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 APPROVING MANAGED CHARGING PROGRAMS WITH MODIFICATIONS

Issued and Effective: July 14, 2022

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STATE OF NEW YORK
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At a session of the Public Service Commission held in the City of Albany on July 14, 2022

COMMISSIONERS PRESENT:

Rory M. Christian, Chair
Diane X. Burman
Tracey A. Edwards
John B. Howard
David J. Valesky
John B. Maggiore

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

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BY THE COMMISSION:

INTRODUCTION

On December 4, 2020, 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) (collectively, the Utilities) filed proposals to describe or implement electric vehicle (EV) managed charging programs for mass-market customers (December 2020 Filings) to comply with the Public Service Commission's (Commission) Make-Ready Program

Order directives.[1] The December 2020 filings describe each utility's existing or newly-proposed managed charging programs for mass-market customers, with each utility proposing to continue or implement either an active managed charging program where the utility would control vehicle charging, or a passive managed charging program where preferred customer behavior is rewarded through incentives.[2] National Grid, NYSEG, and RG&E proposed revisions to their December 2020 filings on June 4, 2021, and National Grid further revised its proposed managed charging program on May 9, 2022 (May 2022 Supplemental Filing).

By this Order, the Commission adopts the Utilities' managed charging filings, with modifications, as discussed below.

BACKGROUND

On April 24, 2018, the Commission issued the EV Instituting Order, which emphasized that decarbonizing the transportation system is a priority and directed the Utilities to address planning for and enabling the increased deployment of electric vehicle supply equipment (EVSE).[3] Each of the Utilities filed tariffs to encourage residential EV owners to charge during off-peak hours. These tariffs were built upon the already available time-of-use (TOU) rates.

Through the EV Instituting Order, the Commission sought to explore the role of the Utilities in providing the

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[1] Case 18-E-0138, Order Establishing Electric Vehicle Infrastructure Make-Ready Program and Other Programs (issued July 16, 2020) (Make-Ready Order), Ordering Clause 13.

[2] Con Edison describes its existing managed charging program. Central Hudson, National Grid, NYSEG, RG&E, and O&R each propose new programs.

[3] Case 18-E-0138, Order Instituting Proceeding (issued April 24, 2018) (EV Instituting Order).

infrastructure and rate design necessary to accommodate the anticipated increase in electricity demand associated with EV and EVSE deployment, develop cost-effective ways to adopt the infrastructure and equipment, and determine the tariff changes necessary to accommodate and promote transportation electrification. Further, the proceeding aimed to examine the characteristics of EV charging systems and how those systems may facilitate EV participation as a distributed energy resource. The EV Instituting Order and subsequent orders in this proceeding recognized that EVs provide various potential benefits for the State and that ensuring adequate EVSE and EV infrastructure is critical to securing and achieving the State's environmental and clean energy goals.

Subsequent orders establish and provide clarification to the Direct Current Fast Charging (DCFC) per-plug incentive program and modifications to some of the program rules.[4] The programs were developed and designed by each utility to encourage the deployment of DCFC locations, reduce barriers to EV adoption, and facilitate the State's Zero-Emission Vehicle (ZEV) goals.

The Commission considered the tariff filings noted in the EV Instituting Order in its November 15, 2018, EV TOU Rates Order.[5] As described in the EV TOU Rates Order, each utility

[4] See Case 18-E-0138, Order Establishing Framework for Direct Current Fast Charging Infrastructure Program (issued February 7, 2019), Errata Notice (issued February 21, 2019); see also Case 18-E-0138, Order Modifying Incentive Program and Granting, in Part, Petition for Rehearing (issued July 12, 2019); see also Case 18-E-0138, Order Providing Clarification and Modifying Direct Current Fast Charging Incentive Program (issued March 19, 2020).

[5] Case 18-E-0206, Residential EV Charing Tariffs, Order Rejecting Tariff Filings and Directing Tariff Revisions (issued November 15, 2018) (EV TOU Rates Order).

filed tariff leaves responsive to Public Service Law (PSL) §66-o, or explained how their existing tariff leaves were compliant. As a result of the EV TOU Rates Order, each of the utilities currently has two TOU rate options available for residential customers to participate in: (1) a whole-home TOU rate option where participating EV owners are provided a bill guarantee after one year of participation, while any incremental metering fees associated with metering necessary to bill customers on a TOU-basis, if any, are waived; or (2) TOU rates billed based on dedicated EV charging loads, as measured by a separate meter from the remainder of a customer's load, which may require the participating customer to pay an additional monthly customer charge and does not include a bill guarantee.[6]

The Benefit-Cost Analysis of Electric Vehicle Deployment in New York State (BCA) found that behavior modification of EV charging habits, like those proposed by the managed charging programs, increased the Societal Benefits of the Make Ready program by reducing the cost of upgrading the distribution network and lowering the cost of EV charging to consumers.[7] The BCA also noted the $2.8 billion in identified benefits could be increased to $5.1 billion through 2030 with

[6] The bill guarantee provides a one-time reconciliation after the first year of participation in TOU rates. This reconciliation compares the participant's annual TOU rate bill to what such participant would have been charged under traditional rates and returns any incremental amount the participant may have paid on TOU rates compared to traditional rates. This bill guarantee is intended to encourage EV owners to try whole-home TOU rates, without worry of overpaying compared to traditional rates.

[7] Prepared for New York State Energy Research and Development Authority (NYSERDA) by Energy & Environmental Economics, ICF, and MJ Bradley & Associates (February 2019 EV BCA), (February 2019). Available at: https://www.nyserda.ny.gov/About/Publications/Research-and-Development-Technical-Reports/Transportation-Reports.

the widespread adoption of managed charging, time variable rates, and incentives to charge off-peak. The Transportation Electrification Distribution System Impact Study estimates that managed charging could result in up to $13.4 billion in avoided distribution upgrade costs through 2050.[8]

In July 2019, the State enacted the Climate Leadership and Community Protection Act (CLCPA) and created the Climate Action Council.[9] The CLCPA established an economy-wide net zero greenhouse gas emissions target by 2050, with at least 85 percent direct emissions reductions over 1990 levels.[10]

On January 13, 2020, Department of Public Service Staff (Staff) issued a whitepaper titled "Electric Vehicle Supply Equipment and Infrastructure Deployment" that described the framework for an incentive program to help cover the costs of Level 2 (L2) and DCFC stations.[11] The proposed program was designed to support the charging infrastructure needs of 850,000 ZEVs by 2025.

On July 16, 2020, the Commission issued the Make-Ready Order, which adopted Staff's proposed Make-Ready Program, with

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[8] NYSERDA Report Number 22-13. Prepared by Resource Innovations, San Francisco, CA. Available at: https://www.nyserda.ny.gov/About/Publications/Research-and-Development-Technical-Reports/Transportation-Reports.

[9] The CLCPA creates a Climate Action Council (22-member committee) charged with developing a scoping plan of recommendations to meet the CLCPA targets and place New York on a path toward carbon neutrality. See Environmental Conservational Law §75-0103, New York State Climate Action Council.

[10] See the Climate Act Fact Sheet, available at: https://climate.ny.gov/-/media/Project/Climate/Files/CLCPA-Fact-Sheet.ashx.

[11] Case 18-E-0138, Department of Public Service Staff Whitepaper Regarding Electric Vehicle Supply Equipment and Infrastructure Deployment (filed January 13, 2020).

modifications. The Make-Ready Order delineates a strategy to decarbonize the transportation sector via investments by the Utilities in tandem with market developers to reach the needed scale of charging infrastructure. In addition, the Make-Ready Order directed the Utilities to submit filings to develop managed charging programs that would provide mass market customers with an alternative to the EV TOU rates already in place.[12] The Commission directed the Utilities to propose such programs, which could be either active or passive, within 120 days of the issuance of the Make-Ready Order. The Commission further directed Staff to organize a stakeholder process to review the Utilities' managed charging program proposals.

On December 22, 2021, the Climate Action Council voted to release the Draft Scoping Plan for public comment. The Draft Scoping Plan provides a framework to reduce greenhouse gas emissions and recommendations for the transportation sector, among other sectors, to achieve net-zero emissions, increase renewable energy usage, and ensure climate justice.[13]

The 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.[14]

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[12] Make-Ready Order, p. 122.

[13] New York State Draft Scoping Plan, available at: https://climate.ny.gov/Our-Climate-Act/Draft-Scoping-Plan.

[14] The analysis recently presented to the Climate Action Council suggests that the CLCPA will drive approximately 60 to 70 percent of sales of ZEVs in the light-duty market, or 1.8 to 2.2 million ZEVs 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: https://climate.ny.gov/-/media/Project/Climate/Files/2020-06-24-NYS-Decarbonization-Pathways-Report.pdf.

THE MANAGED CHARGING PROGRAM PROPOSALS

Following the December 2020 Filings, Staff convened the Electric Vehicle Managed Charging Working Group (MCWG) on March 17, 2021, to examine the utilities' proposals.[15] Following the MCWG meeting, the Commission solicited feedback from stakeholders on the December 2020 Filings.[16] Based on stakeholder feedback, National Grid, NYSEG, and RG&E proposed revisions to their December 2020 Filings; Central Hudson, Con Edison, and O&R proposed no changes.[17] National Grid proposed further revisions to its proposed programs on May 9, 2022. The descriptions of each utility's proposal below include the December 2020 Filings and all subsequent updates, if any.

Central Hudson

Central Hudson currently offers two residential opt-in passive managed charging initiatives, an EV Whole Home TOU rate, and an EV Meter TOU rate. To qualify for either existing EV TOU rate, customers must lease or own a registered EV and provide the vehicle identification number (VIN) to the utility. The EV Whole Home TOU Rate additionally requires customers to confirm that their home and charging location are on the same electric meter and billed to the same account. Customers must also agree to a minimum service term of 12 months. Customers enrolled in this rate receive bill protection for their first year of enrollment before they decide whether the rate will work for

[15] Case 18-E-0138, Notice of Working Group (issued March 4, 2021).

[16] Case 18-E-0138, Notice Requesting Comments (issued March 22, 2021).

[17] Case 18-E-0138, Central Hudson Comments (filed June 4, 2021); Con Edison and O&R Reply Comments (filed June 4, 2021); NYSEG and RG&E Managed Charging Revised Proposal (filed June 4, 2021); and National Grid Managed Charging Proposal (filed June 4, 2021).

them. The EV Meter TOU rate differs in that it requires customers to have a separate meter installed at their home for the singular purpose of charging their EV, which requires the customer to pay a separate customer charge for the additional meter. This rate does not offer customer bill protection.

Central Hudson states that it currently has one residential active managed charging initiative. Through a non-tariff-based NYSERDA pilot, Central Hudson offers residential customers rebates for purchasing a qualifying Enel-X charger when they enroll in the Central Hudson Charge Smart Program. Once enrolled, Central Hudson uses JuiceNet Green software to simultaneously meet the energy requirements set by the participant and optimize charging activity for low-carbon energy consumption. At the time of filing, Central Hudson was revising the program and had temporarily removed it from the utility's website.[18]

Central Hudson proposes two new managed charging programs (i.e., a Credit-based, passive charging initiative available throughout its service territory that is referred to as the Bill Credit Program, and an active managed charging program which would only be available within Central Hudson's Non-Wires Alternative (NWA) areas that is referred to as the NWA Managed Charging Program).[19] These NWA programs can also benefit disadvantaged communities by delaying transmission

[18] Staff reports that this pilot remains inactive as of the issuance of this Order.

[19] The NWA Program seeks to use distributed energy resources and microgrids to defer or replace the need for installation of more traditional infrastructure (e.g., wires and poles). The Company has one ongoing NWA project, the Targeted Demand Management Program. See Case 14-E-0318, Central Hudson – Rates, Order Implementing with Modification the Proposal for Cost Recovery, and Incentive Mechanism (issued July 15, 2016).

infrastructure upgrades and construction that typically occurs in these neighborhoods.[20]

Under the proposed Bill Credit Program, participants would receive an annual bill credit for charging during off-peak hours, funded through the Revenue Decoupling Mechanism. To enroll in the Bill Credit Program, Central Hudson proposes that customers would be required to lease or own a registered electric vehicle, provide the VIN to the utility, confirm that the home and charging location are on the same electric meter and billed to the same account, agree to the minimum term of 12 months of service, and obtain a networked home charger.[21] Central Hudson states that the Bill Credit Program participants would be able to schedule EV charging and access potential demand response (DR) programs.[22]

Under the proposed NWA Managed Charging Program, Central Hudson would target customers with EVs for enrollment, using a similar approach to the way residential direct load control and customer-initiated curtailments for commercial & industrial loads are leveraged in Central Hudson's existing NWA programs. Central Hudson would actively manage EV charging through networked chargers, generating savings during peak events by signaling participants' equipment to reduce demand,

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[20] New York Environmental Conservation Law §75-0101. As defined in the CLCPA, disadvantaged communities are those 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.

[21] A networked charger refers to an EV charger which can communicate charging information and receive signals, allowing charging sessions to be remotely scheduled, begun, and ended.

[22] As proposed by Central Hudson, enrollment in the EV Credit-based initiative would not automatically enroll customers into any future DR program.

which would require customers to use a networked charger with load-shifting capabilities. As part of the NWA Managed Charging Program, Central Hudson proposes to offset the cost of the networked charger by providing participants the opportunity to apply for a rebate for qualified networked chargers. To enroll in the NWA Managed Charging Program, Central Hudson proposes that customers must lease or own a registered EV, provide the VIN to the utility, confirm that the facility and charging location are on the same electric meter, agree to a minimum participation term of 12 months, and subscribe to one of Central Hudson's passive charging initiatives, including the proposed Bill Credit Program.

Central Hudson states that the costs of the proposed managed charging initiatives are within existing program budgets, and therefore no incremental funds related to the Bill Credit Program are needed. Central Hudson proposes that the cost of the NWA Managed Charging Program be included in the existing NWA Program budget. Central Hudson proposes to continue its existing marketing efforts, which include targeted education and outreach, video content, bill inserts or flyers, e-newsletters, social media, events, press releases, websites, direct mail, and advertisements. Central Hudson further proposes to not set specific participation targets for the initiatives, but plans to increase customer awareness and understanding of the benefits of managed charging.

Con Edison

In its December 2020 Filing, Con Edison describes its existing SmartCharge NY (SCNY) program and does not propose any modifications. Con Edison states that SCNY was initially authorized in January 2017 and launched in April 2017 and had initially focused on light-duty EVs prior to its expansion in 2018 to include electric medium- and heavy-duty (MDHD) vehicles.

Con Edison states that any light-duty or MDHD EV that charges within the Con Edison service territory is eligible to participate in the program. Con Edison states that a variety of technology types are eligible to participate in the program, including plug-in devices, onboard vehicle telematics, smart charging stations, and submetering. Con Edison states that it uses a variety of marketing channels, including digital materials, print materials, referral programs, and in-person events. Con Edison reports that as of the December 2020 Filing there were 2,342 light duty vehicles enrolled using the FleetCarma device, which supports 37 different EV models, and 28 total MDHD vehicles, 25 transit buses, and three eCanter trucks enrolled in SCNY.[23]

At the time of Con Edison's filing, light-duty EV owners participating in the SCNY program received the following cash incentives via PayPal, based on their charging behavior: a $150 enrollment bonus for installing and activating the FleetCarma device upon the first charge event in the Con Edison service territory; $25 for installing the device within seven days after delivery; $5 per month for participating in at least one charging event in the Con Edison service territory; $20 per month for avoiding summer peak charging, defined as weekdays 2:00 p.m. to 6:00 p.m., June 1 to September 30; and a per-kilowatt-hour (kWh) payment which differs depending on the participating customer's rate option.[24] Light-duty SCNY participants taking service under traditional volumetric rates

[23] The FleetCarma device plugs into a vehicle's onboard diagnostics port and communicates relevant charging information to Con Edison for administration of the program.

[24] At the time of the issuance of this Order, the SCNY website additionally describes a $25 refer-a-friend bonus and an opportunity to earn $25 for completing an annual survey. https://www.smartchargerewards.com/smartchargenewyork/

earn $0.10 per kWh charged during off-peak hours, defined as 12:00 a.m. to 8:00 a.m., year-round, whereas light-duty EV owners on the residential TOU rates (SC1 Rate III customers) earn $0.0166 per kWh charged during off-peak hours. SC1 Rate III customers can also earn an additional $10 per month for avoiding non-summer peak charging, defined as weekdays 2:00 p.m. to 6:00 p.m., October 1 to May 31.

Con Edison states that other light-duty EV owners, such as light-duty fleet owners, may participate by charging at networked smart charging stations and providing Con Edison access to their charging data instead of plugging in the FleetCarma device. Participants enrolled in SCNY using these alternate technologies receive the same rewards as FleetCarma device users, except for the $150 enrollment reward and the $25 reward for installing the FleetCarma device. Con Edison notes that more flexible program aspects, such as not restricting participation to Con Edison account holders or home charging, have encouraged enrollment.

Con Edison states that participants with MDHD vehicles may earn $0.0221 per kWh for off-peak charging, which is defined as 12:00 a.m. to 8:00 a.m. year-round. Con Edison states that these participants may earn an additional $250 per vehicle per month for avoiding charging during the months of June through September during a Con Edison four-hour weekday Commercial System Relief Program (CSRP) event period applicable to the Con Edison network where the vehicle is charged.[25] Con Edison notes that it pays the rewards earned by the owners of the MDHD

[25] The CSRP is a peak-shaving demand response program designed to reduce peak demand at the network level by calling on customers to reduce demand during a specified four-hour call window. Participants must avoid charging vehicles during the applicable four-hour CSRP event window regardless of whether Con Edison calls a CSRP event during a given day.

vehicles enrolled in the program by check or electronic transfer.

National Grid

In its initial proposal, National Grid describes its existing EV TOU rate and proposes a new active managed charging program for residential customers taking supply service from the utility, called the EV Smart Plan. National Grid's initial filing proposes to manage customers' charging so that it occurs during off-peak hours, defined as 11:00 p.m. to 7:00 a.m., and avoids a "timer peak" that occurs at the beginning of the off-peak periods while also considering factors such as customer departure time.[26] National Grid proposes that EV Smart Plan participants would pay a flat fee for a specified amount of off-peak at-home charging (i.e., $20 per month for up to 225 kWh of off-peak charging, or $25 per month for up to 325 kWh of off peak charging) with billing at the customer's regular rate for on-peak charging sessions. National Grid indicates that participating customers would experience ongoing benefits from the EV Smart Plan pricing through reduced cost of at-home charging of up to $160 annually.

National Grid proposes to include both networked L2 chargers and onboard vehicle telematics in its EV Smart Plan. National Grid suggests that EV Smart Plan participants installing a new networked L2 charger would be eligible for a one-time $500 incentive to offset equipment costs, while customers participating through vehicle telematics or with an

[26] "Timer Peak" refers to a spike in electric demand from many EVs beginning to charge at the same time, due to charging timers set to begin charging at the beginning of the off-peak hours. For example, EVs in the National Grid service territory might be timed to begin charging at 11:00 p.m.. A "timer peak" could be avoided by staggering the times customer begin charging their EVs.

existing networked L2 charger would be eligible for a one-time $150 incentive. National Grid specifies that the charger or vehicle enrolled must be internet-enabled, provide detailed interval metering, allow for remote operation, provide access for National Grid to obtain the charging data, and be OpenADR compliant.[27] National Grid proposes that participants receiving a rebate or enrollment incentive would be required to participate in the EV Smart Plan for a minimum enrollment period of three months.

National Grid plans to use third parties to develop and operate the platforms that integrate and provide the charging data from EVs, send the dispatch signals to the chargers, and advance the marketing and implementation of the EV Smart Plan. National Grid proposes that program cost recovery would be through the EV Smart Plan pricing design, with any excess costs recovered through the Make-Ready Program surcharge until those costs are included in base rates. National Grid also includes plans for independent evaluation and program improvement guidance after at least one full year of program operation.

In addition to its managed charging program, National Grid proposes to offer two complementary programs. First, National Grid proposes a turnkey installation service to handle all components of charging station installation at the customer's premise. National Grid plans to hire a third-party program administrator to manage this offering. Customers participating in the turnkey installation service would be responsible for paying for the cost of their charger installation, but other aspects of such installation would be

[27] OpenADR is a non-proprietary, open, standardized communications protocol which allows signals to be sent directly to customer devices.

managed through the program. Second, National Grid proposes to expand its E-Commerce Marketplace to address the knowledge gap associated with buying and installing a home charging station during the early stages of EV adoption. As proposed by National Grid, the marketplace would include L2 chargers, associated products, and a list of qualified electricians for those who prefer to install their station independently of the proposed turnkey installation program.

National Grid proposes two shareholder incentives related to its managed charging program services. First, National Grid proposes to earn a Platform Service Revenue (PSR) based on customer usage of its proposed turnkey installation service and E-Commerce Marketplace. Under the proposed PSR, National Grid would retain a 20 percent share of the revenue received from the turnkey installation service and expansion of the E-Commerce Marketplace and return the remaining 80 percent to customers. Second, National Grid provides support for a Managed Charging Earnings Adjustment Mechanism (EAM), which it proposed as part of its most-recent rate proceeding in Case 20-E-0380.[28] National Grid argues that the EAM is justified by the system benefits generated by shifting charging to off-peak hours.

National Grid's filing, on June 4, 2021, includes modifications to the managed charging program proposed in its December 2020 filing. Specifically, these modifications seek to expand market coverage, reduce costs per customer, clarify

[28] National Grid proposed a new Managed EV Charging metric for its System Efficiency EAM to incent the company to develop off-peak charging options for customers that would reduce marginal distribution and peak energy costs for ratepayers. See Case 20-E-0380, Niagara Mohawk Power Corporation d/b/a National Grid - Electric Rates, Customer Energy Panel - 2020 Filing Package (filed July 31, 2020), pp. 30-31.

certain technology requirements, and accelerate program launch. National Grid proposes that any networked L2 charger must be OpenADR compliant while telematics devices must be internet enabled and be capable of logging 15-minute interval data. National Grid also estimates launching their program eight months after approval, as opposed to their original target of 20 months, with a lower overall budget due to decreases in billing system and marketing costs compared to the December proposal.

In its May 2022 Supplemental Filing, National Grid clarified the method by which customers who participate in the active managed charging program would be billed. National Grid explains that the total energy usage at the site would continue to be measured by a company meter, but the company would separate usage into EV charging and non-EV charging segments using the charger's or vehicle's energy measurements. National Grid proposes to determine the non-EV charging portion of customer load by measuring the difference between the total metered energy use registered by the utility meter and the energy use reflected in EV charging data registered by either the customer's networked charger or onboard telematics. Because there are currently no recognized and implementable standards regarding the accuracy of charger- or EV-based energy metering for the purposes of this program, National Grid plans to establish business rules regarding the use of such measurements to bill the EV Smart Plan, including rules regarding missing or anomalous EV charging kWh readings.[29]

NYSEG and RG&E

In their initial proposal, NYSEG and RG&E jointly propose a five-year, tiered managed charging program,

[29] National Grid's May 9, 2022 filing did not include specific terms of any business rules it would plan to implement to establish a participant complaint resolution process.

incorporating both passive and active approaches. The companies propose three levels of participation with corresponding levels of customer commitment.

Participants at the low level of commitment would enroll in the EV TOU rate and receive prompts to charge during off-peak periods to receive a $25 annual incentive. Participation would be renewed each year if the participant stays on the EV TOU rate and completes a survey. NYSEG and RG&E explain that the survey would be used to provide the companies with basic demographic and charging behavior information for these low-commitment participants.

NYSEG and RG&E propose that participants at the intermediate level of commitment consent to sending charging data to the companies via a telematics device installed in their EV and/or through existing onboard telematics. Intermediate level participants would be encouraged to charge during off-peak hours and would also be allowed and encouraged to participate in demand response events. NYSEG and RG&E propose to provide an annual incentive of $50 to intermediate-level participants, as well as an additional $50 per year if 90 percent or more of a participant's charging occurs during off-peak hours. NYSEG and RG&E further propose that participants who opt into a demand response program would receive a $20 incentive for each event in which they choose to participate.

NYSEG and RG&E propose that participants at the advanced level of commitment would enroll in active managed charging. These participants would submit their required state of charge (e.g., 80 percent full) and the time it must be

reached by.[30] Participants in the advanced level would be able to enroll, manage their participation, and monitor their performance. NYSEG and RG&E propose the inclusion of a program web portal and/or mobile app that allows participants to enroll in the proposal, manage their participation, monitor their performance, and receive feedback on their participation. NYSEG and RG&E propose to provide varied incentive levels depending on the parameters set by the participant, with higher incentives awarded for greater flexibility in charging time and amount. While actual incentive amounts would vary, the companies present three scenarios for illustrative purposes: (1) a participant with minimum charge flexibility might receive a monthly incentive of $1.98, up to $24 annually; (2) a participant with moderate flexibility might receive a monthly incentive of $3.85, up to $46 annually; and (3) a participant with maximum flexibility might receive a monthly incentive of $5.83, up to $70 annually. NYSEG and RG&E identify a "timer peak" that can occur when load ramps too sharply for the companies to respond effectively, and state that the results of NYSEG's OptimizEV Managed Charging Pilot indicate that "timer peak" can be avoided through managed charging.[31]

NYSEG and RG&E plan to promote their proposed Mass Market Managed Charging program to existing and potential EV

[30] The state of charge and timing parameters would be used as inputs to the managed charging algorithm, allowing NYSEG and RG&E to determine the total amount of energy to deliver and when such energy should be delivered.

[31] NYSEG launched the NYSEG OptimizEV Managed Charging Pilot, designed to minimize the impact of EV charging on the grid by influencing participants' behaviors with indirect and direct control signals, in 2020. Participants in OptimizEV Managed Charging receive a discount on their monthly electricity delivery bill when they allow NYSEG to coordinate their EV charging. See Case 14-M-0101, Reforming the Energy Vision, 2021-7-30 OptimizEV Q2 Report REDACTED (filed July 30, 2021).

drivers by focusing on community engagement, promotional materials, and providing support and encouragement to drivers who already own an EV. NYSEG and RG&E propose a joint five-year program budget of $11,825,855, with proposed company-specific budgets of $7,391,160 for NYSEG and $4,434,696 for RG&E. NYSEG and RG&E propose to defer program costs as a regulatory asset, amortize recovery of such asset over a 10-year period, and recover the annual amounts through an existing surcharge mechanism.

In June of 2021, NYSEG and RG&E submitted a revised proposal that included several modifications to their December 2020 Filing. First, any participant enrolled at the intermediate level would be allowed to participate in the program using a networked L2 charger where telematics is not an option. Second, NYSEG and RG&E state that because they do not anticipate wide-scale recruitment of active managed charging participants at the advanced level, they would selectively target candidates for active management by identifying intermediate level participants in areas with high levels of EV adoption. NYSEG and RG&E state that this targeted approach will identify potential load pockets at the transformer or the circuit level and allow them to deploy active managed charging as a tool to maintain voltage levels, reduce asset fatigue, and defer distribution system upgrades. NYSEG and RG&E propose a modified total four-year budget of $9.1 million, comprised of approximately $6.3 million for NYSEG and $2.9 million for RG&E, based on their assumption that new EV registrations in their territories will increase at an annual rate of 15 percent.

O&R

O&R proposes a passive managed charging program that would offer participants incentives to charge during off-peak periods, using utility-provided hardware- or software-based

solutions that monitor charging behavior and register the location and time of charging. O&R proposes a three-year enrollment period with an enrollment target of 300 participants, anticipating incremental enrollment of approximately 100 participants per year. All participants would be allowed to participate for three years once enrolled.

O&R proposes to offer a $150 upfront enrollment incentive for startup costs, $5.00 per month for active participation in the program, $0.10 per kWh for charging during off-peak hours, and an additional $20 per month when they avoid charging during peak hours of 2:00 p.m. to 6:00 p.m. on summer weekdays.[32] O&R states that customers who are already enrolled in the utility's TOU rate would be eligible to participate in the program, however, the program incentives would be adjusted downward to account for the cost savings achieved through the TOU rate offering.

O&R proposes to employ a third-party vendor to administer the program and interact with customers. O&R states that the third-party vendor would be responsible for participant enrollment and onboarding, management of an online web-portal, quality control and fraud prevention, incentive payment processing and distribution, and development of dashboards and reports for O&R's review. O&R estimates a total program cost of approximately $800,000.

NOTICE OF PROPOSED RULE MAKING

Pursuant to the State Administrative Procedure Act (SAPA) §202(1), a Notice of Proposed Rulemaking (Notice) was

[32] O&R defines active participation in the Program as keeping the hardware plugged in or software turned on. O&R estimates that its proposed participation incentives could total up to $500 per year for participants who charge their EVs during off-peak periods.

published in the State Register on July 14, 2021 [SAPA No. 18-E-0138SP5]. The time for submission of comments pursuant to the Notice expired on September 13, 2021.

Comments were submitted by the Advanced Energy Companies; the Alliance for Transportation Electrification (ATE); ChargePoint; the City of New York (City); Con Edison and O&R; Enel X; Environmental Defense Fund (EDF); Ev.energy; Greenlots; the Metropolitan Transit Authority (MTA); Multiple Intervenors (MI); Natural Resources Defense Council, Sierra Club, and Siemens, collectively referred to as the Joint Commenters; the Vehicle-Grid Integration Council (VGIC); and WeaveGrid. A summary of all comments received is included in Appendix A of this Order, while each of the comments are considered where relevant to the topics discussed in the body of this Order.

LEGAL AUTHORITY

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.[33] Specifically, PSL §5 grants the Commission 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 Commission has further authority under PSL §66(5) to prescribe the "safe, efficient and adequate property, equipment and appliances thereafter to be used, maintained and operated for the security and accommodation

[33] Multiple Intervenors v. Public Service Commission of the State of New York, 166 A.D.2d 140, 143 (3d Dept. 1991).

of the public" whenever the Commission determines that the utility's existing equipment is "unsafe, inefficient or inadequate." Moreover, PSL §66(2) provides that the Commission shall "examine or investigate the methods employed by ... persons, corporations and municipalities in manufacturing, distributing and supplying ... electricity ... and have power to order such reasonable improvements as will best promote the public interest, preserve the public health and protect those using such ... electricity." The actions taken herein with respect to managed charging programs fall within this legal authority and are designed to support long-range program goals economically and efficiently, support public health and safety, preserve environmental values, and conserve natural resources.

DISCUSSION

As the adoption of EVs and other beneficial electrification technologies increases throughout the State, well-designed managed charging programs will provide essential benefits to the power grid in the form of flexible load, to EV drivers in the form of economic charging rates, and to other electric utility customers in the form of efficient delivery rates. Utilities have an opportunity to shape current and future EV charging habits by encouraging enrollment in managed charging programs, providing clear price signals that indicate when charging is both most cost-effective for the driver and most beneficial to the grid, and removing any barriers to customer participation. Utility managed charging programs should be simple, transparent, and flexible.

Eligibility Requirements

In the Make-Ready Order, the Commission directed the Utilities to file managed charging proposals for mass-market customers to provide an alternative to the whole home TOU rates

that are already in place. Some commenters, such as the Advanced Energy Companies and Greenlots, believe that programs serving residential customers alone do not meet the Make-Ready Order directive for proposals for mass-market customers, and recommend that, at minimum, the proposed programs should be expanded to include small commercial businesses. Commenters including the Advanced Energy Companies, Enel X, Greenlots, VGIC, and the Joint Commenters encourage the development of programs that support MDHD and fleets.

The Commission considers the Utilities' residential managed charging proposals to be consistent with the intent of the Make-Ready Order to provide an alternative to the whole home TOU rates already in place for residential customers.

The Commission declines to expand the managed charging programs for mass-market customers directed under the Make-Ready Order to larger commercial and industrial customers. Public Service Law (PSL) §66-s, "Electric vehicle charging; commercial tariff" was signed into law by Governor Hochul on March 18, 2022.[34] PSL §66-s requires the development of alternatives to traditional demand-based rates to facilitate faster charging for EVs. Commercial managed charging programs, which would benefit MDHD vehicle fleets, would likely interact with any potential actions the Commission may take in response to this legislation, and it is unclear now whether additional programs beyond the rate designs or operating cost relief mechanisms adopted in a future Order would be necessary. Therefore, implementing managed charging programs for larger commercial and industrial customers would be premature until rate design requirements of PSL §66-s are satisfied and subsequent analysis demonstrates

[34] PSL §66-s amends, and renumbers, PSL §66-q, which was signed into law on December 31, 2021.

that additional programs must be implemented to achieve desirable customer charging behavior.

Eligible Technology

Commenters including Ev.energy, Greenlots, VGIC, and ChargePoint express their support for technologically neutral programs that allow for multiple avenues of participation by drivers. ATE, WeaveGrid, ChargePoint, and VGIC note that the use of onboard telematics will be important in expanding program participation because it is a cost-effective solution to access the necessary participant data. Greenlots notes that some proposals unnecessarily eliminate opportunities for certain technology types to participate. Specifically, Greenlots comments that NYSEG and RG&E should leverage the managed charging capabilities of L2 smart chargers, rather than exclude them, given the potential required grid upgrades that unmanaged residential L2 charging could generate.

The technologies available today for administering a managed charging program for EVs have benefits and drawbacks. Onboard telematics are becoming an increasingly attractive and lower-cost option for measuring a vehicle's energy consumption and demand. However, many earlier versions of EV models remain on the road today and may not be technically capable of participating in programs that limit enrollment to EVs with telematics. Furthermore, not every vehicle manufacturer currently allows the use of the onboard telematics systems for managed charging programs. Networked L2 chargers are a viable option for drivers with EV makes and models that do not support managed charging using the onboard telematics systems.

The Commission agrees with commenters that the managed charging programs should be technologically neutral and should allow participation from multiple technology types to support the enrollment of as many EV drivers as practicable. Therefore,

the Commission strongly encourages the Utilities to pursue innovative technological solutions to enable a wider range of options for participating in managed charging programs. Thus, the Commission directs the Utilities to allow participation from, at minimum, onboard vehicle telematics and networked L2 chargers in their managed charging programs.[35] Furthermore, the Commission directs each of the Utilities to prepare and publish a list of approved contractors to aid customers with the installation of L2 chargers by January 1, 2023. This list must be available to customers even if the utility does not provide incentives for L2 chargers and must be readily accessible from the utility's online marketplace.

Alternative Metering Technologies

ChargePoint recommends that the standards that apply to networked L2 EV chargers should also be applied to vehicle telematics devices and any alternative technologies that qualify under each utility managed charging program. ChargePoint states that all qualified managed charging program technologies should have robust consumer protection features and be reliably accurate. ChargePoint recommends metering devices that minimally meet the requirements set forth in the electricity-as-motor-fuel sections of NIST Handbook 44 or meet the accuracy requirements of ANSI C12.1-2008 (1 percent class) as applied to embedded EVSE metering.

Presently, National Grid is the only utility to propose using the embedded metering and connectivity capabilities of onboard telematics or EVSE to determine the

[35] This requirement will be reconsidered, if appropriate, based on the results of the Technical Standards Working Group's telematics accuracy study referenced later in this Order.

amount of energy billed under their managed charging program.[36] National Grid's subscription program requires the use of these devices to separate the participant's EV load from other household energy uses for billing purposes. Given that the output from these devices would be used as the basis for billing customers in National Grid's subscription program, the Commission is concerned about the lack of relevant metering standards presently available. Therefore, the Commission is interested in leading the development of EV electric consumption measuring technology, including onboard telematics and L2 chargers. Development of these standards is imperative, given the requirement that only meters approved by the Commission shall be used for the purposes of customer billing.[37]

1. Metering Technology Standards

Within 180 days from the effective date of this Order, the Utilities shall propose a method for testing the accuracy of managed charging-enabling technologies. These proposals shall be filed with the Secretary. The Commission directs the Electric Vehicle Technical Standards Working Group (TSWG) to convene following the Utilities' filings to consider the method(s) proposed by the Utilities to establish metering and testing standards or criteria.[38] The TSWG shall convene its

[36] Other utilities propose use of onboard telematics to determine if a vehicle is charging or not within a specified set of hours, which is a much more simplistic operation than that proposed by National Grid.

[37] 16 NYCRR §93.2, Acceptable Meters. See also, 16 NYCRR §93.3, Types of Meters Eligible for Approval, which requires that new meters shall conform with enumerated metering standards.

[38] The TSWG convened following the issuance of the Make-Ready Order in order to evaluate technical standards for inclusion in program requirements. The TSWG consists of Staff, the Utilities, developers, trade groups, and other interested parties. Make-Ready Order p. 111.

first meeting on this topic not later than 45 days after the Utilities' filings (i.e., no later than 225 days after the effective date of this Order).

As shown in greater detail in Appendix B of this Order, a number of jurisdictions have already begun to evaluate these standards for potential adoption. The TSWG shall also consider other work in this area occurring at other New York State agencies and other non-New York jurisdictions, to the maximum extent feasible. In the event another jurisdiction, including any other New York State agency, adopts and publishes metering standards during the course of the managed charging programs, the TSWG should consider such standards in their analysis.

The TSWG is tasked in the development of several other related issues that shall be handled in three phases. In phase one, not more than one year after the effective date of this Order, the TSWG shall establish eligibility criteria in order to determine what equipment will be considered for testing purposes.

In phase two, not later than two years after the effective date of this Order, the TSWG shall measure and evaluate the reliability and accuracy of the devices on the eligible equipment list, taking into consideration the methods proposed in the Utilities' filings. In the event the TSWG intends to use real-world customer data, or requires customer participation, the TSWG shall ensure adequate consumer protections are in place. Staff is directed to review the TSWG recommendations for compliance with customer privacy and consumer protections, and is directed to bring such recommendations to the Commission for review in the event that the protections provided are inadequate. Based on this testing, the TSWG shall develop a list that outlines the spectrum of

reliability and accuracy of the chargers. These first two phases are intended to begin the process of testing and reporting the accuracy of alternative metering equipment, but by no means does the Commission intend for this to be a one-time process.

In the third phase, prior to October 1, 2024, the TSWG shall submit a comprehensive filing to the Commission for approval. The filing shall detail the findings of the previous two phases and make recommendations to establish minimum standards and specifications for alternative metering technologies. The filing shall also include a proposal for addressing technologies which do not meet minimum accuracy standards. For example, one option may be tiered incentive structures that correspond with categories of accuracy of the metering device.[39] While these standards are to be proposed for the purposes of the managed charging program, we anticipate that they may be an important framework in addressing any metering concerns with other alternative measurement technologies. Additionally, the Commission recognizes that there may be novel technologies or updates to technology that do not currently meet the standards discussed above. In either case, the TSWG may be called upon in the future to re-evaluate these alternative metering technologies and submit an updated filing to the Commission.

2. Metering Dispute Resolution

None of the Utilities included dispute resolution

[39] The Commission does not intend to incentivize inaccurate devices; however, the Commission recognizes the nascent state of the standards for managed charging-enabling technologies and the proposal should therefore encourage the market to develop accuracy standards, balanced by a customer-friendly approach for the enrollees who may have purchased devices prior to the adoption of these standards.

provisions in their managed charging filings. Given the importance of managed charging at high levels of EV adoption, it is imperative that early adopters are receptive to the programs and have favorable experiences.

The Commission directs the Utilities to, following consultation with Staff, include a dispute resolution framework in their Managed Charging Implementation Plans (MCIP). The dispute resolution section of the MCIPs shall provide details of how customer disputes regarding meter reading and billing discrepancies will be investigated and resolved by the utility and, among other things, shall explain the circumstances when the customer may: 1) return to the SC1 standard rates if desired; or 2) choose the TOU rate as an alternative for future billing periods. The MCIPs shall also include a resolution procedure if the dispute relates to the networked L2 charger or onboard EV telematics' Wi-Fi connectivity, including how to derive the off-peak usage based on customers' typical baseline behavior, an explanation of how the bill will be manually adjusted to account for the number of days that are in dispute, and how to address any reoccurring problems.

Incentives and Cost Controls

Each utility proposes different managed charging program structures and incentive levels based on its respective analyses of methods and incentives needed to encourage program participation in its own service territory. Commenters are generally supportive of the Utilities' proposed incentive structures. Several commenters, including the Advanced Energy Companies, Ev.energy, Joint Commenters, ChargePoint, and Enel X, state that variation amongst the Utilities' programs is a benefit given differences between territories. Commenters also note that since managed charging programs are nascent, a varied approach can help test what incentive structures may be most

effective. Enel X, ATE, and Ev.energy urge the Commission to adopt active managed charging approaches, though Enel X supports foundational passive programs with the ultimate objective of pursuing robust active programs.

The Commission generally supports the Utilities' proposed incentive structures, with some exceptions as discussed in the "Utility-Specific Matters" section of this Order. The Commission agrees with commenters that, given the early state of managed charging and EV adoption in the State, testing a mix of passive and active managed charging programs is appropriate at this time. Testing a variety of different program designs, and doing so in different areas, should provide robust information about what types of incentives most effectively spur desired customer behavior and whether there are differences in how groups of customers respond to such incentives.

Meaningful incentives designed to encourage participation and drive behavioral change are necessary for an effective managed charging program. Because these managed charging programs are new, and there is much to be learned regarding how customers will respond to the incentives provided, the Commission recognizes that incentive levels may need to change over time to reflect the evolving state of EV penetrations and charging patterns in New York. For example, larger incentives may be necessary to motivate enrollment in the near term while managed charging programs are new and unfamiliar to drivers, but lower incentives may be appropriate in the future. While incentives must be sufficiently sized to encourage participation, too rich of an incentive may unnecessarily expend ratepayer dollars. Like any incentive program, over time the managed charging programs should seek to maximize desired customer behavior while minimizing the incentive costs required to achieve such behavior.

There are two broad categories of incentives proposed by the utilities: enrollment incentives, where customers would receive an incentive for enrolling in the program and performing certain start-up actions necessary for participation in the program; and participation incentives, where customers are rewarded for specific behavior or actions taken once already enrolled.[40] Both enrollment and participation incentives have been used in a variety of opt-in consumer energy programs to encourage participation.[41]

For programs like Central Hudson's, where the participation incentives are tied to the differential between off-peak TOU rate charges and the standard volumetric rates, and the utility's Rate Year is not aligned with the calendar year, it will be necessary to adjust incentives to reflect changes in the underlying rate structure. To balance the interests of maximizing customer participation in managed charging programs and minimizing the costs to customers to achieve the behaviors desired, the Commission directs the Utilities, in consultation with Staff, to review and report on the efficacy of the

[40] Con Edison's light-duty SCNY Program provides practical examples of both enrollment and participation incentives. The $150 enrollment bonus and $25 payment for installing the FleetCarma device within seven days of receiving it are both forms of enrollment incentive that are paid to a participant regardless of the participant's off-peak charging behavior. The $0.10/kWh off-peak charging incentive, $5/month incentive to participate in at least one off-peak charging event, and $20/month for avoiding summer peak hours are all forms of participation incentive, which require ongoing actions or behavior by the participant to earn.

[41] For example, the mass market Direct Load Control Programs currently in place at nearly every electric utility and several gas utilities provide an upfront enrollment incentive against the first-cost of the smart thermostats required for participation, and ongoing annual payments based on participant response to called events.

incentive levels in updates to the MCIPs, no less frequently than annually, considering items such as percentage of EVs enrolled, remaining budget, and participant satisfaction. If any changes are deemed necessary, the utilities must notify participants of, and make clear on their websites, such changes no fewer than fourteen days in advance of their taking effect for enrollment incentives and thirty days in advance of the billing cycle in which the new participation incentives go into effect

While it is possible that both enrollment incentives and participation incentives may need to change from time to time, it is reasonable to enact different processes and requirements for modifying enrollment incentives than participation incentives in recognition that changes to each type of incentive affect participants differently.[42] Annual updates, at a minimum, to the MCIPs will establish a consistent cadence for scrutiny of utility managed charging program incentive levels. However, the Commission will also establish a fast-track for implementing enrollment incentive level modifications if the utility identifies a trend where enrollment incentives are set too high.

The process for implementing a fast-track enrollment incentive change shall be as follows.[43] First, the utility shall, in consultation with Staff, file a letter with the Secretary explaining its rationale for implementing a fast-track change; and, shall provide the updated enrollment incentive amounts within such letter no fewer than fourteen days in

[42] For example, changes to enrollment incentives will affect only new program participants, whereas changes to participation incentives will affect all program participants.

[43] Enrollment incentive are not to be included in the Utilities' tariff provisions.

advance of when the updated incentive payment rates take effect. Fourteen days' notice is sufficient for enrollment incentives, as this type of incentive is for new participants only and would not impact any existing participants. The fourteen-day period is intended to safeguard the managed charging program budget from being depleted if there is a sudden uptick in customer interest. Second, the utility must ensure that potential participants are promptly notified of the upcoming enrollment incentive payment rate changes. Utilities shall publish the updated enrollment incentive payment rates on their websites, noting the date(s) such rates go into effect. The Commission anticipates that the annual review and reporting process will be the primary means for implementing incentive payment rate modifications. The Commission also expects that fast-track incentive payment changes made under the first scenario should be rare, as requiring frequent fast-track changes may indicate issues with utility implementation and management of these programs and incentives.

There is also a need for further consideration of the initial and ongoing magnitude of enrollment incentives offered through the managed charging programs. While enrollment incentives may aid in persuading initial participation by EV drivers, they do not ensure beneficial behavior by participants once enrolled, particularly in passive programs, creating the risk of expending resources without achieving intended outcomes. Although the Commission acknowledges the value of enrollment incentives, we direct any utility that includes an enrollment incentive in their proposal to limit such incentive to no more than $25 for passive programs, or no more than $150 for active programs. Any program that offers an enrollment incentive shall require a minimum participation period of at least three months. The differing enrollment incentive amounts of $25 and $150 are a

reasonable cap for passive and active programs, respectively. Passive programs incentivize participants to modify their charging behavior but do not obligate them to do so. Given the lack of guarantee, the Commission finds that $25 is a reasonable limit for such programs. Unlike passive programs, active programs require utility control of participant charging, which may require additional encouragement for a potential participant to opt into the program and allow the utility to control their charging. The Commission also notes that among the recent implementations of active managed charging programs in other jurisdictions, the program participants allowed the utility to control over 90 percent of their EV charging, which suggests that drivers who opt into active charging programs have a high likelihood of delivering the expected grid benefits.[44] For the reasons outlined above, the Commission finds that a larger incentive limit for active managed charging programs is reasonable.

Participation incentives, including National Grid's proposed subscription plan, will be cost based and implemented through tariffs. Participation incentive payments are to be designed to provide participants with discounts based on the difference between the flat $/kWh energy charge for standard residential rates and the off-peak $/kWh TOU energy rate. Additionally, the participation incentive is to include a portion of the difference between the standard flat supply charges and the forecast of off-peak energy supply charges. The Utilities shall file tariffs, on no less than 30 days' notice, to implement participation incentives effective no later than

[44] "Managed Charging For Electric Vehicles," 2022. NYSERDA Report Number 22-09. Prepared by Cadmus Group LLC, Waltham MA and World Resources Institute, Washington, DC. Available at: https://www.nyserda.ny.gov/About/Publications/Research-and-Development-Technical-Reports/Transportation-Reports.

January 1, 2023. The tariffs are to go into effect on a temporary basis until made permanent by the Commission. Changes in utility rates, and in some situations changes in utility supply cost forecasts, will require modification of participation incentives. Modifications to participation incentives necessitated by rate changes, or updates to supply cost forecasts, are to be filed on 30 days' notice prior to the billing cycle in which the participation incentives go into effect.

In addition, VGIC notes in its comments that managed charging programs should reward participants on a frequent and timely basis to ensure that customers recognize the link between the incentive payment reward and the desired behavior being incentivized. The Commission agrees with VGIC that incentives should be paid out more often than annually to keep customers engaged with the managed charging programs. Therefore, the Commission directs the Utilities to settle participants' earned managed charging participation incentive payments on a quarterly basis, at a minimum, though more frequent settlement is preferable. The Commission prefers that participation incentive payments be provided to customers as a bill credit. However, if there are billing system complexities that make issuing such a credit cost prohibitive or will delay implementation, payments can be provided by other means. In either case, the source of the credit must be clearly identified.

Finally, while the Commission does grant some degree of flexibility to the Utilities in setting participation incentives through the processes outline in this section, participation incentives paid to customers must be cost-based, and are not to exceed the difference between the default volumetric rate and a Commission approved time-varying or dynamic rate that reflects the value of the off-peak charging or

event participation. Changes to the participation incentives that are not cost-based require Commission approval.

Participant Portal

O&R, NYSEG, and RG&E propose to use a web portal or mobile app to engage participants. In comments, Ev.energy recommended improving NYSEG and RG&E's proposed intermediate level by incorporating a mobile app, beyond a web portal alone, to increase customer engagement.

Managed charging programs seek to encourage beneficial participant behavior. However, it is difficult for participants to understand and modify their energy usage in between incentive payouts if they are not presented with details on their usage on a timely basis. Tools to help customers understand the link between their decisions on when and how to use energy and how such decisions affect their bill will be key as more end uses, including transportation, are converted to electricity. The Commission directs the utilities to maintain participant portals, web-based and/or through a mobile app, that provide information on a relevant time scale giving insight into a participant's energy usage and participation to-date and feedback on how the participant can improve.

The Commission declines to specify a method, whether through a web portal or a mobile app, that the utilities must implement to engage managed charging program participants. There are numerous intricacies which must be considered and balanced in making such a determination. For example, if the Commission were to require the use of a mobile app, would such app have to be available on all available smartphone platforms such as Android and iOS, and, if so, would customers without access to a smart phone be able to participate? The Commission finds that the record in this proceeding is insufficient to support such a determination, and therefore declines to

promulgate any such requirements at this time. In their MCIPs, the utilities shall include a date by which their participant portal will be active. This date shall be no later than twelve months after the effective date of this Order.

Utility-Specific Matters

1. Central Hudson

EDF commends Central Hudson for proposing both passive and active managed charging programs. VGIC considers the proposed active managed charging proposal to incorporate EVs into the NWA program to be a unique approach that will help advance an understanding of the distribution system benefits of vehicle-to-grid integration.

Central Hudson's proposed credit for passive managed charging is based on the difference between the average energy rate and the off-peak energy rate. Given that the differential between these rates is limited and that this is the only incentive payment in the proposed program, the Commission is concerned that the program, as proposed, would be insufficient to encourage participation. To better promote enrollment, the Commission directs Central Hudson to include an enrollment incentive of $25, subject to the upfront incentive requirements previously detailed in the "Enrollment Incentives" section of this Order. If, after a review of the enrollment and participation levels of the program, Central Hudson determines that a modification to the enrollment incentive rate is warranted, it may do so consistent with the process outlined in the "Incentives and Cost Controls" section of this Order.

2. Con Edison

Some commenters express disappointment that Con Edison did not file any updates to its SCNY program. The City suggests that Con Edison modify its program for light-duty vehicles to follow a similar structure as National Grid's proposed EV Smart

Plan to encourage further participation. However, SCNY participation levels are relatively high compared to the EV TOU rates across the State and other managed charging programs across the country. Because of the program's success, the Commission does not currently see the need to drastically modify the structure of SCNY, and thus declines the City's suggestion. However, the Commission does encourage Con Edison to consider modifying the incentive amounts to encourage further participation. Any such changes shall be documented in Con Edison's MCIP.

3. National Grid

ATE, the City, EDF, Ev.Energy, and VGIC support National Grid's proposal. ATE states that National Grid's $500 infrastructure incentive and $150 enrollment incentive for new networked L2 EVSE are reasonable. ATE also supports National Grid's proposed turnkey installation service.

a. Upfront Incentive

The Commission finds most of National Grid's EV Smart Plan design proposal to be reasonable, but is concerned about National Grid's proposed incentives for networked L2 chargers. Specifically, we are concerned that offering a higher incentive for new L2 chargers will encourage drivers with onboard telematic capabilities to pursue participation through a new L2 charger, unnecessarily expending ratepayer funds. The Commission directs National Grid to offer the same upfront incentive of up to $150 to participants with either new or existing L2 chargers and onboard telematics.

b. Subscription-Based Metering

The managed charging program proposed by National Grid measures a customer's electric consumption through the Company's meter and separates out the incremental EV electric consumption using data from the embedded metering capabilities of the

charging equipment or the EV itself through onboard telematics. The Company proposes that it will bill the customer's EV load using an alternate billing methodology previously designed for the economic development programs.[45] The alternative billing methodology – originally designed for the Empire Zone Rider (EZR) and the Excelsior Jobs Program (EJP), - provides National Grid with an alternative to bill electric load through one meter at different rates.[46] The Company proposes to use the data obtained from the EVSE or the EV itself to segregate the portion of the customer electric load attributable to EV charging. National Grid's proposal recognizes that the built-in EV measurement systems are valuable tools in creating a customer-centric and seamless experience. The subscription plan, as proposed, can eliminate frustrations or challenges that may prevent an EV driver from participating in managed charging programs.

c. Program Charges

National Grid shall work in conjunction with Staff to develop transparent managed charging program information for EV customers on either the electric bill, a bill insert, and/or other medium used to address a customer. The participant's managed charging enrollment, subscription fee, and program details, and any bill credits or charges that may be incurred with the managed charging program must be apparent and understandable. Any separate publishing must include branding consistent with the Company's managed charging program.

[45] Case 18-E-0138, National Grid Updated and Revised Proposal (filed May 9, 2022), p. 16.

[46] PSC No: 220 Electricity, Rule 34.3.3, Alternate Billing Methodology: Non-Separated EZR Load and Rule 34.7.3 Billing methodology Non Separately Metered EJP Load.

d. Additional Programs

The Commission is supportive of National Grid's turnkey installation service proposal and approves the request. A turnkey installation service will ease the customer's journey in installing an L2 charger and may provide a useful channel for educating them about the managed charging program. The service may also help direct customers to install chargers compatible with the managed charging program should they choose to participate in the program after installing their charger. The Commission is interested to see how popular this offering will be and whether it would be beneficial to expand to other utility territories across the State in the future. The Commission directs National Grid to monitor participant satisfaction and experience with the turnkey installation service and include such information in the annual managed charging report along with details on the number of customers utilizing the service and the financial results, including the incremental revenue generated by the turnkey program and EV related upgrade to the Company's E-commerce marketplace, as described in more detail below.[47]

The Commission finds National Grid's proposed PSR related to turnkey installation service and EV-related enhancements to the Company's E-Commerce Marketplace to be reasonable. While the costs related to these efforts are predominantly fixed in nature (e.g., costs to implement modifications to the Company's existing E-Commerce Marketplace and operate such thereafter) revenues generated by customer use of the Company's platforms or participation in the Company's

[47] Incremental revenues are to include revenues generated from marketplace purchases and vendors participating in the marketplace or turnkey installation services, not delivery service revenues generated by incremental EV charging load enabled by such purchases.

program are predominantly variable. To the extent that the variable revenues associated with these platforms and programs exceed the ongoing costs of operation, these platforms and programs could result in a net profit benefitting National Grid's customers. While the Commission does not anticipate that these platforms and programs will be profitable in the short term, it is clear that aligning the Company's interests with maximizing revenues generated from these projects is valuable. The Commission finds that the turnkey installation services and enhancements to the Company's E-Commerce Marketplace meet several of the criteria for approval of PSR for competitive services established in the REV Track Two Order: (a) whether the service facilitates the growth and operation of markets; (b) whether there is already a third-party market for the service that adequately serves all sectors of the market; (c) whether utility economies-of-scale and/or existing utility expertise are likely to result in cost-effective stimulation of the market; (d) whether utility provision of the service is likely to prevent other providers from entering the market; and (e) the extent to which a utility has proposed placing shareholder funds at risk.[48]

The turnkey installation and marketplace services have the potential to accelerate growth of the EV and EVSE market for at-home charging. The third-party market for turnkey installations services for at-home EV charging in the Company's service territory is currently limited and the Commission agrees that the Company's proposed services could expand the business opportunities for installers already active in the market while also providing a streamlined and cost-effective service for

[48] Case 14-M-0101, Reforming the Energy Vision, Order Adopting a Ratemaking and Utility Revenue Model Policy Framework (issued May 19, 2016) (REV Track Two Order).

consumers who must navigate an array of electric service upgrade and EVSE hardware options. The Company has experience with developing approved contractor lists and the expertise to advise consumers regarding the installation of at-home EV charging. Finally, while the current proposal does not place shareholder funds at risk, the Commission notes that the financial performance of the services will be reviewed in the annual managed charging report and the Commission may reassess this determination, based on the success of the business model. Therefore, the Commission approves National Grid's requested PSR associated with the turnkey installation service and EV-related upgrades to its E-Commerce Marketplace.

e. Managed Charging EAM proposal

As part of its managed charging program proposal, National Grid included a proposal for a managed charging EAM. This EAM was originally described in its 2020 electric rate case testimony.[49] The utility stated that the core outcomes of the Managed Charging EAM include reduced need for future distribution system upgrades, increased utilization of existing grid assets, lower overall energy costs for customers, and associated environmental benefits. Additionally, National Grid contended that such a metric would encourage the utility to prioritize managed charging initiatives that maximize customer benefits, and as these activities would constitute efforts outside of the conventional utility business model, they would be appropriately incentivized by an EAM. National Grid proposed a metric that would calculate managed charging program enrollment as a percentage of all EV registrations in its service territory in each calendar year.

[49] See Case 20-E-0380, Direct Testimony of Customer Energy Panel (filed July 31, 2020), pp. 30-31.

As established in the REV Track Two Order, the most appropriate venue for proposed EAMs is a rate case where financial details of EAM proposals can be considered in the context of the potential value of the outcome within each service territory, the capabilities of the utility, and the unique financial situation of each utility. While the Company did propose to implement a Managed Charging EAM in its most recent rate proceeding, such proposal was controversial, with Staff and other parties also making recommendations related to National Grid's proposed EAM. The Commission notes that the Managed Charging EAM does not appear in the Joint Proposal submitted to the Commission on September 9, 2021.[50] The Commission does not find National Grid's arguments to implement a Managed Charging EAM as part of this proceeding to be persuasive. Instead, the Commission finds that National Grid's proposed Managed EV Charging metric would be duplicative of the Transportation Electrification EAM metric which was included in the Joint Proposal and approved by the Commission. Both the Managed Charging EAM proposed by the Company and the Transportation Electrification EAM promote consumer adoption and ownership of EVs and would therefore reward the utility for achieving a similar outcome, and we therefore reiterate our general preference for outcome-based EAM metrics compared to programmatic metrics, as discussed in the REV Track Two Order, where the outcome achieved between both metrics is the same. Therefore, National Grid's proposal to implement a new Managed Charging EAM is denied.

[50] Case 20-E-0380, Joint Proposal (filed September 9, 2021); the Joint Proposal was later approved by the Commission in its January 20, 2022 Order Adopting Terms of Joint Proposal Establishing Rate Plans and Reporting Requirements in the same proceeding.

4. NYSEG and RG&E

Ev.energy, is in favor of NYSEG and RG&E's proposed multi-tier incentive structure. VGIC states that NYSEG and RG&E's proposal is well-developed with the inclusion of demand-response. However, Ev.energy recommends that the advanced level incentive be increased and that the companies enroll as many customers as possible on the advanced level because it is the only level that fully manages EV load. EDF states that NYSEG and RG&E's proposal could be viewed as a learning opportunity to ascertain if the price differential between off-peak and on-peak consumption is sufficient.

The Commission recognizes commenters' support of a multi-tiered structure and agrees that participants should be encouraged to enroll in the highest participation level available. As discussed earlier, part of the Commission's intent in requiring the utilities to propose managed charging programs is to provide customers with an alternative to TOU rates that can encourage their participation and behavioral change. However, NYSEG and RG&E's proposed basic tier requirement that participants be enrolled in the TOU rate means that the proposed program does not serve as such an alternative. Therefore, the Commission directs NYSEG and RG&E to exclude the proposed basic tier from its proposed managed charging program. NYSEG and RG&E are to incorporate the survey component, without the $25 incentive, into the proposed intermediate tier. This will create a two-tier incentive structure that will be simpler for participants to understand, save ratepayer money, and drive more behavioral change.

Program Budgets

The utilities, in response to Staff's information request, provided the estimated program costs of Information Technology/Billing integration, staffing, annual marketing and

evaluation, vendor operating costs, and enrollment and participation incentives to estimate managed charging program costs under two scenarios – a low participation scenario, where customer EV adoption is low and enrollment in a managed charging program is assumed to be five percent, and a high participation scenario, where there is rapid adoption of EVs and 25 percent of EV owners enroll in a managed charging program. In the low participation scenario, the forecasted number of EV registrations for the years 2022, 2023, 2024, and 2025 was determined by developing a linear trendline from the years 2017 through 2021 of the EV Original Registrations in each of the utilities' territories obtained from the EvaluateNY Dashboard and extrapolating growth.[51] The high participation scenario uses the statewide ZEV goal, broken out by year and allocated by service territory for years 2022, 2023, 2024, and 2025.[52]

The total budgets for the managed charging programs are made up of two components. The first component, or the Enrollment and Implementation Component, is the budget for necessary implementation costs, program administration costs, and enrollment incentives paid to customers.[53] The second component, or the Participation Incentive component, is the budget for participation incentives paid to managed charging program participants. These budgets are provided on an aggregate three-year basis and on an estimated annual basis in

[51] EvaluateNY dashboard, Atlas EV Hub, available at: https://atlaspolicy.com/rand/evaluateny/.

[52] New York State has a targeted ZEV goal of 850,000 registered ZEVs by 2025. See Multi-State ZEV Memorandum of Understanding (2014), available at: https://www.nescaum.org/documents/mhdv-zev-mou-20220329.pdf/.

[53] Program implementation costs include funds spent on program implementation or technical support, including costs associated with contractors implementing the program on the utility's behalf.

Appendix C of this Order.[54] Since participation incentives are to be administered through utility tariffs, the costs associated with those incentives are provided for information only. This Order, however, authorizes a "not to exceed" budget for Enrollment and Implementation Component costs. The utilities shall implement the managed charging programs in accord with the aggregate three-year budget, with the option to move funding from year to year if needed.

In establishing an appropriate budget for the managed charging programs at each utility, the Commission finds that it is appropriate to use the high participation scenario to determine each utility's participation incentive, enrollment incentive, and variable vendor costs components because that approach will best align with the ZEV goal. Using the high participation scenario will ensure that the Utilities are adequately funded to provide all eligible EV owners that want to participate in the managed charging programs the opportunity to do so. Exceeding these incentive components of the budget would require a faster EV adoption rate than is required to meet the ZEV goals. Although the Commission is setting each utility's "not to exceed" budget using the high participation scenario, customers will be protected in the event participation in these programs is below the assumed levels, because a significant share of those costs vary with enrollment. The majority of the program costs are to be recovered on a lagged basis, as described in more detail in the Program Cost Recovery section of this order; therefore, managed charging program budgets which are not expended will not be recovered from customers.

While the Commission is setting a "not to exceed" budget for Enrollment and Implementation Component costs using

[54] Estimated annual budgets are provided for illustrative purposes only.

the high participation scenario, it is reasonable to take a more conservative approach to set the necessary fixed implementation and program administration components. The Utilities will have to hire the requisite amount of employees or vendors ahead of knowing the exact level of participation. If the amount of participation anticipated when making hiring or contractual decisions does not materialize, the salaries or contractor costs already incurred would not be clawed back if the utility's decisions regarding the level of implementation and program administration costs were prudent at the time. Therefore, the Commission finds it prudent to proceed cautiously regarding forecasts of fixed implementation and program administration costs. Further, the Commission anticipates that participation in the managed charging programs will require a ramping up period, which, at its early stages, is unlikely to require the extra resources portrayed in the high participation scenario. Therefore, the Commission's approved managed charging program budgets reflect the fixed implementation and program administration budget components associated with the low participation scenario.

During the period of 2022-2025, the Utilities are authorized to spend up to the amount shown in Appendix C for program implementation costs, program administration costs, and enrollment incentives. The "not to exceed" budgets are approximately $4.5 million for Central Hudson, $31.0 million for Con Edison, $11.3 million for National Grid, $18.8 million for NYSEG, $5.8 million for O&R, and $9.0 million for RG&E. The Utilities are authorized to spend up to, but not more than, the amounts listed above. However, the cost components within such budget are to be considered fungible (e.g., cost savings in program administration may be used to cover cost overruns in program implementation or enrollment incentive payments).

The Commission forecasts approximate participation incentive payment budgets of $2.4 million for Central Hudson, $71.8 million for Con Edison, $12.2 million for NYSEG, $8.2 million for O&R, and $5.5 million for RG&E.[55] Participation incentive payments vary directly with both new and existing participant response by charging during a specified period. Greater participant response to managed charging programs and price signals is a benefit to system operations and, ultimately, all customers. Further, because the participation incentive payments are designed to provide participants with the difference between the standard, flat $/kWh energy charge of standard residential rates and the off-peak $/kWh TOU energy rate, plus a portion of the difference between off-peak energy supply charges and the standard flat supply charges, the participation incentive payments are not an incremental resource or societal cost that would be recognized in a benefit-cost analysis. Therefore, the participation incentive payment budgets indicated herein will not be considered caps. However, such payments will be subject to review and scrutiny as part of annual updates to the MCIP, the annual reports, and any required modifications to such, as discussed in the "Incentives and Cost Controls" section above.

Program Cost Recovery

MI states that any system benefits resulting from mass-market managed charging would mostly be limited to the distribution system, and hence the customers whose service uses lower voltage would receive the benefit. MI therefore recommends that any incremental program costs be allocated exclusively to mass-market service classes. MI requests a mass-

[55] National Grid's managed charging program does not provide participation incentives.

market service class Revenue Decoupling Mechanism (RDM) funded rate design to address any cost allocation issues.

As described in further detail below, the Commission finds that Enrollment and Implementation Component costs are to be recovered using the EV Make-Ready surcharge established in the Make-Ready Order. However, participation incentives are to be recovered through existing delivery and supply rate reconciliation mechanisms.

Because the Con Edison program allows commercial customers and MDHD vehicles to participate in the managed charging program, the costs of administering the Con Edison program shall be allocated to the service class of the participating customer on a pro-rata basis, using the most recent year of historical EV consumption data from program participants by service class.[56] For all Utilities other than Con Edison, Enrollment and Implementation Component costs are to be recovered solely from residential customers because these programs are only available to customers in the residential service classes at this time. If the managed charging programs are made available to customers in other service classes, Enrollment and Implementation Component costs will be allocated to those additional service classes.

Managed Charging Program implementation and program costs incurred during each year shall be deferred until the end of each program year. For Utilities requiring funding in excess of current rate plan allowances, the deferred balance inclusive of carrying charges is to be recovered during the subsequent program year, and the net-of-tax balances will be allowed to

[56] In cases where historic data is not fully available, the Company shall, in consultation with Staff, identify and leverage the best available data to approximate the EV usage of participants by service class for the purposes of cost allocation.

accrue carrying charges at the pretax overall cost of capital. The costs are to be recovered through the EV Make-Ready surcharge established in the Make-Ready Order.

The Utilities shall file tariffs, on no less than 30 days' notice, to implement cost recovery of Enrollment and Implementation Component costs, effective no later than January 1, 2023. The revisions are to go into effect on a temporary basis until made permanent by the Commission. Con Edison's current rate plan, which runs through December 31, 2022, provides for funding of its managed charging program. Therefore, Con Edison is to begin deferring Enrollment and Implementation Component costs on January 1, 2023.

These deferrals for Enrollment and Implementation Component costs shall be recovered on a lagged basis, with a one-year lag between when costs are incurred and recovered from customers, consistent with the cost recovery mechanisms directed in the Make-Ready Order. However, the Commission finds it necessary to provide clarification regarding the cost recovery directives in the Make-Ready Order. It was the intent of the Commission in the Make-Ready Order to establish cost recovery mechanisms for all applicable Make-Ready Program costs which would be recovered on a one year lagged basis, as opposed to being established on a forecast basis. Cost recovery on a lagged basis ensures that actual costs are recovered from customers, whereas including costs in base rates would likely require forecasting and, in some instances, a reconciliation mechanism to true-up any difference between forecast program costs included in base rates and actual program costs incurred during the same period.

The Make-Ready Order established interim recovery mechanisms to recover customer-side incentives and costs related to the various Prize projects, Fleet Assessment Service, and

pilots. Make-Ready Program costs were to be recovered through a surcharge mechanism over either a period of 15 years or 5 years.[57] For costs related to utility-side make-ready work, the Commission allowed the Utilities to recover the depreciation expense and return on the average unrecovered investment, net of deferred income taxes over the subsequent one-year period, and established that such costs would be excluded from Utilities' plant in service reconciliation.[58] The Commission directed that utility-owned make-ready work be treated as capitalized plant in service with cost allocation and recovery via traditional ratemaking methodologies, and that customer incentives and other costs be included in base rates as regulatory assets. The Commission specified that costs would be recovered through the previously-described surcharge mechanisms until included in base rates.[59]

The Commission's directive of when costs would be included in base rates requires clarification, as costs can be included in base rates on either a forecast basis or on a lagged basis.[60] Therefore, the Commission clarifies that all Make-Ready Program costs are to be recovered on a lagged basis, with initial recovery through the surcharge mechanism until the remaining balances can be reflected in base rates in a subsequent rate proceeding. The Utilities shall not include forecast Make-Ready Program costs in their base rate requests.

Since participation incentives are to be cost-based and are to be implemented through tariffs, recovery for these

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[57] Make-Ready Order, pp. 79-81.

[58] Make-Ready Order, p. 79.

[59] Make-Ready Order, pp. 78-79.

[60] Typical capital expenditures and operations and maintenance costs are set on a forecast basis, whereas recovery or refund of deferral balances are set on a lagged basis.

costs is to be funded through existing delivery and supply rate reconciliation mechanisms, as appropriate. For example, the component of the rate intended to provide participants a discount on delivery rates, based on the difference between the flat $/kWh rate of standard residential rates and the off-peak $/kWh TOU energy rate, is to be reconciled through the RDM. The portion of the participation incentive intended to provide participants a discount on supply charges, for the difference between the standard flat supply charges and the forecast of off-peak supply charges, is to be reconciled through the appropriate supply reconciliation mechanism(s).

Outreach and Feedback

The Utilities have a tremendous responsibility to effectively communicate and engage participants and other stakeholders regarding the managed charging programs. Any outreach and education plans should be designed to reduce confusion, increase acceptance, ease implementation, and allow customers to make informed decisions about joining a managed charging program. Such outreach should be robust, clear, and provided prior to any managed charging program rollout or program modifications.

The Utilities shall submit sample outreach materials, such as bill inserts, e-mails, advertisements, webpage information, etc., as part of their MCIPs described below. As program modifications or significant outreach material changes occur, the Utilities shall file updated outreach materials in their MCIPs. To ensure customer service representatives (CSRs) are sufficiently informed on managed charging programs, the Utilities shall provide sample CSR scripts or training materials that shall be available should customers request additional details or inquire into a managed charging program.

Participant feedback is beneficial in any program and particularly so for new programs, such as the managed charging programs. Information obtained from participants on their satisfaction with and understanding of the program and any problems encountered is a necessary tool in optimizing programs. Given that the Utilities have a variety of incentive structures, participant feedback is essential in determining whether a program is successful and if the successful program model should be expanded to other service territories.

The Utilities are directed to obtain and document participant insights and participant satisfaction data on the clarity of the program, satisfaction with program elements, and any issues that may have been encountered. Participant feedback can be obtained through surveys, focus groups, and/or other methods of participant engagement. The results of these efforts shall be detailed in the MCIPs. Should a feedback mechanism, whether in person interviews or focus groups, email, telephonic, mail-in, online surveys, or other method of customer engagement, be incorporated in the Utilities' outreach efforts, and the results score unfavorably, or below 75 percent satisfaction with the program, the utility shall reevaluate the efficacy of the program, determine potential solutions, and provide a detailed summary of the results in their MCIP. The Utilities shall convene with Staff, at least sixty (60) days prior to the commencement of a managed charging program, to establish the language, scoring tiers, and methods of distribution for a Net Promoter Survey, which will serve as a survey mechanism that will request customers score their satisfaction with a managed charging program. The Net Promoter Survey shall be used to gauge customer satisfaction with managed charging programs and flag whether adjustments to the program should be considered.

The addition of new programs and features has the potential to cause customer confusion. To mitigate this and ease acceptance of the managed charging program, the Utilities shall quickly and effectively address customer complaints and inquiries. The Commission directs the Utilities to provide a high-level overview on the results of their responses to customer complaints and inquiries relating to a managed charging program in their MCIPs. Should a complaint or dispute achieve escalation, or Standard Resolution System status, the utility shall include details of these complaints, potential findings, and utility resolutions within their MCIP.

Managed Charging Implementation Plan

All Utilities shall submit a comprehensive MCIP describing the structure of the managed charging program and the utility's plan to obtain participants. The MCIP shall include, at a minimum, a detailed forecasted annual budget through 2025, with itemized budget details such as administration costs, implementation costs, incentive costs (broken out by technology), marketing costs, and evaluation costs. The MCIP shall contain specifics on how the managed charging program will: (1) reduce participants' electricity bills, (2) educate participants about the program and the benefits of managed charging, (3) assess whether and how program delivery and customer recruitment could be integrated with other programs, including programs not administered by the utility, to increase cost-effectiveness, and (4) describe evaluation, measurement, and verification methods applicable to the program. Lastly, the MCIP shall provide a description of the actions that the utility will take to optimize program effectiveness while containing program costs.

Each utility shall file an MCIP within 60 days of the effective date of this Order. As discussed earlier, updates to

the MCIP describing any program modifications shall be submitted annually, or more frequently as necessary, and filed with the Secretary on January 30 of each calendar year, commencing with the calendar year 2023, to align with the annual EV TOU reports.[61] Updates shall include year-to-year program modifications and updated forecasts. While managed charging program reporting will occur on an annual basis, Staff will have the ability to obtain the information as necessary.

Evaluation and Measurement

The utilities shall conduct evaluation and measurement activities to measure the effectiveness of the managed charging programs to be included in the annual reports. Evaluations can provide valuable information and insights into program operations. In addition to assessing and improving program performance, the Commission expects the broader impacts of the program will also be examined including how the market is evolving, understanding the effects of emerging technologies, and EV participants attitudes and behaviors regarding EV managed charging. All evaluation and measurement activities are to be transparent, useful, and actionable with clearly articulated recommended actions. The planned evaluation and measurement activities shall be detailed in the MCIP, and the results documented in the annual MCIP filing. Data collected shall minimally include:

1. Program enrollment
   a. Number of participants enrolled by month

[61] The EV TOU Rates Order directed the Utilities to file annual reports 30 days following the end of each calendar year, detailing: the number of customers who have arranged to have electricity delivered under the EV TOU rates; the total amount of electricity delivered under the EV TOU rates; an estimate of how many EVs are in their service territories; and any future company plans for EVs.

b. Attrition rate by month
c. Incentive payout by month

2. Program administration - Funds spent to administer programs that include but are not limited to:
a. Staff salaries,
b. Company overhead, and
c. Other costs that do not include direct program implementation, incentives and services, and program evaluation.

3. Billing impacts
a. Average participant and non-participant savings
b. Associated bill impacts
c. Value of participation incentives differentiated by delivery and supply costs
d. Updated supply rate forecast once the new supply rate is calculated
e. Subsequent adjusted managed charging credit modified in coordination with the updated supply forecast that informs the EV TOU rates

4. Participant charging behavior
a. Average duration of charging sessions
b. Aggregated kWh consumption data for on- and off-peak periods, by season if applicable
c. Aggregated number of charging events for on- and off-peak periods, by season if applicable
d. Aggregated duration of on-peak charging events and off-peak charging events
e. Provide information requested in 2.a-2.d for load relief hours if applicable
f. Event opt-out rate for active managed charging programs

5. Participant Satisfaction

a. Percent scoring program favorably/unfavorably as defined in the "Outreach and Feedback" section

CONCLUSION

This Order approves Central Hudson, Con Edison, O&R, NYSEG, National Grid, and RGE's managed charging proposals, with modifications. The Utilities' managed charging programs reward participants with enrollment and participation incentives for their off-peak charging and are designed to support a more reliable and resilient grid that is consistent with the Commission's policies and the mandates of the CLCPA. The managed charging programs and the respective budgets will be critical components that will enable the State to meet near-term objectives that are appropriate and necessary to advance the State's clean energy and infrastructure requirements, specifically in the transportation sector. As these changes are the result of substantial public process, newspaper publication is unnecessary and is therefore waived.

The Commission Orders:

1. 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 implement Managed Charging Programs, as discussed in the body of this Order.

2. 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 Managed Charging Program Implementation Plans and are directed to post the Managed Charging Implementation Plans, as discussed in the body of this Order, within 60 days of issuance of this Order.

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 allow participation from both onboard vehicle telematics and networked L2 chargers in their Managed Charging Programs.

4. 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 prepare and publish a list of approved contractors to aid Managed Charging Program participants by no later than January 1, 2023.

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 shall propose a method for testing the accuracy of managed charging-enabling technologies no later than 180 days after issuance of this Order. The utilities are further directed to file such proposal with the Secretary.

6. On behalf of the Technical Standards Working Group (TSWG), Department of Public Service Staff is directed to convene the TSWG no later than 45 days after the Utilities' filings that propose a method for testing the accuracy of

managed charging-enabling technologies, and no later than 225 days after the issuance of this Order. The TSWG is further directed to take the following actions in the sequence established below and described more fully in the body of this Order:

a. Establish eligibility criteria in order to determine what equipment will be considered for testing purposes, by no later than one year after the issuance of this Order;

b. Measure and evaluate the reliability and accuracy of the devices on the eligible equipment list, as described in the body of this Order, no later than two years after the issuance of this Order;

c. Consider the standards evaluated and/or adopted by other jurisdictions in this analysis; and

d. Submit a comprehensive filing to the Commission for approval, as discussed in the body of this Order, no later than October 1, 2024.

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 are directed to work with the Department of Public Service Staff to develop a dispute resolution framework for the Managed Charging Program, as discussed in the body of the Order. The Commission further directs that the framework be included in the utility-specific Managed Charging Implementation Plans.

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 are directed to provide details in the Managed Charging Implementation Plans of how customer disputes regarding meter reading and billing discrepancies that result from Managed Charging Program Participants' electric vehicle charging equipment error and/or failure will be investigated and resolved by the utility, as discussed in the body of this Order.

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 develop a dispute resolution procedure related to any disputes arising from Wi-Fi connectivity, as described in the body of this Order.

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 are directed to consult with Department of Public Service Staff to review and report on the efficacy of the incentive levels, at least on an annual basis, as discussed in the body of the Order. The Commission further directs such reports to be included in an update to the Managed Charging Implementation Plans.

11. 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 follow the process for implementing a fast-track incentive change, as discussed in the body of this Order, including all filing and timeline requirements.

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 are directed to limit any enrollment incentive included in the Managed Charging Program to no more than $25 for passive programs, or no more than $150 for active programs. Further, the Commission directs that any Managed Charging Program that offers an enrollment incentive shall require a minimum participation period of at least three months.

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 are directed to settle Managed Charging Program Participants incentive payments on a quarterly basis, at a minimum.

14. 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 file tariffs, on no less than 30 days' notice to implement participation incentives, effective no later than January 1, 2023.

15. The Commission directs that any participation incentives paid to customers by 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 must be cost-

based, and are not to exceed the difference between the default volumetric rate and a Commission approved time-varying or dynamic rate that reflects the value of the off-peak charging or event participation. The Commission further directs that those changes to the participation incentives that are not cost-based shall require Commission approval, as discussed in the body of this Order.

16. 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 Utilities) are directed to develop and maintain participant portals, as discussed in the body of this Order. The Commission further directs the Utilities to develop and file their plans to implement this functionality, as discussed in the body of this Order.

17. Central Hudson Gas & Electric Corporation is directed to modify its Managed Charging Program to include an enrollment incentive of $25.

18. Niagara Mohawk Power Corporation d/b/a National Grid is directed to offer the same upfront $150 incentive to Managed Charging Program Participants who utilize either new or existing electric vehicle charging technology, including both L2 chargers and onboard telematics, as discussed in the body of this Order.

19. Niagara Mohawk Power Corporation d/b/a National Grid is directed to work with Department of Public Service Staff to develop a method by which it will inform Managed Charging Program Participant of how the program works, as discussed in the body of this Order.

20. Niagara Mohawk Power Corporation d/b/a National Grid is directed to implement a turnkey installation service, as discussed in the body of this Order.

21. Niagara Mohawk Power Corporation d/b/a National Grid (National Grid) is directed to monitor the satisfaction of Managed Charging Program participants that avail themselves of the turnkey installation service. The Commission further directs National Grid to include this information, as well as the details on the number of participants who have utilized this service, in the annual managed charging report.

22. New York State Electric & Gas Corporation (NYSEG) and Rochester Gas and Electric Corporation (RG&E) are directed to exclude the proposed basic tier from its Managed Charging Program. The Commission further directs these NYSEG and RG&E to incorporate the survey component of the proposal, without the $25 incentive, into the intermediate tier of its Managed Charging Program.

23. 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 Utilities) are directed to implement the Managed Charging Programs in accordance with the aggregate three-year budgets and relevant budgetary caps and parameters, as discussed in the body of this Order. The Commission further directs that the Utilities may move funding from year to year, if needed, as discussed in the body of this Order.

24. 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 recover costs related to the Managed Charging Programs, as discussed in the body of this Order.

25. 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 Utilities) are directed to recover Make-Ready Program costs as discussed in the body of this Order. The Commission further directs that the Utilities shall not include forecast Make-Ready Program costs in their base rate requests.

26. 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 submit sample outreach materials as part of their Managed Charging Implementation Plans, as discussed in the body of this Order.

27. 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 obtain and document Managed Charging Program participant insights and participant satisfaction data, as discussed in the body of this Order. The Commission further directs that this data shall be detailed in the annual Managed Charging Implementation Plans.

28. 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 convene with Department of Public Service Staff to establish and implement a Net Promoter Survey, as discussed in the body of this Order, within 60 days of the issuance of this Order.

29. 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 (individually, the utility) shall evaluate Managed Charging Program participant satisfaction, as discussed in the body of this Order. The Commission further directs that if participants score the Managed Charging Program unfavorably, or satisfaction with the Managed Charging Program falls below 75 percent, the utility shall reevaluate the efficacy of the program and determine potential solutions, as discussed in the body of this Order. These solutions shall be detailed in the annual implementation plan.

30. 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 Utilities) shall record all customer complaints and inquires related to the Managed Charging Program, as discussed in the body of this Order. The Commission further directs that the Utilities shall provide a high-level overview of their response to these complaints and inquiries in the annual Managed Charging Implementation Plans, as discussed in the body of this Order.

31. 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 Utilities) are directed to document all complaints or disputes that achieve escalation or Standard Resolution System status, as discussed in the body of this Order. The Commission further directs that the Utilities shall include details of these escalated complaints, findings, and resolutions in the Managed Charging Implementation Plans, as discussed in the body of this Order.

32. 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 submit a comprehensive Managed Charging Implementation Plan, as discussed in the body of this Order. The Commission further directs that the initial Managed Charging Implementation Plans be filed within 60 days of the issuance of this Order, as discussed in the body of this Order.

33. 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 Utilities) shall file an annual update of the Managed Charging Implementation Plans by no later than January 30 of each calendar year, the contents of which are discussed in the body of this Order. The Commission further directs that the Utilities shall file updates to the Managed Charging Implementation Plans, as needed.

34. 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 comply with any requests by Department of Public Service Staff to obtain information regarding the Managed Charging Program outside of the annual reporting timelines, as discussed in the body of this Order.

35. 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 Utilities) shall conduct evaluation and measurement activities in order to measure the effectiveness of the managed charging programs, as discussed in the body of this Order. The Commission further directs that the Utilities shall include these evaluations, and the results of these evaluations, in the annual Managed Charging Implementation Plans, as discussed in the body of this Order.

36. 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 provide detail on the evaluation and measurement activities in the initial Managed Charging Implementation Plans. The Commission further directs that the results from the evaluation and measurement activities shall be documented in the annual Managed Charging Implementation Plan filing.

37. The requirements of Public Service Law §66(12)(b) and 16 NYCRR §720-8.1 as to newspaper publication for the tariff revisions required in Ordering Clause No. 14 are waived.

38. 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 three days prior to the affected deadline.

39. This proceeding is continued.

By the Commission,

(SIGNED) MICHELLE L. PHILLIPS
Secretary

APPENDIX A

Advanced Energy Companies

The Advanced Energy Companies submitted comments on September 13, 2021. The Advanced Energy Companies are generally supportive of the utilities' program proposals and offer recommendations that are generally applicable to all proposals. The Advanced Energy Companies comment that programs serving residential customers alone do not meet the Make-Ready Order directive for proposals for mass-market customers, and that at minimum the proposed programs should be inclusive of some small commercial businesses. The Advanced Energy Companies recommend that the utilities also include MDHD fleets, which are large loads with predictable charging patterns, making them good candidates for load shifting. Given the importance of fleet electrification to meeting CLCPA goals, activities that improve the economics of fleet electrification should be pursued. The Advanced Energy Companies comment that because vehicles that charge at workplaces typically do so on L2 chargers during the middle of the day, they are prime candidates for managed charging, and the utilities should explore ways to expand managed charging to this use case. The Advanced Energy Companies note that residents of MUDs charge their vehicles at a variety of places, and thus managed charging programs in urban areas should focus on the behavior of individual drivers and vehicles rather than the station itself. The Advanced Energy Companies state that there likely will not be a one-size-fits-all managed charging solution, and the Commission should set clear timeframes for review and improvement of these programs.

Alliance for Transportation Electrification (ATE)

ATE submitted comments on April 1, 2021, generally in support of the managed charging proposals, stating that the multi-pronged approach is advantageous because there is no one-

size-fits all solution and the proposed efforts will provide the utilities and the Commission with useful and actionable information as to the benefits of each program element. Additionally, ATE states that it strongly the use of open standards and interoperability for EV charging hardware and software in the interest of avoiding vendor lock and supporting consumer protection. ATE notes that the utilities should be permitted to employ a variety of initiatives with the overall goal of shifting load away from peak times so that participants and non-participants can benefit. ATE also states that it recognizes that EV charging technology is nascent therefore it supports National Grid's request for an exclusion from typical metering and ANSI standards to expediate rapid adoption emergent technologies. ATE also urges the Commission to approve all requests related to customer outreach and engagement, and to recognize that appropriate cost recovery for all program elements is essential. Lastly ATE expresses strong support and urges the Commission to require compliance with Open Charge Point Protocol (OCPP) for the use of open standards and interoperability for EV charging hardware and software.

ATE provided additional comments on National Grid's revised June 4, 2021 filing on September 13, 2021. ATE supports National Grid's proposal. ATE states that passive approaches, like time-of-use rates, are poor options for managing electric vehicle (EV) load because they are complicated for customers to use, do not offer great enough customer savings, and introduce the problem of timer peak. ATE thus supports National Grid's active managed charging approach. ATE supports National Grid's proposal to allow use of vehicle telematics as a substitute for networked EVSE. ATE fully supports the use of qualified behind-the-meter devices for purposes of separately measuring EV charging because total kilowatt hour (kWh) will be measured by

the traditional utility meter and requiring a second utility meter for an EV is uneconomical. ATE reiterates its strong support for OCPP for the use of open standards and interoperability for EV charging hardware and software. ATE states that National Grid's $500 infrastructure incentive and $150 enrollment incentive for new networked L2 EVSE are reasonable. In ATE's experience with programs across the country, a total of $650 is the absolute minimum for an incentive to be effective, given the cost of installation and the hesitancy of new EV drivers to spend additional money after purchasing a vehicle. ATE recommends that the proposed mid-program independent evaluation be approved and encourages the Commission to act quickly when such reviews are filed so that customers can continue to benefit from lessons learned. ATE states that National Grid's proposed two-tier pricing plan for a fixed number of kWh is a highly appealing and cost-effective offering that should be approved. The tier definitions (225 kWh for around 700 miles per month and 325 kWh for around 1,000 miles per month) are eminently reasonable. ATE supports National Grid's proposal to hire a third-party program administrator to manage turnkey installation of EVSE and develop a network of qualified EVSE installers, which will enhance customer satisfaction and benefit the private market of installers by facilitating training.

ChargePoint

ChargePoint submitted comments on April 1, 2021. ChargePoint supports the goals and objectives of the utility managed charging program proposals and recommends the December 2020 filings be viewed as the floor and not the ceiling, as benefits of EV load management extend beyond the residential segment. ChargePoint encourages the Commission and the utilities to develop additional rate design and active load

management programs to effectively manage EV load throughout the EV charging ecosystem. ChargePoint comments that utility managed charging programs should be designed in a manner that will put them in the best position to seamlessly align with forthcoming policies and programs for DERs stemming from FERC Order 2222. ChargePoint recommends the Commission and utilities consider the full range of EV load management options at its disposal to ensure that the increased adoption of EVs leads to beneficial load growth across the grid. ChargePoint recommends that each utility managed charging program should be vendor and technology neutral. ChargePoint comments that ensuring that the managed charging programs allow for multiple technologies and vendors, including smart EV charging stations, will support market innovation by avoiding the need to pick winners and losers in the competitive market. ChargePoint comments that smart EV chargers will enable customers, utilities, and vendors to reap significant benefits from increased functionality, wider program design options, and ultimately a more successful program deployment. ChargePoint notes that compliance with NIST HB 44 metering guidelines by many smart charging station manufacturers enables consistency and reliable performance across the country. ChargePoint recommends that each utility establish minimum functional requirements that all technology options must meet in order to be qualified by the utility to participate in managed charging programs, while reiterating its recommendation that all utility managed charging programs be vendor and technology neutral.

ChargePoint comments that National Grid's proposal, which only applies the same data standards networked L2 chargers are required to meet to vehicle telematics "where applicable," could lead to significant differences in the amount, type, and quality of data that vehicle-telematics devices will provide

compared to networked L2 chargers. ChargePoint states that this could result in a severe program deficiency that could be multiplied if it were to be replicated in each utility program. ChargePoint recommends that the eligibility requirements currently applied to networked L2 EV chargers also be applied to vehicle telematics devices, as well as any alternative technology qualified under each utility managed charging program. ChargePoint believes all alternative technologies qualified in the managed charging programs should have robust consumer protection features and be reliably accurate. ChargePoint comments that it would be advisable to establish minimum criteria to this effect, such as ensuring that alternative metering devices meet or exceed the requirements set forth in the electricity-as-motor-fuel sections of NIST Handbook 44 or meet the accuracy requirements of ANSI C12.1-2008 (1 percent class) as applied to embedded EVSE metering. ChargePoint recommends this issue be considered through the EVSE Technical Standards Working Group if not addressed in the managed charging filings.

City of New York (The City)

The City submitted comments on September 13, 2021, primarily in response to Con Edison's reply comments filed on June 4, 2021. The City views managed charging as a promising mechanism to encourage EV adoption for fleets, for-hire vehicles, and everyday drivers in New York City, while promoting positive behavioral changes in how customers use electricity. In particular, the City notes that it has long supported Con Edison's SCNY program and various expansions thereof, noting the impact of instilling responsible charging behavior early as EV adoption continues to scale. While the City applauds Con Edison's efforts, it also asserts that implementing more flexible program parameters and/or rates will help increase

program participation and effectiveness. The City is concerned by Con Edison's plan to wait to revisit or modify SCNY until its next rate plan starting January 1, 2023, which is simultaneously too far away and too close to the State's 2025 goal. The City urges the Commission to address Con Edison's proposal and the City's recommendations in this general proceeding, and not wait until 2023, to better position the State to meet its 2025 EV goal. The City also urges the utilities to begin proactive planning for vehicle-to-grid integration, rather than waiting for industry capability to develop and only then reacting to the various integration issues. Finally, The City urges the following modifications to improve Con Edison's managed charging program. First, Con Edison should develop an "EV Smart Plan" tariff like that proposed by National Grid. Second, the Commission should forgo the all-or-nothing nature of Con Edison's SCNY incentive program, in which a single peak-hour charging event disqualifies a customer from off-peak charging incentives for the remainder of the month or billing period. The City states that this structure is ineffective at incentivizing good charging behavior and impractical for some use cases, like for-hire vehicles. Under an EV Smart Plan structure, the customer would have to pay on-peak rates while charging during peak hours, but would still be encouraged to prioritize charging during off-peak hours to take advantage of the flat rate available for off-peak charging.

Con Edison and O&R

Con Edison and O&R submitted comments on June 4, 2021, in response to parties' initial comments. Con Edison and O&R comment that EV-specific rate design is neither the most effective nor the most equitable approach for a managed charging program because it lacks the flexibility needed to adapt to changing market conditions and can shift costs that would

inequitably impact customers. EV-specific rates without the attendant price signals inherent in current rate structures would lead to inefficient charger buildout, resulting in greater costs to customers because it could trigger more grid upgrades than otherwise necessary. EV-specific rates that are not cost-reflective would adversely impact EV developers with business models that focus on innovative load management and other energy services to respond to the price signals in rates.

Con Edison and O&R believe MTA's recommendations to eliminate all-or-nothing credits or add flexibility to SCNY's current rewards structure are not appropriate because the program seeks to encourage charging behavior that can always be counted on to meet reliability needs. Con Edison agrees that supporting bus electrification is necessary but does not support changing an incentive methodology in the middle of a rate plan. Con Edison and O&R support adoption of open standards, interoperability, and technology-neutral solutions but do not intend to impose additional technology requirements unless they are necessary to maintain openness and flexibility in the market.

Enel X

Enel X submitted comments on the utilities' initial proposals on April 2, 2021. In these comments, Enel X states that the following elements should apply across all of NY's managed charging programs: a focus on providing benefits to disadvantaged communities; foundational passive charging with the ultimate objective of robust active options; MDHD program options, with attention to public transit and school bus fleets; a technology-neutral participation standard; and attention to increased program participation. Enel X urges the Commission to consider the collective utilities' managed charging proposals as a research opportunity with the intent to inform required

modifications for subsequent and more permanent managed charging programs based on best practices. Enel X comments that extending a monthly subscription model to the EV charging experience will boost EV adoption and help reap the benefits of managed charging; an off-peak subscription model appropriately links EV charging cost-causation without disincentivizing participation. Enel X notes that an additional immediate advantage in an off-peak charging subscription over volumetric EV-only TOU rates is that it incentivizes the same types of beneficial charging behaviors without the need to oversee a costly and sensitive integration to transfer fifteen-minute interval metering data to perform "subtractive billing" and separate EV consumption from the site meter on a temporally granular basis. Back-end integrations will still be necessary to administer the subscription charge but will be much easier to implement.

Enel X sees passive managed charging as the foundational threshold for utilities' incorporation of EV charging to the electric grid and commends the utilities for their respective passive charging proposals. Enel X comments that these proposals present a well-timed opportunity for the utilities to remove barriers for EVs-as-DERs, thereby improving the NYISO's ability to integrate EV charging and discharging into the wholesale markets as part of their compliance with FERC Order 2222. Enel X thanks each utility for their initial managed charging proposals while encouraging each utility and the Commission to pursue active managed charging opportunities to the fullest extent practical. Enel X encourages the Department to require adoption of a technology-neutral managed charging program participation approach across all its jurisdictional utilities. These participation models should each enable full participation without the need to install a

second utility meter. All hardware and software options should be required to satisfy the same levels of meter accuracy, network-enabled controllability, data retention, utility billing integration, etc. to ensure a fair and equitable participation model. Enel X recommends that each of the utilities' updated proposals should include standard, specific requirements for all participation options. Based on the information in each of the initial proposals, additional details are necessary to evaluate the viability, compatibility, and functionality of vehicle EVSE- and telemetry-based qualifications. Enel X notes NIST handbook 44 as an example for EVSE internal meter calibration. Enel X comments that any exemptions from typical metering requirements, ANSI standards, etc. should be transparent and well documented, particularly if applicable to only a subset of participation options. Enel X requests clarification from the Commission if the Technical Standards Working Group will engage on these topics in greater detail or if all discussion of hardware and software requirements will be entirely within the Managed Charging proposal regulatory timeline. Enel X strongly supports the implementation of managed charging programs for MDHD vehicles, particularly for school bus fleets. If conducted at scale, GWhs of flexible distributed energy resources can be added to the energy market through managing school buses. Enel X comments that rebate offerings to offset upfront EVSE purchase costs can be an effective tool to accelerate customer EV adoption, though the typical incentive payment of around $500 is often insufficient for the actual installation and associated electrical upgrades. Enel X supports the requirements that residential chargers be both networked and L2 to participate in managed charging offerings to maximize the benefits to all ratepayers.

On September 14, 2021, Enel X filed comments in response to the revised managed charging proposals. Enel X reiterates that there is no one-size-fits-all approach to EVs in New York. Enel X believes the utilities should further develop their EVSE and Infrastructure programmatic frameworks to target EVSE-based financial incentives to engrain good charging behavior year-round, simultaneously improving the operational economics for EV-fleet operators. Enel X reiterates suggested best practices: focus on providing benefits to disadvantaged communities; foundational passive charging with the ultimate objective of robust active options; MDHD vehicle options, with attention to public transit and school bus fleets; a technology-neutral participation standard; and attention to increased program participation.

Environmental Defense Fund (EDF)

EDF submitted comments on September 13, 2021. EDF comments that optimizing vehicle-to-grid integration is essential to ensure that electrification at scale does not require more infrastructure investment than necessary, and thus that the transition to EVs is just and reasonable for all customers. EDF contends that waiting to develop MDHD vehicle programs is a significant error given the current state of the market, the lead time needed to prepare the electric system, and the risk of suboptimal early investments being made when light-duty vehicles are considered in isolation without accounting for MDHD vehicles. EDF particularly notes the importance of designing price signals that encourage optimal vehicle-to-grid integration for MDHD vehicle fleets. EDF interprets the language in the Make-Ready Order to indicate that the Commission intended REV and related proceedings, notably VDER, to address EV use cases to enable customers to participate more actively in the energy market and experience the correct incentives for

efficient behavior. However, EDF has seen little sign of this consideration other than in the context of these filings. EDF notes that in November 2020 in the currently pending Niagara Mohawk rate case, it filed written testimony of economist Elisheba Spiller stating, in part, that appropriate tariff design for MDHD vehicles can improve the attractiveness of EV adoption. Staff responded that the optional standby rates being developed in the VDER proceeding meet many of the rate design criteria recommended by EDF witness Spiller. EDF comments that the idea that the non-technology-specific price signals being developed in the VDER proceedings might be useful for optimizing MDHD vehicle charging is interesting, but only as a theoretical matter. EDF states that it has not seen evidence that EV use cases are being explored or modeled in the VDER proceeding and believes that modeling the not-yet-finalized standby rates in the context of MDHD vehicle charging is the only way to understand how fleets would experience the rates. EDF comments that inexperience of fleet operators in the commercial electricity market is one reason why short-term rates designed specifically for different MHDH vehicle charging scenarios may be essential if fleets are to adopt EVs rapidly and integrate them efficiently from the start.

EDF comments that while National Grid's proposal is leading-edge, technically sound, and commendable in many respects, it recommends that the technical requirements for EVSEs be modified to require Open Charge Point Protocol. EDF believes NYSEG and RG&E's proposal has much potential as a learning opportunity but questions whether the price differential between off-peak and on-peak consumption is sufficient. EDF believes a significant weakness of the NYSEG and RG&E proposal is the absence of any standards for charging equipment. EDF commends Central Hudson for proposing both

passive and active managed charging programs, but the requirement for a second meter appears to pose a costly hurdle that may fatally limit uptake and scalability. Regarding Central Hudson's active management proposal, EDF finds that the concept of using charging as a non-wires alternative to defer or avoid system upgrades is sound, but the value proposition to enrolling customers is not made clear in the filing. EDF disagrees with the idea put forth by Con Edison that EV-specific rates are an affront because they are necessarily not cost-based. EDF notes that Bonbright's principles for ratemaking include feasibility and understandability, so developing specialized transitional rates for customers who may have limited capacity to deal with complexity can be appropriate, especially where there is a compelling societal interest in helping customers scale up their usage and gain greater control over their demand.

Ev.energy

EV.energy submitted comments on April 1, 2021, and September 13, 2021. Ev.energy identifies three criteria for successful managed charging programs: they should be technology-agnostic; they should be delivered through a single, user-friendly customer touchpoint; and they should maximize performance through direct load control and incentivize customers accordingly. Ev.energy supports the adoption of National Grid and NYSEG/RGE's proposals with no or minimal modifications. Ev.energy encourages the Commission to provide Con Edison and O&R the flexibility to evolve their passive managed charging programs to become active managed charging programs within the next two years. Ev.energy suggests that the Commission encourage Central Hudson to strive for equity by not limiting customer eligibility to one vehicle or charger technology. Ev.energy comments that passive managed charging

alone will not provide the New York grid with the flexibility needed to support the Charge NY goal of 850,000 zero-emission vehicles on the road by 2025. Ev.energy states that active managed charging should be the preferred implementation approach for residential EV charging programs because it avoids timer peak, can be implemented with a range of existing technologies, and maximizes customer savings through "set-it-and-forget-it" features. Ev.energy sees National Grid's subscription program as the future gold-standard of active managed charging, with an easy-to-understand design that provides the utility flexible control over all participating EVs. Ev.energy suggests that the Commission provide National Grid with flexibility on the subscription prices and associated kWh allocation to tweak the program according to changes in customer charging habits. Ev.energy also suggests that once the program is implemented, National Grid should monitor actual customer charging consumption and have flexibility to adjust tiers as needed, for example by adding an "unlimited" subscription tier as Ev.energy has offered in the UK.

Ev.energy broadly supports NYSEG/RG&E's proposal but makes three suggestions to improve the effectiveness of the program. Ev.energy encourages NYSEG and RG&E to increase the incentive and target program size for the Advanced Level program to exceed that of the Intermediate Level program. Because the NYSEG OptimizEV Active Managed Charing Pilot identified a significant timer peak for customers enrolled in TOU rates, Ev.energy states that NYSEG and RG&E should seek to enroll as many customers as possible on the Advanced level, as it is the only level that fully manages EVs beyond a passive TOU rate. Ev.energy recommends NYSEG and RG&E be provided budget flexibility to increase the incentives of the advanced level over time, at minimum. Ev.energy recommends improving the

Intermediate level by incorporating a mobile app, beyond a web portal alone to increase customer engagement. Ev.energy encourages NYSEG and RG&E to develop demand-response incentives for the Intermediate level that will drive actual changes in customer behavior. Under the proposed design, participants could receive incentives without delivering any incremental benefit, because they are rewarded regardless of their existing charging plans.

Ev.energy provides a framework for how Con Edison can evolve its current program in the future. First, it recommends that Con Edison incorporate active managed charging into the core of its next SCNY program. Ev.energy strongly encourages Con Edison to allow any technology to participate if it can meet basic functionality requirements, and to consider bringing on additional vendors to enable participation. Ev.energy encourages O&R to craft an active managed charging program that could serve as a pilot for the next version of SCNY.

Ev.energy comments that Central Hudson's EV Credit rate and the Charge Smart Program exclude a large subset of customers by requiring the purchase of a networked charger; this requirement is unnecessary because vehicle telematics would provide a similar level of functionality at significantly lower cost. Ev.energy notes that reliance on a networked L2 charger may systematically exclude low—and middle-income customers who either (a) rent accommodations whose landlord does not allow a L2 charger to be installed; (b) live in multi-unit dwellings that do not support L2 chargers; or (c) live in houses whose wiring does not support the installation of a L2 unit. Data that Ev.energy and its California partners have analyzed from CalEnviroScreen suggests that customers using L1 chargers tend to be lower-income due to legal/landlord and household wiring constraints that prevent L2 EVSE installation. Ev.energy also

recommends that the scope of the active managed charging program be extended beyond customers in Non-wire Alternatives (NWA) areas. Ev.energy suggests that customers could be clustered on a "virtual feeder" to mimic and test NWA benefits, as Ev.energy has done for Ameren Missouri.

Greenlots

Greenlots submitted initial comments on April 1, 2021. Greenlots expresses concern that the utilities' managed charging proposals do not seek to address the charging activity of the majority of electric vehicles within their service territories. Greenlots states that managed charging programs should be made available to customers across a utility's service territory and should ensure that all customers wishing to participate are able to do so. Greenlots comments that managed charging programs should extend beyond the residential sector, given the Commission's directive to propose mass-market programs. Greenlots comments that managed charging programs should leverage available technology to maximize participation and impact.

Greenlots submitted further comments on September 13, 2021. Greenlots finds that none of the utility proposals achieve the scope of scale needed to facilitate adequate participation and resulting load management as transportation electrification scales in New York. Greenlots notes that they originally commented on National Grid's managed charging proposal when it was included in the utility's rate case and supported National Grid's focus on encouraging participation through technology rebates. However, National Grid's proposal, like most of those submitted by other utilities, is limited to the residential space, and therefore Greenlots finds it only partially addresses the Commission's directive. Greenlots notes that the Commission directed the utilities to propose programs

for mass market customers, a broader classification than residential customers alone. Greenlots states that at minimum, a workplace program should be made available to small commercial customers across the state. Given statewide efforts to electrify all vehicle classes, Greenlots strongly encourages the Commission to direct utilities to develop more comprehensive approaches to managed charging in the near term, including for fleet and large commercial customers.

Greenlots notes that some proposals, including NYSEG and RG&E's, unnecessarily eliminate opportunities for certain technology types to participate. Greenlots states that NYSEG and RG&E should leverage the managed charging capabilities of L2 smart chargers, rather than exclude them, given the need for distribution system upgrades that unmanaged residential L2 charging could generate. Greenlots does not propose a one-size—fits-all approach to managed charging. In general, Greenlots believes that the proposals should be strengthened to address three core principles: being scaled to address expected EV adoption rates, extending beyond the residential sector, and leveraging available technology to maximize participation.

Metropolitan Transportation Authority (MTA)

MTA submitted comments on April 1, 2021. MTA emphasizes that successful managed charging programs must be designed with appropriate incentives to motivate participants and have enough flexibility to accommodate fleet operations. MTA states that its charging behavior shifted due to the incentives that it could earn in the SCNY managed charging program offered in Con Edison's territory. However, MTA states that modifications made to the SCNY program in the latest Con Edison rate case lowered the incentive rate and required that buses not charge during the months of June through September during any of the four-hour weekday Commercial System Relief

Program (CSRP) event periods. MTA states that avoidance of CSRP events is impractical, and thereby decreases the incentive to alter charging behavior. MTA recommends a flexible managed charging program design that would eliminate all-or-nothing credits in favor of rewards for participation, with proportional rewards above a threshold. MTA states that an EV-specific tariff rate would provide meaningful, consistent, and workable incentives and provide fleet owners with more flexibility when designing charging schedules. MTA respectfully requests the Commission to order the utilities to amend their managed charging proposal to expressly consider the managed charging of EV fleets, incorporate effective price signals, and remove all-or-nothing incentives.

Multiple Intervenors (MI)

MI submitted comments on April 1, 2021. MI notes that the proposals provided by Niagara Mohawk, NYSEG, RGE, and Central Hudson have the same fundamental design but differ in cost and cost allocation and recovery. MI states that Central Hudson's proposal imposes no incremental cost upon customers; its proposed passive program is revenue neutral, and the costs of its active program are recovered through its existing Non-Wires Alternative program budget. Niagara Mohawk's proposed program has incremental costs that are recovered from all customers, while NYSEG/RG&E proposes to treat the incremental program costs as a regulatory asset and collect from all customers over a period of 10 years. MI states that the collection of costs would be more equitable if program costs were allocated to the service classes participating in the managed charging program, as would be consistent with cost-causation and beneficiaries-pay principles. MI notes that in the case of these programs, mass market customers are the only customers eligible to participate and receive the benefits of

incentive payments, charging management devices, and decreased energy bills. Any system benefits resulting from mass market managed charging would mostly be limited to the distribution system, and would therefore accrue to customers whose service uses lower voltage. MI urges the Commission to rule that if the proposed manage charging program has any incremental costs, they be allocated exclusively to mass-market service classes. MI recommends developing a more equitable mass-market service class Revenue Decoupling Mechanism (RDM) rate design that would address any customer class cost allocation issues.

Natural Resources Defense Council, Sierra Club, and Siemens (Joint Commenters)

The Joint Commenters submitted comments on April 1, 2021, and resubmitted the same comments on September 13, 2021. The Joint Commenters state that well-designed managed charging programs can provide multiple benefits to customers and the electrical grid, and that it is vital to integrate the range of different vehicle types and use cases to maximize benefits for all utility customers. The Joint Commenters state that enrollment in voluntary TOU rates is consistently too small to influence the total EV charging load, thus it is appropriate to condition any incentives for customers to purchase smart charging infrastructure on participation in load management programs, or at minimum to default participating customers into these programs while allowing them to opt out. The Joint Commenters urge utilities that have proposed limited programs to expand their initial offerings to include additional data that will inform future program offerings. The Joint Commenters state that default arrangements, outreach, and enrollment rates are critical, as rate design and program design do not matter if not enough customers participate. The Joint Commenters believe the Commission should approve a diversity of programs at this

initial stage and should require robust data collection and reporting and establish a structured review of these programs after two years. Based on the lessons learned from that review, it should require the utilities to propose a comprehensive suite of load management programs tailored to the full range of different vehicle and customer types and priority market segments, including MDHD vehicle and commercial fleets.

The Joint Commenters contend that when customer dollars are used to facilitate the installation of charging infrastructure at sites where the customer-of-record (who gets the utility bill) is not the end-user (who decides when to charge), the default arrangement should be that time variant price signals are passed through to the end-users so that they have a reason to charge consistent with grid conditions. The Joint Commenters note that in Southern California Edison's (SCE) Charge Ready pilot, EV drivers often did not see the price signals, leading to a deficiency; for Charge Ready 2 the utility will encourage customers to pass the TOU rate directly to drivers. Several Commissions have required that pass-through price signals are the default options, including in Minnesota and Colorado. The Joint Commenters urge the Commission to require that managed charging offerings address residential, workplace, and commercial fleet contexts, and that residential managed charging solutions be designed not only for single family homes, but also for multi-unit dwellings, which present distinct challenges.

The Joint Commenters believe that for all programs, data collection and reporting should include, at minimum: number of customers participating in each managed charging program; number of fleets and fleet type—including vehicle size—supported by the managed charging programs; electricity prices paid by drivers to recharge their EV; average kWh used by each segment

to charge EVs; number of charging stations deployed in disadvantaged communities; customer fuel cost savings by customer type; and aggregated load profiles for each customer segment, including data that shows peak- and off-peak charging, as well as coincidence with renewable energy availability.

Vehicle-Grid Integration Council (VGIC)

VGIC submitted comments on September 14, 2021. VGIC is encouraged by the diversity of approaches among the utilities' proposals overall, as experimenting with different program structures will help generate lessons learned. VGIC comments that the managed charging programs should strive to be technology-agnostic wherever possible. VGIC contends that the programs should prioritize customer experience, including flexible sign-up and opt-out provisions for participants. VGIC supports the development of managed charging options for other customer segments beyond residential by all the utilities and believes that there should be data collection and reporting requirements followed by a structured evaluation after two years, which will be crucial for a useful comparison between different approaches. In addition to managed charging, VGIC believes the Commission should establish next steps to address barriers and opportunities for bi-directional charging. VGIC notes that there are a meaningful number of bidirectional-capable EVs and charging equipment that are currently or will soon be deployed.

VGIC is concerned that Con Edison did not propose any new managed charging programs in its filings, given that SCNY has been under way for several years. VGIC notes that the high cost of distribution infrastructure in ConEd's territory means there is greater potential to reduce costs for all ratepayers by limiting the impact of EV charging on local system peak loads through vehicle-to-grid integration. VGIC recommends that, in

addition to the FleetCarma device, vehicle telematics and networked EVSE equipment be included as options for all vehicle types, not just those that are incompatible with the FleetCarma device; onboard systems can help save on overall program costs and may alleviate some customers' privacy concerns regarding data sharing with another third party. VGIC believes National Grid's filing should be considered a model for other New York utilities to follow in their final program implementation plans and encourages National Grid to continue to explore more advanced vehicle-to-grid offerings.

VGIC considers Central Hudson's proposed active managed charging proposal to incorporate EVs into the NWA program to be a unique approach among the utilities that will help advance an understanding of the distribution system benefits of vehicle-to-grid integration in New York. VGIC recommends Central Hudson also consider how an NWA-like approach could be incorporated into their transportation infrastructure programs, such as with automated load management systems. VGIC comments that because Central Hudson has some experience with active managed charging, it should pursue a more advanced vehicle-to-grid use case and incorporate it into its NWA program. VGIC recommends that the incentive structure include enrollment and/or monthly incentives. VGIC recommends that for Central Hudson's passive managed charging proposal, incentives be paid out monthly instead of annually to make the benefits of participation more visible to customers. VGIC urges that both Central Hudson offerings allow participation via vehicle telematics, noting that many EVs' onboard systems already have the same capabilities as networked chargers.

VGIC recommends that O&R allow any device or pathway to participate in the managed charging program if they meet the appropriate technical requirements. VGIC is concerned that

O&R's proposal is the least detailed of the utilities' proposals, particularly given that its service territories have a higher level of EV penetration than other locations in the state, and urges O&R to develop a more thorough proposal. VGIC appreciates NYSEG and RG&E's well-developed proposal and the inclusion of demand response.

WeaveGrid

WeaveGrid submitted comments on September 13, 2021. WeaveGrid states that it is encouraged by the managed charging proposals and recommends the Commission approve the utilities' proposed programs. WeaveGrid appreciates the inclusion of vehicle telematics by National Grid, NYSEG and RG&E, Con Edison, and O&R because of the data and control that telematics can provide to utilities and the access it can offer to customers. WeaveGrid states that managed charging programs should strike a balance between ensuring a positive driver experience and meeting the needs of the grid. WeaveGrid states that the utilities' programs achieve this balance, while noting that it will be important to assess the customer experience with different types of programs. WeaveGrid recognizes future opportunities to continue to enhance these programs, including supporting increased participation, designing for continuous managed charging rather than focusing on a specific number of events, and optimizing for both local and bulk system constraints. WeaveGrid recommends that the Commission require a forum for sharing information and feedback from stakeholders on the EV managed charging programs and create a process on a reasonable timeline (e.g., 18 or 24 months after launching) for the utilities to modify programs, expand them, and develop new programs. WeaveGrid understands each utility to have designed a cost recovery approach appropriate to its particular situation

and recommends that the Commission approve the utilities' proposals for cost recovery.

APPENDIX B - METERING STANDARDS IN OTHER JURISDICTIONS

As managed charging programs become widely available, understanding the metering accuracy of the networked L2 charging and onboard telematics will be critical to ensure accuracy in customer billing. While it is our understanding that there have been no billing or metering accuracy issues identified to date as part of managed charging programs and efforts in California, Maryland, Minnesota, and Connecticut, it is not unrealistic to believe they may arise in the future. Observing the metering standards and measurement provisions from other jurisdictions can help guide our actions in New York, either to make best use of helpful lessons learned, or avoid problems experienced elsewhere.

One of key measurement resource standards is the National Institute of Standards and Technology (NIST) Handbook 44 (HB44).[1] HB44 pertains to Level 2 and DCFC charging equipment and provides certification of dispensed energy accuracy. California has formally adopted the HB44 standards for EVSE equipment included in its Vehicle Grid Integration Program, even though NIST currently lists HB 44 as a "tentative code". Maryland plans to adopt HB44 in its Electric Vehicle Supply Equipment Rebate (EVSE) Program but will not do so until HB44 is finalized.[2] Presently, the Commission find that requiring

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[1] National Institute of Standards and Technology (NIST), Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices, As Adopted by the 106th National Conference on Weights and Measures, Handbook 44, 2022, Section 3.40 Electric Vehicle Fueling Stations – Tentative Code. https://www.nist.gov/pml/weights-and-measures/publications/nist-handbooks/handbook-44-current-edition

[2] Based on Staff conversation with Amanda Best, Senior Commissioner Advisor, Maryland Public Utility Commission.

compliance with HB44 in the managed charging programs is premature given that it is not yet a final code.

The Public Service Commission of Maryland has granted various meter-related waivers for participation in its EVSE Rebate Program and Staff of the Maryland Commission has been directed to work with its utilities to develop and propose EV metering regulations before December 31, 2023. One of the outstanding issues in Maryland is a metering accuracy test for suspected failing meters - a "referee test" and how it can be adopted for EVSEs.[3]

Minnesota's largest utility, Xcel Energy ("Xcel"), now operates a permanent program referred to as EV Home Service after experimenting with a Pilot EVSE program, it. During the Pilot program Xcel required a second revenue-grade meter, installed by its contractors, as the official source for load measurement. However, that requirement was removed upon termination of the Pilot program and creation of the EV Home Service Program. The Minnesota Public Utility Commission also varied the definition of "metering equipment" to not include the meter embedded in Level 2 chargers. With this and other program modifications, the EV Home Service program is permitted to rely upon approved EVSEs to provide billing quality data through the customer's Wi-Fi. If there are metering and billing issues that arise, those are to be governed by the corresponding customer agreement and tariff.

In Connecticut, participants in the Electric Vehicle Charging Program are permitted to use the vehicle's onboard telematics, a Level 2 non-networked charger or a Level 2 networked/smart charger for managed charging. There is a Qualified Products List for networked Level 2 chargers and

[3] New York presently employs this method for testing for revenue-grade meters.

onboard telematics to enable participation in the program. For non-networked Level 2 chargers, Connecticut is currently going through the RFP process to select a device to provide to customers to enable their participation in its managed charging program. Until that device is available, these customers can utilize a utility AMI meter to participate.

APPENDIX C – MANAGED CHARGING PROGRAM AUTHORIZED BUDGETS

Authorized Managed Charging Program Not to Exceed Implementation and Enrollment[1] Budget by Utility

	2022	2023	2024	2025	Total
Central Hudson	$350,000	$1,043,623	$1,377,035	$1,748,625	**$4,519,282**
Con Edison	$0	$7,337,705	10,170,509	$13,441,854	**$30,950,067**
National Grid	$730,620	$7,171,252	$9,504,111	$11,662,492	**$29,068,474**
NYSEG	$932,400	$3,961,157	$5,961,617	$7,962,249	**$18,817,422**
O&R	$350,000	$1,341,509	$1,809,061	$2,287,763	**$5,788,333**
RG&E	$499,600	$1,953,076	$2,835,023	$3,717,107	**$9,004,806**

Estimated Managed Charging Program Participation Incentives[2] Budget by Utility

	2022	2023	2024	2025	Total
Central Hudson	$0	$481,237	$765,181	$1,078,208	**$2,379,963**
Con Edison	$0	$15,088,144	$23,919,425	$32,750,563	**71,758,131**
National Grid[3]	$0	($3,469,259)	($5,914,724)	($8,360,145)	**($17,744,128)**
NYSEG	$0	$2,344,650	$4,038,961	$5,813,063	**$12,196,674**
O&R	$0	$1,752,552	$2,751,677	$3,750,691	**$8,254,921**
RG&E	$0	$1,129,200	$1,832,800	$2,536,450	**$5,498,450**

[1] Implementation and Enrollment Budgets consist of vendor costs, IT/billing integration costs, enrollment incentives, Company staffing, marketing, and evaluation costs. The utilities are authorized to spend up to, but not more than, the amounts listed in this category.

[2] Participation incentive payments are designed to provide participants with the difference between the standard, flat $/kWh energy charge of standard residential rates and the off-peak $/kWh TOU energy rate, plus a portion of the difference between off-peak energy supply charges and the standard flat supply charges. The participation incentive payment budgets indicated herein will not be considered caps.

[3] National Grid's managed charging program is a subscription program and does not provide participation incentives.