up to the 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 charging developers with site hosts as part of the MRP implementation.

c. Capital Planning Process

The EVSE&I Whitepaper recommends that the Commission require the Joint Utilities to incorporate EV charging scenarios, which will be referred to as EV Charging Infrastructure Forecast going forward, into their annual capital planning processes. The Whitepaper recommends that the EV Charging Infrastructure Forecast should be developed by the Joint Utilities using a common framework (organization, format, definitions, etc.) to identify and characterize the existing and potential EV charging scenarios in the utility service territories. While the Joint Utilities agree that the impacts of EV and EV charging should be built into their capital forecasting process, the details defined in the Whitepaper are not needed to assess the impact of EV and EV charging on the system. The Joint Utilities have been including the impact of EV load into their load forecast as detailed in their Distribution System Implementation Plans (DSIPs) and will continue to evolve these forecasts based on available information. The Joint Utilities agree that including the impact of vehicle charging at home, the impact of Level 2 public charging, and DCFC charging should all be included in their forecasts. The Joint Utilities use information such as the forecast of vehicle adoption, planned and forecasted charging equipment, and load curves for each level of charging to develop the various load impacts and logic to site these impacts spatially throughout the electric system. In addition, to further test the

impacts on the electric system, high-adoption scenarios (including scenarios that reach to ZEV and CLCPA goals), are performed to assess potential areas of concern on the electric system under high EV adoption. The scenarios identified in the Whitepaper are far too prescriptive for the iterative process improvements associated with forecasting and the development of system impacts and capital plans. Each utility's own electric load forecast needs to reflect its unique distribution system features and utility programs.

d. Existing Programs

The Joint Utilities also plan to integrate their existing utility make-ready programs with this new MRP. For Con Edison, program funds authorized in its current rate plan will continue to be used incrementally or in combination with the MRP to offset utility-side interconnection and EDF costs for both publicly accessible DCFC sites and DCFC installations for fleets.

XI. Response to Commission's Questions

The Joint Utilities urge the Commission to consider the foregoing recommendations in the design of the MRP. To further support the Commission's and Staff's consideration of these issues, the Joint Utilities offer the following responses to the Commission's specific questions as outlined in the Notice.

Q1: To address anticipated changes in station economics and the potentially shifting need for utility funded make-ready infrastructure, Staff recommended that the Joint Utilities, in consultation with Staff, reduce incentive levels within the Commission-established budgets. According to Staff, incentive level step-downs should be informed by key factors influencing station economics including station utilization, operating costs, and charger costs from data the Joint Utilities will publish in quarterly reports.

- a. What other key factors should be considered?

The Joint Utilities believe it is necessary to have the flexibility to adjust make-ready incentive levels to reflect the needs of the market and evolving customer preferences. The EVSE&I Whitepaper correctly points to station utilization as the leading indicator of revenue behind the EVSE business model and proposes to reduce the incentive level as EV adoption increases and supports higher EVSE utilization. The Joint Utilities, however, would like to reiterate that the MRP intends to support the infrastructure necessary to encourage ambitious levels of EV use. To that end, incentives must be available at levels that support stations with varying levels of station utilization over time as well as EV charger developers with a variety of business models. This flexibility will allow programs to support continued span of EVSE into communities with prospective EV drivers. The utilities posit that the level of demand for MRP incentives as well as lessons learned from implementing the program in the first few years will help determine whether and/or when it is appropriate to reduce incentives.

Incentive levels should also consider the availability of funding from other sources, including NYSERDA as well as local, state, and federal tax policies, programs and practices. In that vein, it is imperative that NYSERDA expands the availability of its incentives significantly over its current budget using already collected, unallocated funds. For example, NYSERDA has proposed a \$5 million extension to their Charge Ready NY budget, which at a rate of \$4,000 per L2 plug would support 1,250 plugs, an amount equivalent to roughly one percent of the number of proposed L2 ports in the EVSE&I Whitepaper. Ultimately, private actors make investment decisions in large part on their own required level of investment; the continued availability of NYSERDA incentives and other support will be a critical element in private sector investment decisions, particularly in today's economic environment.

- b. How frequently should these step-downs occur?

Rather than a predetermined, regularly scheduled incentive step-down, the Joint Utilities believe a program that maintains consistency and provides reasonable certainty as to the availability of adequate incentives is critical to foster a positive business environment for EV market stakeholders. The Joint Utilities' proposed incentive structure, which would provide for up to 100 percent of make-ready costs, would also give flexibility to program administrators to adjust the incentive level as appropriate to quickly adapt to changing market dynamics and the circumstances within each utility's service territory. Programs would adjust incentive levels in reaction to demand for the program which would be driven by developer economics and in consideration of strategic locations and end use customers. It would be appropriate to review the effectiveness of the MRP incentives during the midterm review. The consideration of market factors during such a review could lead to recommendations to decrease, increase or make no changes to incentive levels.

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

Each utility should run a regular and transparent evaluation of applicants. Because the utility would, as part of that evaluation and stakeholder process solicit feedback, or notify applicants of any change to incentives, there would be no need to provide additional notice. Different utility territories may be ready for incentive step-downs at different times.

Q2. Should performance incentives be awarded to the Joint Utilities that seek to drive down costs, encourage beneficial siting, and engage proactively and successfully with developers?

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

As explained in Section V, a key element of the Joint Utilities' recommendations is the development of a set of performance incentives that align the utilities' incentives with those of state policy. The incentives should drive overachievement of EVSE deployment in a cost-effective manner within overall program budgets.

Q3. Staff recommended that the seven upstate Regional Economic Development Councils (REDC) be designated as strategic locations where a limited quantity of stations will be eligible for additional incentives. According to Staff's proposal, at least four locations with four 150 kW DCFC stations should be developed in each Upstate REDC through a competitive procurement in the first year of the Make-Ready Program. Within an Upstate REDC, there may be locations that are more beneficial than others for siting strategic charging stations, based on geographic dispersion, proximity to corridors or amenities, and other factors.

- a. How should the competitive process be administered?
- b. How should sites be selected, including identifying any locations within an REDC that should be targeted or excluded, ensuring geographically dispersed sites, and determining the size of the program?
- c. How should locations be identified within an REDC?
- d. Does this proposal best support the need for a minimum network of public charging?

Please see Section VII above.

Q4. Staff proposed that the existing Commission policy preserving the conventional cost-of-service ratemaking approach be maintained, and that the Commission revisit the issue at the DCFC per-plug incentive program's midpoint review.

- a. Are there ratemaking activities that may be complementary to the existing DCFC per-plug incentive program and the proposed Make-Ready Program?

The Joint Utilities support Commission actions that promote the use of cost-based rates.

The Commission may elect to offer such cost-based rates on an opt-in basis or set them as the default. In terms of rate-making, such improvement may include moving from volumetric (per kWh charges) to fixed charges (per meter) and demand-based charges (per kW) for delivery, improving existing demand 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 the cost of energy that customers see more closely reflects the market price. The inherent flexibility of EV charging schedules will allow customers with EVs to take advantage of more granular rate designs.

To the extent that the Commission wishes to offer incentives for electric transportation, or the installation of EVSE, it should do so through transparent, direct incentive programs as envisioned by the MRP. Discounted rate design will not be an efficient avenue to scale transportation electrification. The Joint Utilities agree with the Commission's stated policy support for rates that are transparent to customers, developers, and other stakeholders, and that properly reflect cost causation.

As discussed in more detail in Sections II and IV it is critical that the Commission establish (1) a clear definition of make-ready investments, and (2) clear guidance for investments in future-proofing infrastructure. The Joint Utilities agree with the EVSE&I Whitepaper that appropriate make-ready costs, including future-proofing, and system improvement investments that would otherwise be the responsibility of the utility should be considered plant in service and should remain subject to traditional cost-of-service ratemaking.

Q5. Disadvantaged communities have been disproportionately impacted by air pollution from internal combustion engine transportation infrastructure siting. A key barrier to increasing electric vehicle (EV) usage in low to moderate- income households is these communities'

relatively high concentration of multi-family and/or rental units, which can limit charging options. Staff proposed that 20 percent of each utility's publicly accessible DCFC Make-Ready Program budget be directed towards stations within 10 miles of disadvantaged communities.

- a. How should LMI and environmental justice communities be identified?

The Commission should use existing definitions for LMI or EJ communities. The New York State Department of Environmental Conservation created a list of proposed EJ communities by county, which should be used as a resource.

- b. What are the appropriate siting criteria and rebate level to promote EV penetration into environmental justice areas?

The Joint Utilities suggest that utilities should strive for a certain percentage (5 or 10 percent) of the total number of plugs to be sited within LMI communities, as appropriate given their level of car ownership and use. Balancing investments in light-duty vehicles proposed in the Whitepaper with those more targeted to fleets, rideshare, schools, and public transit may be particularly important to serve LMI communities.

Q6. How should existing utility programs, established in negotiated multi-year rate cases, that address similar make-ready costs be incorporated into Staff's proposed Make-Ready Program?

Please reference the Joint Utilities' comments in Section IV. concerning the need for flexibility in implementing programs to meet New York's objectives for EV deployment.

The Joint Utilities recommend that existing EV programs targeted at similar areas as those impacted by the EVSE&I Whitepaper, notably make-ready infrastructure and public DCFC, approved in the course of an individual utility's rate case be allowed to continue to be

offered in accordance with the terms authorized by the Commission but in combination with the Commission's determinations pertaining to the Whitepaper.

Q7. Staff proposed that all installations participating in the Make-Ready Program be sufficiently future proofed by oversizing all components that can be oversized with minimal incremental cost. On the customer side, this includes trenching and conduit, and likely the panel. What distribution system components should be future proofed by oversizing or other means, and what are the associated incremental costs?

As noted above in section IV, the Joint Utilities recommend criteria for when future proofing would be considered appropriate. These include investigating the opportunities and likelihood of expansion or technological advancement at a given site, the incremental cost on a per kW basis of the future proofing investment vis-à-vis the rest of the investment, and the cost of the future proofing work versus delaying it to a later date. The Joint Utilities propose that such criteria be generally applicable without a need to preliminarily identify specific distribution system components.

Q8. A common EV conductive charging system and interoperable communications systems are important aspects of an efficient public EV charging infrastructure network. How can the proposed Make-Ready Program stay current and encourage leading technology types and standards?

The Joint Utilities agree with the EVSE&I Whitepaper that interoperability will improve the effectiveness of a statewide effort to propel the integration of EVSE infrastructure. Protocols such as OpenADR provide opportunities to standardize and streamline operations that involve interfaces with many different stakeholders and technology providers.

However, there may be risks regarding the prescriptive use of specific technologies at an early stage of the EV evolution. The Joint Utilities recommend that this issue be addressed in an EV Technology Standards working group to ensure that all communications and related technology concerns are properly considered.

Q9. While not proposing make-ready funds at this time, Staff's proposal suggests implementing policies that encourage fleet electrification. How can the Commission best promote fleet electrification that minimizes impacts to the distribution grid?

Please see Section VIII of the comments for more details and the Joint Utilities' response to Q4 regarding the importance of cost-reflective rates.

Q10. Staff's proposal recommends that the Joint Utilities file quarterly reports and annual program overview reports. What Make-Ready Program information should be reported in addition to: the number of station owners participating in the Make- Ready Program; the number of sites for which incentives were issued; the number of Level 2 and DCFC plugs installed; program costs incurred detailed by equipment and installation; and, billed usage?

The Joint Utilities recommend that reporting requirements described in the Whitepaper shift to an annual reporting cycle. Quarterly reporting will create a significant burden on the utilities and stakeholders involved in project deployment and provide little marginal information versus annual reporting, especially in the initial years as programs ramp up. Instead, the Joint Utilities propose to issue short-form monthly reports similar to those submitted for solar and distributed generation installations.

Q11. EVs and EV infrastructure represent a point of potential value to the grid. What actions can be taken to optimize this value?

EV and EV infrastructure are primarily valuable to the grid for their attributes as flexible load. Therefore, as the Joint Utilities have noted in earlier comments, the first priority should be on developing “cost-reflective rate design for EVs and EVSE that encourages optimal charging to improve system efficiency.”²⁹

At a future time, EVs and EVSE may shift to provide significant quantities of controllable load or even injections to the electrical system. However, based on the size of the EV market and the current state of vehicle-to-grid technologies, such a use case is not ready for scale. The utilities are working to learn more about these use cases as evidenced by Con Edison’s vehicle-to-grid school bus pilot project and National Grid affiliate’s electric bus partnership in Massachusetts. Recent research suggests that, in a modeled environment, the benefits of bi-directional EV charging are maximized when EV penetrations on a low-voltage distribution network reach 20 percent penetration.³⁰

Q12. Staff’s Whitepaper contemplates that the automated, connected, electric, smart vehicles of the future will adopt varying software, depending on the targeted market and manufacturer.

Staff did not propose that the Commission regulate vehicle software systems but did underscore the importance of current software systems enabling future use cases. How should smart-charging be approached and enabled?

²⁹ EV Proceeding, Comments of the Joint Utilities in Response to the Public Service Commission’s Request for Post-Conference Comments, (filed September 21, 2018) p. 16.

³⁰ See highlights from Constance Crozier et al., *The case for Bi-directional charging of electric vehicles in low voltage distribution networks*, Applied Energy, Volume 259 (February 1, 2020), available at <https://www.sciencedirect.com/science/article/abs/pii/S0306261919319014?via%3Dihub>

Consistent with responses to earlier questions, the establishment of cost-based rate designs will help assure that the future deployment of software produces outcomes that are consistent with NYS clean energy objectives. Such cost-based designs will lead naturally into technology improvements and managed charging. Use of AMI or similar time variant metering is a critical technology for enablement of smart charging led by third parties. The Commission should allow the utilities to design managed charging programs for customers with L2 chargers.

Q13. How should developer feedback be incorporated into the utility planning process, particularly to account for EV load growth?

Feedback from developers will be considered in at least two instances. First, running a successful MRP will prompt each utility to work closely with developers in its territory regarding sites and make-ready practices. In a more formal sense, as applicants for new or increased load, program participants will submit load letters informing the utility of potential new load which will be incorporated into the planning process.

Second, running a successful program will demand that each of the Joint Utilities foster a collaborative relationship with EV developers with the greatest capability to develop EV charging infrastructure. These relationships and open discussions will lead to a more complete understanding of potential future EV charging scenarios for the utility to consider as part of the planning process. In both situations, the key for moving forward is open and direct communications with EV developers.

Q14. The focus of the Staff EVSE&I Whitepaper is a utility Make- Ready Program for light-duty EVs; what are the critical issues to resolve and what are the critical achievements to ensure the charging infrastructure needs of medium- and heavy-duty fleets are met?

- a. With what timing and sequencing?

A program related to medium- and heavy-duty fleets has been commenced by Con Edison. The remaining Joint Utilities are in varying stages of program development and expect to make proposals on this urgent matter in the near future.

- b. What considerations support your recommendation?

There are a variety of considerations driving this recommendation. Medium- and heavy-duty EV fleets are critically important because of their potential to improve air quality in densely populated areas, provide tangible state-wide benefits, especially to LMI and EJ communities, and both impose greater demands on the grid as well as potentially provide more significant grid benefits than light-vehicle EV development. The conversion of medium and heavy-duty vehicles can reduce GHG emissions by as much as four times per vehicle versus light-duty vehicles. The CLCPA goals require a comprehensive approach to electrifying transportation, both in terms of meeting the GHG emission reductions, but also in meeting the needs across NYS to ensure equitable access to clean transportation. Electrifying medium and heavy-duty fleets, such as transit and school buses, will be a critical piece of this transition. The Joint Utilities fully support this effort and recommend that work commence in this area on a “no-regrets” basis upon issuance of a Commission order in response to the Whitepaper. The Joint Utilities also recommend that utilities be able to continue to advance programs in this space.

The utilities’ own experiences support this recommendation. Utilities are receiving many questions/inquiries from fleet operators of all types, and engagement continues to increase. Fleet operators have many questions about electrifying their fleets, including details of the process, infrastructure changes, total cost of vehicle ownership, and how to efficiently engage with their utility. Fleet operators vary in a number of important dimensions including the types of vehicles

they employ, the nature and predictability of their duty cycle, their sophistication and their extant relationship with their utility, which suggests that operators will require different levels of support from their utility. Utilities are uniquely positioned to collaborate with industry partners to animate the market for medium and heavy-duty fleet electrification in New York by offering programs and services such as the fleet advisory services described in the EVSE&I Whitepaper, as well as infrastructure and planning support.

Q15. Should resiliency measures be considered when determining Make-Ready Program eligibility?

- a. What specific thresholds and measures should be considered? For example, Con Edison uses the Federal Emergency Management Agency (FEMA) 100-year flood map plus three feet as the threshold for determining when storm hardening and resiliency measures such as elevating, sealing and protective barriers are needed to protect critical assets from flooding concerns.

EV developers should comply with all applicable local electric codes and other pertinent requirements regarding resilience including utility practices and policies. This is because resiliency requirements are applicable to broader variety of load and EVSE should comply with the same resiliency requirements as adopted by local jurisdictions.

- b. How should resiliency measures for charging infrastructure participating in the Make-Ready Program be funded? For example, should developers who locate charging infrastructure in flood-prone areas be required to fund the flood mitigation measures to incentivize developers to avoid high risk locations?

Make-Ready investments can consider expenditures required to assure system resilience.

The Joint Utilities suggest that resilience, or the potential susceptibility of a site to flooding or other climate disruption, be one criterion considered when evaluating applicants to their MRPs.

Q16. Staff recommends that the Joint Utilities develop a common Interconnection On-Line Application Portal (IOAP) for EV charger applications and a common load serving capacity map tool so that developers have a common experience across all New York utilities. By when should the Joint Utilities be required to have these EV IOAP and load serving capacity map tools functioning?

The On-Line Application Portal for EV charging appears similar to the approach employed to interconnect resources that inject electricity to the grid. However, unlike Distributed Energy Resources, EV chargers represent new load that is not part of the interconnection queue process. The Joint Utilities currently have processes and procedures in place that address new load situations and should, to the extent necessary, be able to tailor such processes and procedures to adequately consider and meet the needs of EV charging infrastructure. Thus, a common portal for new EV load is not needed. Developing a common portal does not relieve each utility of the responsibility of studying and connecting new load and would distract from successful program implementation. Moreover, developing a common portal only for EV load results in a narrowly focused technology specific design to the exclusion of other technologies and is not consistent with the principle that all customers should be treated fairly.

The Joint Utilities agree that load serving capacity information will be a useful tool for charging developers and other customers. Utilities currently have Hosting Capacity and System Data portals in place and much of the data needed to assess and display load serving capacity is

available. While most of the data today is at the substation level, it should be possible to transition to more granular information in the future if this is found to be needed or helpful to the development of DCFC locations. Thus, the Joint Utilities are willing to work with developers to provide such data and maps in a form that is useful in the development of DCFC stations. The creation of maps which are both updated in timely fashion is a serious effort. The Joint Utilities suggest that following a Commission order regarding the EVSE&I Whitepaper, each utility expeditiously develops EV hosting capacity maps or add load hosting capacity to existing maps at the substation level which will be posted on each utility's system data portal. The Joint Utilities suggest that the EV Readiness Stakeholder or Information sharing Working Group collaboratively develop a schedule for further refinement of those maps. The Joint Utilities assert that the best method for developers to assess the relative costs to interconnect sites at specific locations is to work directly and collaboratively with the utilities.

Q17. Staff recommends that DCFC station developers be allowed to 1) bundle costs from multiple DCFC site locations within a service territory if all plugs are completed during a developer-chosen 18-month period, and 2) amend an approved bundling application with additional sites if those sites will also be completed during the same period. Would an alternative bundling approach or bundling period be more feasible or efficient?

The bundling approach recommended in the EVSE&I Whitepaper will be difficult to implement due to broad locational and temporal requirements governing eligibility for bundling. The Joint Utilities recommend that any projects which seek to bundle plugs across different sites must include all of those sites on a single application as described in Section IV.f above.

XII. Conclusion

The Joint Utilities appreciate the opportunity to continue to comment on the EVSE&I Whitepaper and look forward to working with the Commission, Staff and stakeholders to develop utility-specific implementation plans and deliver on the promise of this critical initiative.

Dated: April 27, 2020

Respectfully submitted,

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