The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

D.P.U. 17-13 September 10, 2018

Petition of Massachusetts Electric Company and Nantucket Electric Company, each d/b/a National Grid, for Approval of its Electric Vehicle Market Development Program, and of its Electric Vehicle Market Development Program Provision, pursuant to G.L. c. 164, §§ 76, 94, and Acts of 2016, c. 448.

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I. INTRODUCTION

On January 20, 2017, Massachusetts Electric Company and Nantucket Electric Company, each d/b/a National Grid ("National Grid" or "Companies"), filed a petition with the Department of Public Utilities ("Department") pursuant to G.L. c. 164, §§ 76 and 94, for approval of the Electric Vehicle Market Development Program ("EV Program") and a tariff to recover the EV Program's costs, M.D.P.U. No. 1334 ("EV Program Provision"). On February 13, 2017, the Companies filed revisions to the Companies' petition and pre-filed testimony that addressed the proposals' compliance with the Zero Emission Vehicle Act[1] and removed the Companies' request for pre-approval of the total estimated costs. The Companies set a target of assisting the deployment of charging stations at 140 sites through the EV Program and estimated that the program would cost about $25 million, including a performance incentive the Companies would collect if the program results in the development of at least 75 percent of the target number of sites (Exhs. KAB/BJC-1 (Rev.) at 58-62; KAB/BJC-2; KAB/BJC-11). The Department docketed this matter as D.P.U. 17-13.

II. BACKGROUND

The Commonwealth of Massachusetts has supported electric vehicle ("EV") implementation in several ways to reduce greenhouse gas ("GHG") emissions in the transportation sector. For instance, on September 30, 2013, the Executive Office of Energy and Environmental Affairs ("EOEEA") convened the Massachusetts Electric Vehicle Initiative task force, which included numerous public and private stakeholders. Electric Vehicles,

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[1] An Act Promoting Zero Emission Vehicle Adoption. St. 2016, c. 448, codified at G.L. c. 25A, § 16; G.L. c. 40, § 22A.

D.P.U. 13-182, at 2 (2012). Soon thereafter, Massachusetts joined seven states as a signatory to the State Zero-Emission Vehicle ("ZEV") Programs Memorandum of Understanding setting a collective target of having at least 3.3 million ZEV on their roads by 2025.[2] Recently, Governor Charlie Baker directed the Secretary of Energy and Environmental Affairs to work in consultation with state and regional agencies that handle transportation, environment, and energy issues to develop regional policies to reduce GHG from the transportation sector consistent with meeting the 2050 interim emissions limits of the Global Warming Solutions Act ("GWSA").[3] Executive Order No. 569: Establishing an Integrated Climate Change Strategy for the Commonwealth (September 16, 2016).[4]

In line with those efforts, on December 23, 2013, the Department issued a Notice of Investigation ("NOI") into EVs and EV charging. D.P.U. 13-182. The Department recognized that the widespread adoption of EVs in the Commonwealth will improve air quality, reduce GHG emissions from the transportation sector, and require adding new technologies to the electric grid, including an increase of EV-related infrastructure. D.P.U. 13-182, at 3. Among other Department policies, the Department investigated how electric distribution company ("EDC") involvement in EV charging could help facilitate and accommodate widespread

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2 State Zero-Emission Vehicle ("ZEV") Programs Memorandum of Understanding, October 24, 2013, available at http://www.nescaum.org/topics/zero-emission-vehicles (click on "October 24, 2013 Governor's MOU").

3 The GWSA, codified as G.L. c. 21N, establishes limits on GHG emissions in the Commonwealth and directs state agencies to promulgate regulations that reduce energy use, increase efficiency, and encourage renewable sources of energy in the sectors of energy generation, buildings, and transportation. G.L. c. 21N, § 6.

4 Acts of 2016, c. 448, codified at G.L. c. 25A, § 16; G.L. c. 40, § 22A.

adoption of EVs, and the Department established a standard of review for the recovery of costs related to EV charging infrastructure. D.P.U. 13-182, at 4; D.P.U. 13-182-A at 13.

III. PROCEDURAL HISTORY

On February 2, 2017, the Attorney General of the Commonwealth of Massachusetts ("Attorney General") filed a notice of intervention pursuant to G.L. c. 12, § 11E. On April 12, 2017, the Department conducted a public hearing to receive comments on the Companies' petition pursuant to notice duly issued. The Department granted full party status to the following: the Department of Energy Resources ("DOER"); Conservation Law Foundation ("CLF"); Energy Consumers Alliance of New England, Inc. d/b/a Massachusetts Energy Consumers Alliance ("Mass Energy"); Sierra Club; Acadia Center; ChargePoint, Inc. ("ChargePoint"); and Natural Resources Defense Council ("NRDC"). The Department granted limited participant status to: NSTAR Electric Company and Western Massachusetts Electric Company, each d/b/a Eversource Energy ("Eversource"); Global Partners, LP ("Global Partners"); Tesla, Inc. ("Tesla"); and Cumberland Farms, Inc. ("CFI"). The Department also received written comments from Low-Income Weatherization and Fuel Assistance Program Network; Plug In America; Clark University; EVSE, LLC; General Motors, LLC; The Alliance of Automobile Manufacturers and the Association of Global Automakers; and John MacDougall.

The Department held an evidentiary hearing on September 18, 2017. In support of the Companies' filing, the following witnesses, all of whom are employed by the Companies, provided testimony: Karsten A. Barde, principal program manager, New Energy Solutions Group; Brian J. Cronin, director of communications and marketing, New Energy Solutions Group; and Jeanne A. Lloyd, principal program manager, Electric Pricing, New England. The

Attorney General sponsored the testimony of Mark Higgins, chief operating officer, Strategen Consulting, LLC. Acadia Center sponsored the testimony of Mark LeBel, staff attorney, Acadia Center. ChargePoint sponsored the testimony of Michael K. Waters, director of Utility Solutions, ChargePoint. NRDC sponsored the testimony of Noah Garcia, NRDC. Lastly, CLF, Sierra Club, and Mass Energy jointly sponsored the testimony of Douglas B. Jester, partner, 5 Lakes Energy LLC.

On October 19, 2017, the Department received initial briefs from the Attorney General, DOER, Acadia Center, ChargePoint, CLF, Global Partners, NRDC, and National Grid and a joint initial brief from Mass Energy and Sierra Club ("MESC Brief"). Tesla, CFI, and Eversource did not submit an initial brief. On October 26, 2017, the Department received reply briefs from Acadia Center, ChargePoint, Global Partners, and National Grid and a joint reply brief from Mass Energy and Sierra Club ("MESC Reply Brief").[5] The evidentiary record consists of 175 exhibits and responses to seven record requests.

IV. INITIAL MATTERS

A. Introduction

During this proceeding, the Attorney General requested that the Department open a generic investigation to further define the role utility companies should play relative to EVs, i.e., further define the EV-related activities for which EDCs may recover costs, before further consideration of proposed ratepayer-funded EV programs, including National Grid's EV Program (Attorney General Brief at 1-2; Global Partners Brief at 6, 11). In addition, Acadia

[5] The Attorney General, DOER, CLF, NRDC, Tesla, CFI, and Eversource did not submit a reply brief.

Center argued that the Department should require National Grid to meet the standard of review for grid modernization infrastructure established in Grid Modernization, D.P.U. 12-76-B (2014) and D.P.U. 12-76-C (2014).

B. Positions of the Parties

1. Intervenors

According to the Attorney General, Massachusetts lacks a comprehensive plan for EV-related infrastructure development and related policy matters (Attorney General Brief at 3-4). Therefore, she contends, a specific role for utilities in these efforts has not been discussed or evaluated (Attorney General Brief at 3-4). She claims that there are issues pertaining to the state's EV goals that should be considered in a broader, statewide context, including further discussion on whether ratepayer-funded programs are necessary for the state to reach its 2025 ZEV goal, the number of chargers that are needed, non-ratepayer sources of funding for EV infrastructure development such as the Volkswagen Clean Air Act Civil Settlement,[6] and the impact that greater adoption of EVs in the Commonwealth will have on the electric grid (Attorney General Brief at 4-6). The Attorney General maintains that in order to ensure that proposals put forth by EDCs are consistent with the Commonwealth's ZEV goals, the Department should open a generic investigation to debate these issues and establish cohesive statewide policy goals and standards before authorizing ratepayer-funded programs (Attorney General Brief at 4).

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[6] Among other things, the Volkswagen Clean Air Act Civil Settlement requires Volkswagen to fund a $2.7 billion mitigation trust fund to pay for defined eligible projects that reduce oxides of nitrogen (NO_x). See https://www.epa.gov/enforcement/volkswagen-clean-air-act-civil-settlement.

Global Partners argues that the input of public and private stakeholders in a generic proceeding will allow the Department to develop the most appropriate EV polices for achieving the state's goals; Global Partners supports the Attorney General's proposal (Global Partners Brief at 6, 11). Global Partners maintains a generic investigation is necessary to establish statewide policies regarding optimal locations for charging equipment, accurately determine the number and type of charging stations necessary to meet the state's needs, and coordinate other incentives and sources of funding (Global Partners Brief at 6, 11-19).

In opposition to the Attorney General's proposal, several intervenors contend that the Department already conducted a full investigation and solicited several rounds of stakeholder input in D.P.U. 13-182 and any delays in implementing EV programs will disserve the interests of the Commonwealth (ChargePoint Reply Brief at 3-4; MESC Reply Brief at 4-5).

Next, Acadia Center contends that National Grid's proposal is a form of grid modernization (Acadia Center Brief at 11). As such, Acadia Center contends that, consistent with the grid modernization process, National Grid should be required to produce a business case with a benefit-cost analysis and performance metrics in support of its proposal (Acadia Center Brief at 11-12; Acadia Center Reply Brief at 2-4). Acadia Center maintains that applying these grid modernization standards is reasonable, if not necessary, and will ensure that National Grid's program is beneficial to the public and accountable to stakeholders and the Department (Acadia Center Brief at 12; Acadia Center Reply Brief at 2-4).

2. Companies

The Companies argue that delaying the implementation of its EV program in order to open a generic proceeding is ill-advised, inconsistent with prior Department actions, and

unnecessary to address the intervenors' concerns (Companies Reply Brief at 18-19). The Companies assert that the call for a separate generic proceeding would unnecessarily delay the implementation of the program because any benefits that could potentially be realized through a generic statewide proceeding are outweighed by the benefits of promptly approving the Companies' proposal (Companies Reply Brief at 18). Also, the Companies allege that delaying the EV Program in order to conduct an investigation is inconsistent with the Departments denial of similar requests (Companies Reply Brief at 18 (citing, NSTAR Electric Company and Western Massachusetts Electric Company, D.P.U. 17-05, Interlocutory Order (February 23, 2017); D.P.U. 17-13, Interlocutory Order (June 16, 2017). The Companies state that an investigation is unnecessary to address the intervenors' concerns because (1) the Companies will continue coordination with Eversource on implementation issues such as siting, (2) the instant proposal includes cost control measures such as ensuring that other sources of funding are used prior to ratepayer funding, and (3) the Companies will coordinate with DOER on developing guidance for program participants related to non-ratepayer funding sources (Companies Reply Brief at 19).[7] The Companies also contend that the EV Program does not require a benefit-cost analysis because the EV Program and its standard of review are separate and distinct from grid modernization proceedings (Companies Reply Brief at 20).

C. Analysis and Findings

Regarding the request that the Department initiate a generic proceeding, the Department recognizes the importance of the issues raised by the intervenors. Nevertheless, the Department

[7] The Department approved NSTAR Electric Company's EV program, with modifications. D.P.U. 17-05, at 501-503.

finds that there is insufficient evidence to warrant deferring the review of National Grid's limited three-year EV Program in order to reconsider the standard of review governing EDCs' role in the deployment of EV infrastructure at this nascent stage of the EV charging market in the Commonwealth. With regard to the need for further discussion and evaluation of non-ratepayer sources of funding for charging infrastructure, National Grid has provided substantial evidence demonstrating that it will work with site hosts to leverage other available sources of funding to pay for the program overseeing the construction of and funding for charging stations ("Charging Program") costs and to ensure that the program's rebates are not duplicative (Exhs. KAB/BJC-1 (Rev.) at 38; NG-1-Rebuttal-1, at 6; AG 2-12). To avoid waste, it will be important to continuously evaluate the number of and optimal locations for charging station investments; however, the record demonstrates that while the Companies' proposal represents a significant increase from the stations currently deployed, it is only a modest percentage of the stations needed for the Commonwealth to reach its policy goals (see, e.g., Exhs. KAB/BJC-1 (Rev.) at 18-19; NRDC-1, at 3 ("The charging stations National Grid proposes to help deploy will comprise only a small fraction of the amount of charging infrastructure required to meet this growing market."); AG 2-1).

Moreover, the Department acknowledges the value of including the perspective of statewide and regional stakeholders in discussions that will shape potential future EV programs, including discussions on optimizing charging locations, leveraging possible funding sources, and preparing for the impact on the electric grid of widespread EV adoption. We note that in our Grid Modernization Order the Department ordered a separate EV metrics stakeholder process to develop performance metrics for Eversource's EV infrastructure program. Grid Modernization,

D.P.U. 15-120; D.P.U 15-121; D.P.U. 15-122, at 187 (May 10, 2018). To better address the issues that the intervenors have raised here, the Department will include all EDCs (National Grid, Eversource, and Fitchburg Gas and Electric Light Company)[8] in the future EV metrics stakeholder process. This EV metrics stakeholder process will serve as a platform for the stakeholders and EDCs to discuss statewide issues related to EV charging infrastructure.

In light of this evidence and in consideration of the limited three-year term of National Grid's EV Program, the Department finds insufficient evidence to delay review of the Companies' program in order to conduct, at this time, an investigation on the issues presented by the intervenors. Indeed, the Department finds that the record contains substantial evidence supporting our decision to review EDC proposals under our existing standard of review in order to gain experience and information in the short term that will inform future discussions and potential future investigations of these important issues.

Next, we consider Acadia Center's argument that the standards applied to grid modernization investments should be applied to the review of EV-related proposals. While the Department acknowledges the value of benefit-cost analyses and well-developed performance metrics, applying the grid modernization standard of review to EV proposals at this juncture would be inconsistent with our decisions to (1) investigate the role of EDCs in the EV market in D.P.U. 13-182 separately from investigation on modernizing the grid in D.P.U. 12-76; (2) establish a standard of review in D.P.U. 13-182-A for EV proposals on August 4, 2014, distinct from the standard of review established in D.P.U. 12-76-B on June 12, 2014; and

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[8] At this time, Fitchburg Gas and Electric Light Company has not proposed an EV program.

(3) decide in D.P.U. 15-120; D.P.U 15-121; D.P.U. 15-122 that we would conduct the forthcoming stakeholder process on EVs separately from the stakeholder process in grid modernization. Further, Acadia Center has submitted arguments describing why it prefers the standards established in D.P.U. 12-76-B and D.P.U. 12-76-C but provided insufficient evidence to demonstrate that the standard of review established in D.P.U. 13-182-A is insufficient to protect ratepayers. At this time, the Department finds insufficient evidence to warrant amending the standard of review established in D.P.U. 13-182-A to include the standard applicable to grid modernization investments.

V. NATIONAL GRID'S PROPOSAL

National Grid requests that the Department approve an EV program that recovers costs associated with the design, construction, and funding of two types of EV charging equipment, Level 2 charging stations ("Level 2 stations") and direct current fast charging ("DCFC") stations (Exh. KAB/BJC-1 (Rev.) at 26-27).[9] The Companies' proposal includes a Charging Program in coordination with the program's participants ("site hosts"); a marketing, communications and education ("MC&E") plan to promote the Charging Program and increase customers' knowledge about EVs and EV charging ("Education Campaign"); and a research and development ("R&D") plan to collect data from the sites developed through the Charging Program and perform outside research on potential demand response program designs (Exh. KAB/BJC-1 (Rev.) at 5-8, 26-63). In addition, the proposal includes the details of an evaluation plan to assess the results of the EV

[9] Level 2 chargers rely on a 240-volt connection and are capable of fully charging most existing EVs in approximately eight hours or less depending on battery capacity. D.P.U. 17-05, at 472 n.234. DCFC chargers use direct current and are the fastest method for charging an EV. D.P.U. 17-05, at 472, n.233.

Program (Exh. KAB/BJC-1 (Rev.) at 4, 56-58). Lastly, the proposed EV Program Provision describes the method to recover the costs associated with the EV Program as well as the proposed performance incentive through an annual reconciling charge (EV factor) (Exhs. KAB/BJC-1 (Rev.) at 58-61; JAL-2 (Rev.)).

The Companies' proposal includes details on the components of the EV Program and an estimated budget for each component (Exhs. KAB/BJC-1 (Rev.) at 5-8, 26-63). The Companies' cost estimates for the components of the program are (1) $2.2 million for the construction of EDC equipment[10]; (2) $8.5 million for rebates available to site hosts for customer equipment[11]; (3) $2 million for Level 2 EVSE rebates; (4) $5.8 million for program management; (5) $1.2 million for Charging Program marketing; (6) $2.8 million for the Education Campaign; (7) $0.8 million for the R&D plan; and (8) $0.5 million for the evaluation plan (Exhs. KAB/BJC-2; KAB/BJC-4; KAB/BJC-5; KAB/BJC-6; KAB/BJC-8; KAB/BJC-9; KAB/BJC-11).

The Companies propose to recover EV Program costs following the end of each program year (Exh. JAL-1, at 4). Accordingly, National Grid proposes to submit a filing to the Department in which it will request approval to recover EV Program costs that were incurred the prior year, plus any prior year reconciliation of costs (Exh. JAL-1, at 5). The Companies expect to make annual filings on January 15, with a March 1 effective date (Exh. DPU 1-43). The Companies propose to allocate EV program costs to rate classes using the distribution revenue

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[10] Equipment necessary to upgrade an existing service connection or establish a dedicated service connection for the EV charging station, including transformers, utility services, and meters (Exh. KAB/BJC-3, at 2).

[11] Equipment such as electric panels, conduit, and wiring (Exh. KAB/BJC-3, at 2).

allocator ("DRA") and collect costs through a rate class-specific volumetric rate (Exh. JAL-1, at 6). The Companies propose to include the EV Factors with the distribution kilowatt hour ("kWh") charge on customers' bills (Exh. JAL-1, at 6).

VI. ANALYSIS OF NATIONAL GRID'S EV PROGRAM[12]

A. Standard of Review

In D.P.U. 13-182-A, the Department held that it would not allow recovery of costs for distribution company ownership or operation of EV supply equipment ("EVSE") for new investments going forward, with a few exceptions. D.P.U. 13-182-A at 13. First, EDCs may recover the cost of EVSE ownership and operation for their own vehicle fleet charging and employee vehicle charging. Further, the Department allows -- and, in fact, encourages-- investment in and cost recovery for research, development, and design ("RD&D") related to EVs, EVSE, and EV charging as part of an EDC's RD&D proposal in its grid modernization plan, or as a separate, approved pilot. D.P.U. 13-182-A at 13. Finally, the Department may grant cost recovery for an EDC's EVSE ownership and operation in response to a company proposal. D.P.U. 13-182-A at 13. For Department approval and allowance of cost recovery, any proposal must be in the public interest, meet a need regarding the advancement of EVs in the Commonwealth that is not likely to be met by the competitive EV charging market, and not hinder the development of the competitive EV charging market. D.P.U. 13-182-A at 13.

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[12] The Department established the standard of review for utility EV proposals in D.P.U. 13-182-A, and affirmed and applied that standard in D.P.U. 17-05. That standard of review remains in effect; in this case, we apply that portion of the standard relevant to National Grid's EV proposal.

In addition, the Department is charged with ensuring that any rates are just and reasonable. Attorney General v. Department of Telecommunications and Energy, 438 Mass. 256, 264 n.13 (2002); Attorney General v. Department of Public Utilities, 392 Mass. 262, 265 (1984); Fitchburg Gas and Electric Light Company v. Department of Public Utilities, 371 Mass. 881, 882 (1977); New England Gas Company, D.P.U. 10-114, at 22 (2011); Boston Gas Company, D.P.U. 93-60, at 212 (1993). The term "just and reasonable rates" is not defined by statute, but rather has developed through case law and Supreme Judicial Court decisions. Succinctly put, a utility's rates are just and reasonable when its rates afford it the opportunity to meet its cost of service, including a fair and reasonable return on honestly and prudently invested capital. See Boston Gas Company v. Department of Public Utilities, 367 Mass. 92, 97 (1975); Lowell Gas Company v. Department of Public Utilities, 324 Mass. 80, 94, cert. denied, 338 U.S. 825 (1949); Donham v. Public Service Commission, 232 Mass. 309, 326 (1919).

The Department reviews tariffs to determine whether they are consistent with applicable law, Department precedent, and the public interest. Model Net Metering Tariff, D.P.U. 12-01-A at 3 (2012). When new rates are proposed, "the burden is on the utility to show that they are proper." Metropolitan District Commission v. Department of Public Utilities, 352 Mass. 18, 24 (1967) (citing Wannacomet Water Company v. Department of Public Utilities, 346 Mass. 453, 463 (1963)); see also, Town of Hingham v. Department of Telecommunications and Energy, 433 Mass. 198, 213-214 (2001).

B. Meet a Need Regarding the Advancement of EVs in the Commonwealth that is Not Likely to Be Met by the Competitive EV Charging Market

1. Introduction

National Grid states that there is a need to increase the availability of charging stations in its service territory to support the increased adoption of EVs and encourage EV adoption by easing consumers' concerns about the range of EVs on a single charge, the availability of charging options, and concerns about charging convenience (Exh. KAB/BJC-1 (Rev.) at 12, 14, 18, 19, 21). In addition, the Companies state that charging stations' current lack of profitability and limited automaker incentive to install charging stations have stunted their deployment (Exh. KAB/BJC-1 (Rev.) at 21). The Companies propose to increase the development of charging stations in their service territory over a three-year period by assisting site hosts with design, construction, and funding of infrastructure to support charging stations (Exh. KAB/BJC-1 (Rev.) at 5, 26-27).

2. Positions of the Parties

a. Intervenors

The intervenors generally agree that National Grid's proposal will meet a need regarding the advancement of EVs in the Commonwealth that is not likely to be met by the competitive EV charging market (DOER Brief at 5; Acadia Center Brief at 8; ChargePoint Brief at 6; CLF Brief at 7, 9-10; MESC Brief at 10-11; NRDC Brief at 13-14). Some contend that installation of EDC equipment and customer equipment typically needed to power the charging equipment is costly and technically challenging, forming a significant barrier to the development of charging stations (DOER Brief at 5; Acadia Center Brief at 8, citing Exh. AC-ML-1, at 4-5; ChargePoint Brief at 6; CLF Brief at 9-10; MESC Brief at 10-11). Acadia Center argues that National Grid's proposal

will significantly reduce installation cost barriers for site hosts (Acadia Center Brief at 9). Acadia Center asserts that the lack of charging options at multi-unit dwellings presents a barrier to EV adoption for those residents, and that National Grid's proposal addresses this market failure (Acadia Center Brief at 9). Further, Mass Energy and Sierra Club assert that utility investment is particularly appropriate at the early stage of EV deployment to create the conditions whereby the private sector can play a larger role in accelerating charging infrastructure deployment in the future (MESC Brief at 11).

Global Partners asserts that the Companies have failed to show that the EV Program will meet a need regarding the advancement of EVs in the Commonwealth that is not likely to be met by the competitive EV charging market (Global Partners Brief at 9-10). Global Partners contends that the Companies' assessment of future market investment in charging stations is flawed because it relies on assumptions regarding private investors' behavior (Global Partners Brief at 10). Global Partners maintains that EV forecasts are being revised upward, thereby increasing charging station profitability and the likelihood that the need for future installations will be met by the market (Global Partners brief at 10).

b. Companies

The Companies assert that the current rate of charging infrastructure development in Massachusetts is insufficient for the state to reach its target for EVs on the road by 2025 (Companies Brief at 18). The Companies contend that "a lack of direct financial returns from charging station installations in the early stage of EV adoption, limited automaker incentive to invest in infrastructure, and the challenge of recruiting property owners to install and operate charging services" hinder the progress of charging infrastructure development (Companies Brief

at 18). The Companies maintain that the EV Program is designed to address these market barriers to charging infrastructure development by (1) directly enabling the deployment of more sites and charging stations, (2) expediting the identification and development of sites; (3) increasing the geographic reach of EV charging development, and (4) including certain charging locations that have not seen sufficient charging development to date (Companies Brief at 18-19).

3. Analysis and Findings

Based on substantial record evidence, the Department finds that there is a need for increased charging station deployment in the Companies' service territory to encourage EV adoption, which will meet a public policy goal in the interest of ratepayers and the general public (Exhs. KAB/BJC-1 (Rev.) at 11-12, 18, 19; CP-MKW-1, at 27; ME-1, at 24-25; NRDC-1, at 5-9). In addition, the Department finds that there is substantial evidence demonstrating that there are significant barriers to the development of charging stations at this time (Exhs. KAB/BJC-1 (Rev.) at 21; CP-MKW-1, at 27; ME-1, at 25-26). Accordingly, the Department finds that the Companies' proposed EV Program meets a need regarding the advancement of EVs in the Commonwealth that is not likely to be met by the competitive EV charging market.

C. Hinder the Development of the Competitive EV Charging Market

1. Introduction

The Companies propose to construct, own, and operate the EDC equipment required to provide sufficient power to participating sites (Exh. KAB/BJC-1 (Rev.) at 24). The Companies do not propose, however, to own customer equipment or the Level 2 and DCFC stations

(Exh. KAB/BJC-1 (Rev.) at 24-25, 29, 33-34). Further, the Companies will not require site hosts to install charging equipment from a particular vendor; rather, the Companies will qualify equipment vendors from whom the site hosts may choose (Exhs. KAB/BJC-1 (Rev.) at 32; NG-Rebuttal-1, at 15; AG 1-12).

2. Positions of the Parties

a. Intervenors

Several intervenors agree that National Grid's proposal will not hinder the development of the competitive EV charging market (Acadia Center Brief at 9; ChargePoint Brief at 7; CLF Brief at 7; MESC Brief at 11; NRDC Brief at 18). A few intervenors contend that the proposed EV Program will significantly lower cost barriers for site hosts without limiting the site hosts' ability to choose EV charger vendors (Charge Point Brief at 6-7; CLF Brief at 10-11; MESC Brief at 11-12). Mass Energy and Sierra Club argue that National Grid's proposal to coordinate with site hosts to choose from qualified EVSE retailers rather than preselecting an EVSE retailer for the whole program will leave EVSE vendors free to compete for installation; and, therefore, the proposal does not hinder the development of the competitive EV charging market (MESC Brief at 11).

Global Partners contends that the Companies have failed to provide sufficient evidence that the EV Program will not hinder the development of the competitive EV charging market (Global Partners Brief at 10). Global Partners asserts that more data on whether the private EVSE market is sufficiently meeting the needs of EV users would be helpful to ensure that National Grid's program will not hinder the market (Global Partners Brief at 11). Global

Partners alleges that National Grid has provided no analysis on the effect that the EV Program will have on private investment in the EV charging market (Global Partners Brief at 11).

b. Companies

The Companies state that the use of rebates in their program provides maximum flexibility to the charging station owners and operators, and it is designed to complement and not compete with charging equipment vendors and service providers (Companies Brief at 23). As a result, the Companies argue, the EV Program will not hinder the development of the competitive charging market because they will not own the charging stations (Companies at 23).

3. Analysis and Findings

The Department finds that the Companies will not own or operate EVSE though their EV Program and do not intend to participate in the competitive EV charger market (Exh. KAB/BJC-1 (Rev.) at 24, 29-33). Further, the Department finds that there is substantial evidence demonstrating that the EV Program will help facilitate the development of the private EVSE market by supporting the costs to site hosts and allowing site hosts to choose from a range of technologies, ownership models, and pricing approaches (Exhs. KAB/BJC-1, at Rev. 24; KAB/BJC-12, at 2-17; CP-MKW-1, at 28). As such, the Department finds that the Companies' proposed EV Program will not hinder the development of the competitive EV charging market.

D. Public Interest

1. Introduction

The Companies state that the purpose of the proposed EV Program is to incentivize the adoption of EV in the Commonwealth by increasing the availability of Level 2 and DCFC stations in their service territory and increasing customers' knowledge about EVs

(Exh. KAB/BJC-1 (Rev.) at 5-6). National Grid aims to facilitate the deployment of up to 600 Level 2 stations located at approxiamately120 sites and up to 80 DCFC stations located at approximately 20 sites over a three-year period (Exh. KAB/BJC-1 (Rev.) at 30).[13] The proposed EV Program will fund staffing to assist potential site hosts with site design and the coordination of vendors and contractors and rebates for the cost of customer equipment and a portion of the cost of Level 2 EVSE (Exhs. KAB/BJC-1 (Rev.) at 29, 35; KAB/BJC-3 at 1-2, 7). In addition, the EV Program will fund the MC&E plan to inform the Companies' customers about EVs and to educate potential site hosts about the EV Program and benefits to hosting charging equipment (Exh. KAB/BJC-1 (Rev.) at 43-48). The EV Program will also fund the research of potential approaches to future grid integration of EVs, including demand response programs (Exh. KAB/BJC-1 (Rev.) at 52). Lastly, the EV Program will fund the plan to evaluate the performance of the EV Program and, if the Companies reach their target for the sites developed, a performance incentive (Exh. KAB/BJC-1 (Rev.) at 56-58).

The Companies state that their proposal will further Massachusetts's public policy goal to realize widespread EV use in the state by 2025 (Exh. KAB/BJC-1 (Rev.) at 12). The Companies' testimony endorses a number of studies that report several formidable challenges to EV market growth, and the Companies hope to use their strengths and experiences with electric

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[13] A minimum of four charging ports will be required at each long dwell-time site, and at least two DCFC ports will be required at each high traffic site (Exh. KAB/BJC-1 (Rev.) at 61). The Companies count the number of connections available for EVs to be charging simultaneously at a station in terms of "ports" (Exh. KAB/BJC-1 (Rev.) at 18 n.21). "For example, a charging site with five Level 2 stations each capable of charging two vehicles at once is considered a 10-port site. A dedicated parking spot is required at each port to allow for simultaneous charging" (Exh. KAB/BJC-1 (Rev.) at 18 n.21).

infrastructure planning to help the Commonwealth transform the transportation sector (Exhs. KAB/BJC-1 (Rev.) at 12; AG 2-12).

2. Positions of the Parties

a. Intervenors

Most intervenors express strong support for the program because, they argue, the Companies' plan to incentivize the development of charging infrastructure will increase EV adoption in the state thereby making progress toward significant public benefits, including the reduction of GHG emissions, public health benefits, economic benefits, and benefits to ratepayers and the electric grid (Attorney General Brief at 1; ChargePoint Brief at 5; ChargePoint Reply Brief at 2; CLF Brief at 5, 12-13; MESC Brief at 2, 4, 5; DOER Brief at 2, 6; NRDC Brief at 6). Nonetheless, they also contend that the proposal must be changed in several respects to fully align with the public interest, including modifications to the siting criteria, level of and eligibility for rebates, cost recovery for the MC&E and R&D plans, and criteria for awarding the proposed performance incentive (Attorney General Brief at 8-19; CLF Brief at 2; MESC Brief at 19, 20, 23-24; Acadia Center Brief at 14, 16; DOER Brief at 9, 10; NRDC Brief at 17; CLF Brief at 26-26). Furthermore, several intervenors request that the Department direct the Companies to adopt several additions to their proposal, such as EV rate structures, load management, demand response, coordination with stakeholders, and reporting requirements (Attorney General Brief at 8-19; Acadia Center Brief at 17; MESC Brief at 13-19, 22-23; BRDC Brief at 9, 10, 12-13; ChargePoint Brief at 7, 11-12; CLF Brief at 17, 22-23; DOER Brief at 8, 11).

Global Partners, however, argues that National Grid's proposal has failed to meet the public interest standards in D.P.U. 13-182-A (Global Partners Brief at 2, 7-11; Global Partners Reply Brief at 1-2). Global Partners asserts that the Companies have not provided sufficient information to demonstrate that the Charging Program will result in an increase in EV adoption that would justify the program's costs (Global Partners Brief at 6; Global Partners Reply Brief at 1-4).

b. Companies

The Companies assert that the EV Program serves the public interest by advancing public policy goals, reducing emissions, mitigating climate change, and supporting economic benefits by accelerating Massachusetts residents' adoption of EVs (Companies Brief at 17). The Companies contend that the EV Program will reduce barriers to investment in charging infrastructure and help the Commonwealth meet its goals related to EV ownership and use (Companies Brief at 1). The Companies claim that 120,000 of their customers will need to be driving EVs within ten years for the state to achieve the goals set forth in the Massachusetts ZEV Action Plan and the multi-state ZEV Memorandum of Understanding (Companies Brief at 2). The Companies' allege that the deployment of 1,200 Level 2 ports and 80 DCFC ports across the Companies' service territory will increase general EV awareness among the Companies' customers and accelerate EV adoption in the Commonwealth (Companies at 16). The Companies argue that the EV Program will facilitate EV adoption by improving the ability of Massachusetts residents to realize significant environmental and economic benefits (Companies Brief at 17).

In response to the intervenors' recommended additions and modifications to the EV Program, National Grid states its proposal is not intended to address all issues concerning the increased use of EVs in the Commonwealth in this proceeding (Companies Reply Brief at 3). The Companies maintain that the EV Program is a strategic market development initiative primarily focused on facilitating and accelerating charging infrastructure deployment over the next three years at a reasonable cost to customers (Companies Reply Brief at 3-4). The Companies implore the Department to evaluate the EV Program in that context (Companies Reply Brief at 4).

3. Analysis and Findings

The Department finds that there is substantial evidence demonstrating that National Grid's proposal will likely result in a meaningful increase in the charging stations in the state (Exh. KAB/BJC-1 (Rev.) at 5, 7, 8). Further, the Department finds that there is substantial evidence demonstrating that, based on the current level of EVs in the state, the proposed increase in charging stations will likely stimulate the adoption of EVs, consistent with the Commonwealth's public policy goals (Exhs. KAB/BJC-1 (Rev.) at 9-13; DPU 1-14, DPU 1-25, DPU 1-31). Moreover, the record contains compelling evidence regarding the benefits that this proposal may provide to the Companies' customers, whether they use EVs or not, and the general public (Exh. KAB/BJC-1 (Rev.) at 14-15, 17-18, 23-24, 51-52). However, the support provided for specific components of the EV Program and the recommended modifications of the program put forth by the intervenors warrant further discussion below.

a. Charging Program

i. Introduction

The Companies' goal is to facilitate the deployment of 140 sites in the first three years of the EV Program (Exh. KAB/BJC-1 (Rev.) at 30). To oversee the Charging Program, National Grid proposes to staff a Program Management Office ("PMO") that will recruit site hosts; consult on site design; oversee National Grid's construction of EDC equipment; qualify third-party contractors to install customer equipment; coordinate with site hosts and outside agencies to acquire funding for customer equipment; provide rebates for allowable customer equipment costs if no outside funding is available; and designate charging station suppliers, maintenance providers, and equipment specifications eligible for Level 2 EVSE rebates (Exhs. KAB/BJC-1 (Rev.) at 28; KAB/BJC-3, at 2-8; AG 2-3; AG 2-6; AG 2-7; AG 2-12). Since the Companies propose to require site hosts to commit to the operation and maintenance of the charging stations for five years, the PMO will remain staffed at a reduced level for years four through eight to continue to monitor the stations and site host compliance with their program responsibilities (Exh. KAB/BJC-1 (Rev.) at 37).

National Grid's Charging Program proposal describes the minimum requirements for potential site hosts to be eligible to participate (Exh. KAB/BJC-3, at 3). The Companies also list site attributes and estimated costs that the Companies will evaluate to prioritize applications that will best leverage program funding and maximize charging station utilization across the program (Exh. KAB/BJC-3, at 3). Further, the Companies propose to explain the types of site locations it

tends to target for the two different types of charging equipment, "long dwell-time sites"[14] for Level 2 stations and "high-traffic"[15] for DCFC stations (Exh. KAB/BJC-1 (Rev.) at 39).

In addition, the EV Program proposal also describes how the Companies intend to recruit site hosts by providing financial assistance (Exh. KAB/BJC-1 (Rev.) at 33-36). The Companies intend to provide rebates to site hosts for the construction of EDC equipment and the customer equipment necessary for site hosts to install a charging station (Exhs. KAB/BJC-1 (Rev.) at 29; KAB/BJC-3 at 1-2, 7). Also, for Level 2 EVSE, the EV Program will fund rebates up to a 50 percent to workplace/business site hosts and up to 75 percent to multi-unit dwelling owners, public entities, and non-profits (Exh. KAB/BJC-1 (Rev.) at 35).

Additionally, National Grid proposes to develop ten percent of Level 2 charging sites in disadvantaged communities and will offer up to a 100 percent rebate for the EVSE to participants at these locations (Exh. KAB/BJC-1 (Rev.) at 35). The Companies define qualifying locations in disadvantaged communities as multi-unit dwellings in Environmental Justice ("EJ") communities where the Companies serve as the EDC (Exh. KAB/BJC-1 (Rev.) at 35).[16] Further, for the site to qualify as a location in a disadvantaged community, the Companies require that the site be located within the boundary of a population meeting two or more Massachusetts EJ

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14 Such as workplaces, multi-unit dwellings, mass transit stations, colleges, fleet parking, destination locations, municipal facilities and hotels (Exh. KAB/BJC-1 (Rev.) at 17).

15 Such as highways and retail locations (Exh. KAB/BJC-1 (Rev.) at 17).

16 Generally, EJ communities are defined in terms of demographic and socioeconomic characteristics, with certain environmental policy implementation practices aimed at these communities because of race/ethnicity - class-based environmental inequities. Environmental Justice Policy of EOEEA (January 31, 2017).

criteria[17]: annual median household income is equal to or less than 65 percent of the statewide median ($62,072 in 2010); 25 percent or more of the residents identify as minority; or 25 percent or more of households have no one over the age of 14 who speaks English only or very well - Limited English Proficiency (Exh. KAB/BJC-1 (Rev.) at 35).

ii. Positions of the Parties

(A) Intervenors

Several intervenors argue that modifications to the Charging Program are necessary for the EV Program to meet the public interest standard. The Attorney General maintains that the Department should separate implementation of the Charging Program into two phases, with a formal review after the first phase to determine the need for the program to continue in the second phase (Attorney General Brief at 16). She proposes that the first phase last 18 months, during which time the Companies should deploy as many Level 2 sites as it can, but deploy only up to 25 percent of its target for DCFC sites (Attorney General Brief at 16). The Attorney General argues that a two-phase approach would provide protection for ratepayers by ensuring that the need for the program's target number of charging stations is reevaluated to see if market conditions change during the program (Attorney General Brief at 15-16).

CLF argues that proper location and design of charging infrastructure is critical to increased EV adoption (CLF Brief at 18). To ensure that charging sites are properly located, CLF argues that the Companies' siting criteria must be modified (CLF Brief at 18). First, CLF contends that the siting criteria must be clarified to prioritize infrastructure that supports

[17] In Massachusetts, a community is recognized as an EJ community if it meets any one of the criteria (Exh. KAB/BJC-1 (Rev.) at 35).

recurrent parking, such as multi-unit dwellings and workplaces, and deemphasize other public parking places, such as shopping districts, hotels, and hospitals (CLF Brief at 18-19). Second, CLF asserts that the proposed siting criteria needs to specify a plan to locate DCFC stations that would serve drivers who do not have dedicated parking spaces in order for the proposal to successfully incent adoption of EVs amongst that demographic (CLF Brief at 19; citing Exh. ME-1, at 61). Lastly, CLF states that the Companies' proposal should include plans to facilitate Level 1 charging infrastructure where parking for longer than eight hours is expected (CLF Brief at 19, citing Exh. ME-1, at 78). Additionally, Mass Energy and Sierra Club argue that the Department must require National Grid to amend its proposed site host criteria to include prioritization for site hosts that would be regularly visited by individual EV drivers and establish minimum proportions of sites that are workplaces or multi-unit dwellings (MESC Brief at 19).

Mass Energy and Sierra Club also argue that to ensure deployment of charging stations that equitably accounts for disadvantaged communities, National Grid's goal for targeting site hosts in EJ Communities should be a requirement (MESC Brief at 20). Further, Mass Energy, Sierra Club, and CLF assert that the Companies have presented unduly restrictive criteria for what qualifies as an EJ Community by requiring that they meet two of the three EEA criteria rather than any one of the criteria (MESC Brief at 21; CLF Brief at 20). DOER supports the Companies' plan to address the charging infrastructure needs of disadvantaged communities (DOER Brief at 7).

DOER argues that DCFC stations have not developed as quickly as Level 2 stations in the state, so there is a strong potential to realize significant public benefits should the Companies provide rebates for DCFC stations through their proposal (DOER Brief at 9-10). DOER argues

that any unspent Level 2 rebate funds should be applied to DCFC rebates (DOER Brief at 10). DOER requests that the Department require the Companies to clarify that rebates shall be available for site hosts who chose to purchase and own EVSE (DOER Brief at 9). DOER requests that the Companies work with DOER to set guidance for applicants about the availability of public and independent funding (DOER Brief at 9). Acadia Center suggests that the Department should, in coordination with other state agencies, ensure that the rebates funded by ratepayers are not redundant with funding from other sources (Acadia Center Brief at 16).

NRDC argues that to successfully facilitate charging stations at multi-unit dwellings the Companies should increase the EVSE rebate available from 75 percent to 90 percent (NRDC Brief at 17). NRDC argues that an increased incentive for installations at multi-unit dwellings is necessary due to the split incentives between tenants and property owners (NRDC Brief at 17). ChargePoint argues that NRDC's analysis of multi-unit dwellings is deeply flawed because it lacks an equal comparison of the referenced pilot programs (ChargePoint Brief at 15).

(B) Companies

The Companies argue that the short time frame and small scope of the EV Program make two phases unnecessary (Companies Reply Brief at 19). The Companies maintain that the Department will have the opportunity to monitor program spending through annual cost recovery filings (Companies Reply Brief at 19).

The Companies also assert that their siting criteria should remain flexible in order to better leverage funding and maximize EVSE charging station utilization (Companies Brief at 10). The Companies agree with Sierra Club and CLF that certain long-dwell time sites may end up being the best charging site solution to a particular user's needs, but argue that the

proposal for site selection affords the Companies critical flexibility to evaluate all potential site hosts and select the best possible locations (Companies Reply Brief at 10-11). Therefore, the Companies argue against the additional siting criteria intervenors proposed (Companies Reply Brief at 10-11). For DCFC stations, the Companies maintain that they will target locations where fast charging is most needed using the Federal Highway Administration's Alternative Fuel Corridors[18] and input from state agencies (e.g., Massachusetts Department of Transportation, DOER) but expect to devote a portion of their DCFC initiative to locations that may be useful to drivers that lack access to dedicated parking spaces at their residences (Companies Reply Brief at 11). The Companies argue that the site selection criteria and guidelines set forth in their proposal are designed to best achieve their goals, and the Department should not restrict the Companies' discretion to select optimum sites (Companies Reply Brief at 11). The Companies assert that they will consider recommendations for disadvantaged community sites from local groups closely affiliated with those communities and also will work with DOER and EEA to identify disadvantaged community locations (Companies Reply Brief at 13).

In response to recommendations to revise the EVSE rebate levels, both in terms of increasing the rebates to cover a greater percentage of EVSE costs and setting a minimum percentage of rebates available for certain types of sites, the Companies maintain that the design of proposed rebates will create significant cost reductions for charging-infrastructure development, while also managing overall program costs (Companies Reply Brief at 13). The

[18] The U.S. Department of Transportation has designated national plug-in electric vehicle charging and hydrogen, propane, and natural gas fueling corridors in strategic locations along major highways to improve the mobility of alternative fuel vehicles. https://www.afdc.energy.gov/laws/11675.

Companies elected not to include rebates for DCFC stations in the program because they expect that there are other sources of funding available for those costs (Companies Brief at 20).

In response to concerns about duplicative funding, the Companies refer to the program's requirements (Companies Brief at 20-21). According to the Companies, the program mandates that, before site hosts can be eligible for Level 2 EVSE rebates, they must use public incentives and other funding sources (e.g., Massachusetts Electric Vehicle Incentive Program, Volkswagen Environmental Mitigation Trust) (Companies Brief at 20-21). Therefore, the Companies argue that the program balances contributions from the Companies' customers and other funding sources (Companies Brief at 20-21).

iii. Analysis and Findings

We agree with the Attorney General that it is important to closely monitor the progress of the proposed EV Program. The Department finds that annual reconciliation filings for the EV Program and the future statewide EV stakeholder process will serve as appropriate venues for National Grid to inform stakeholders on its EV Program implementation, especially on the intervenors' issues and concerns. Therefore, the Department declines to separate the EV Program into two phases.

The Companies propose to target site hosts for Level 2 charging stations at locations with long-dwell time parking patterns that match the speed of charging with the existing parking patterns. These locations include public parking areas, multi-unit dwellings, and workplaces (Exh. KAB/BJC-1 (Rev.) at 39). The Department finds that multi-unit dwellings and workplaces are important charging locations because they provide owners with regular access to EV charging away from home (Exh. KAB/BJC-1 (Rev.) at 39). In consideration of the public

interest, the Companies' proposed EV Program must demonstrate benefits for ratepayers. The success of the proposed EV Program is based on the Companies' ability to obtain site hosts, and, therefore, the Department will not restrict EV charging locations. However, the Department finds that it is in the public interest for the Companies to select site locations that are publicly accessible, and, therefore, the Companies shall give priority to site hosts who serve the public at large. The Department directs the Companies to prioritize the selection of Level 2 EV charging sites in the following order: (1) public parking areas such as garages, parks, stadiums, beaches, airports, train stations, hotels, hospitals, clinics, dining, entertainment and shopping venues; (2) workplaces and multi-unit dwelling parking areas that the public can access, including offices, colleges, universities, and government properties; and (3) parking areas at workplaces and multi-unit dwellings.

Some intervenors suggest that the Companies' definition of a disadvantaged community should be amended to require any one of the Commonwealth's EJ criteria rather than two or more (MESC Brief at 20; MESC Reply Brief at 11-12). The Department finds that the Companies provided a reasonable explanation for requiring that multi-unit dwellings be in locations that meet two EJ criteria in order to be eligible for a 100-percent rebate of Level 2 EVSE as opposed to a 75-percent rebate (Exh. NG-Rebuttal-1, at 28-29). At this point, the Department declines to make changes to National Grid's rebate eligibility criteria for charging locations at disadvantaged communities.

The Department finds that the proposed rebates serve to reduce the financial barriers to site hosts adopting EV charging stations, as a mechanism to help customers pay for the installation of their equipment and for EV supply equipment (Exhs. KAB/BJC-3 at 2;

KAB/BJC-1 (Rev.) at 27). In addition, the Department finds that it is reasonable to encourage site hosts to exhaust outside funding before applying for rebates from National Grid on the customer equipment and EVSE investments (Exh. KAB/BJC-3 at 1-2, 7). However, National Grid has not provided a clear description of what qualifies as exhausting outside funding (Exh. KAB/BJC-3 at 1-2, 7). National Grid states that it will work with the stakeholders, DOER in particular, to set guidance for applicants about the availability of public and independent funding (Companies Reply Brief at 19; DOER Brief at 8-9). Based on the above, and because of the early stage of EV infrastructure development, the Department declines to make changes to the proposed rebates, and accepts National Grid's commitment to work with the stakeholders on details of site selection criteria, including rebate eligibility and process.

b. MC&E Plan

i. Introduction

National Grid proposes to recover the costs of an MC&E plan that includes two components, the Education Campaign and marketing for the Charging Program (Exhs. KAB/BJC-1 (Rev.) at 43, 47; KAB/BJC-2, line 7; KAB/BJC-6, line 30). The Education Campaign targets all electric customers in the Companies' service territory to educate them about EVs (Exh. KAB/BJC-1 (Rev.) at 44-47). The $2.8 million cost estimate for the Education Campaign includes costs for staff, a call center, EV events, a website, social media and other digital marketing, billboards, radio, conferences, events, research, and content development (Exh. KAB/BJC-6). The rest of the MC&E plan involves marketing targeted at potential site hosts for the Charging Program (Exhs. KAB/BJC-1 (Rev.) at 48). The $1.2 million cost estimate for Charging Program marketing includes costs for staff, ride and drive events, a website, social

media and other digital marketing, presentations, conferences, events, research, and content development (Exh. KAB/BJC-5).

ii. Positions of the Parties

(A) Intervenors

The Attorney General argues that National Grid's efforts to coordinate with Eversource on consumer marketing have been inadequate (Attorney General Brief at 8). She maintains that considerable, earnest coordination is critical to the success of these programs (Attorney General Brief at 8-9). Acadia Center contends that the Companies' proposed Education Campaign functions as a general marketing campaign for EVs, which is not pertinent for a utility company to undertake (Acadia Center Brief at 16). Acadia Center recommends that unless specifically shown to be beneficial via a benefit-cost analysis, marketing should be confined to the promotion of the EV Program itself (Acadia Center Brief at 16). NRDC argues that National Grid's proposal to increase awareness regarding EVs is in the public interest (NRDC Brief at 8).

(B) Companies

The Companies contend that it is in a unique position to leverage its existing communication channels and expertise to facilitate reaching the Commonwealth's EV objectives (Companies Brief at 22-23). The Companies assert that auto manufacturers are not incentivized to promote new EVs because EV sales provide lower margins relative to gasoline-powered vehicles (Companies Brief at 22). The Companies argue that the Education Campaign is essential to achieving meaningful gains in the adoption of EVs (Companies Brief at 22). The Companies maintain that the Charging Program marketing will help identify site hosts and drive participation in the Charging Program (Companies Brief at 22).

iii. Analysis and Findings

In D.P.U. 17-05, at 499-500, the Department disallowed cost recovery for a consumer education plan similar to the Education Campaign proposed by the Companies because the record contained substantial evidence of the potential for overlap between the proposal and existing statewide marketing initiatives, and the record contained insufficient details to support the reasonableness of the proposed costs. In this case, record evidence demonstrates that: (1) automakers are expected to offer several new models of EVs and are expected to increase promotion of EVs over the next several years; and (2) there is potential to combine Education Campaign and program marketing activities to make the MC&E plan more cost efficient (Exh. KAB/BJC-1 (Rev.) at 14-15; Tr. at 92). Based on the record before us, the Department finds that the Companies have produced insufficient evidence to support the reasonableness of the Education Campaign's costs (Exh. KAB/BJC-1 (Rev.) at 14-15; Tr. at 92). For these reasons, the Department will not allow cost recovery for the proposed Education Campaign.

Regarding Charging Program marketing, the primary goal of the Companies' proposed EV Program is to increase the availability of charging stations; and recruiting site hosts through the marketing plan is necessary to achieve that goal (Exh. KAB/BJC-1 (Rev.) at 5-6, 47-48). The Department finds that there is substantial record evidence demonstrating that the marketing plan is a necessary component of the EV Program and that the proposed costs are reasonable (Exh. KAB/BJC-1 (Rev.) at 5-6, 47-48). Accordingly, the Department will allow the Companies to seek cost recovery for the marketing of the Charging Program described in its proposal.

c. Research and Development Plan

i. Introduction

In the Companies' proposal, the EV Program will recover the costs of an R&D plan proposed to evaluate grid impacts of charging stations and potential demand response programs (Exh. KAB/BJC-1 (Rev.) at 52). National Grid's proposal for the Charging Program requires site hosts to install Level 2 or DCFC EVSE capable of reporting utilization and transaction data and receiving and executing real-time instructions of demand response (Exhs. KAB/BJC-1 (Rev.) at 53; KAB/BJC-3 at 7-8). The first component of the R&D plan is the analysis of the site hosts' EVSE data (Exh. KAB/BJC-1 (Rev.) at 52). The second and third components of the R&D Plan are to research future potential demand response programs that can be conducted via charging equipment and direct communication to vehicles, respectively (Exh. KAB/BJC-1 (Rev.) at 52). Lastly, the EV Program will recover the costs necessary to install five DCFC stations on National Grid's properties to test the potential to manage the demand impacts of these stations through on-site technology (Exh. KAB/BJC-1 (Rev.) at 52).

ii. Positions of the Parties

(A) Intervenors

The Attorney General suggests that the Department should reject the Companies' proposal to recover the cost of installing five DCFC stations on the Companies' properties because National Grid has failed to articulate a specific need for this aspect of its R&D budget (Attorney General Brief at 11-12). Further, the Attorney General maintains that it is unclear whether the data from DCFC stations on National Grid's properties would be helpful to researching DCFC charging behavior and potential demand response technology for DCFC

EVSE since driving behavior on the Companies' properties would be much different than the driving behavior typical of high traffic locations, i.e., the primary locations where DCFC EVSE are deployed (Attorney General Brief at 11-12). ChargePoint argues that the Companies' R&D plan has been sufficiently justified and should be approved (ChargePoint Reply Brief at 12).

(B) Companies

The Companies argue that the proposed R&D plan will inform the demand response offerings they anticipate offering in the future (Companies Reply Brief at 7-9, citing Exhs. KAB/BJC-1 (Rev.) at 55; NG-Rebuttal-1, at 25). The Companies also state that the proposed R&D plan seeks to analyze grid impacts of EVs and to evaluate potential approaches to mitigate costs or obtain benefits for the distribution grid from EV charging (Companies Reply Brief at 8).

The Companies state that the proposal to own and operate five DCFC stations as part of its R&D plan should be allowed because owning the stations will allow the Companies to conduct more innovative research (Companies Reply Brief at 9). The Companies argue that they intend to operate the five DCFC stations for purely R&D purposes (Companies Reply Brief at 9). The Companies believe that the best way to conduct R&D is to own and operate the stations independently so that they are not subject to any conditions imposed by an external charging operator that would restrict the Companies' research efforts (Companies Reply Brief at 9).

iii. Analysis and Findings

EDCs have a public service obligation to provide safe and reliable service to their customers. D.P.U. 11-01/D.P.U. 11-02, at 19, citing Commonwealth Electric Company v. Department of Public Utilities, 397 Mass. 361, at 368 n.4 (1986); Fitchburg Gas and Electric

Light Company v. Department of Public Utilities, 394 Mass. 671 (1985)). The Department's goal as the oversight agency of electric distribution companies is to ensure that such companies provide safe and reliable service in the Commonwealth. D.P.U. 11-01/D.P.U. 11-02, at 19 & n.10. The record contains substantial evidence demonstrating that at higher EV adoption levels, the demand from EVSEs will impose a significant impact upon the electric grid during peak hours, and the failure to prepare for the increased demand from EVSEs would jeopardize some of the benefits of increased EV adoption (Exhs. KAB/BJC-1 (Rev.) at 52-53; NG-Rebuttal-1, at 18-19; AG-MH at 43; ME-1, at 34, 46-47, 56). Consequently, the Department finds that there is substantial evidence demonstrating the first three R&D plan components are reasonable and in the public interest (i.e., the analysis of site hosts' EVSE data, research on potential future demand response programs, and direct communications to vehicles).

In its proposal for the Charging Program, National Grid justifiably reasons that high-traffic locations, such as highway corridors and retail locations, should be targeted for DCFC EVSE given the fit between drivers' behavior in those locations (i.e., parking for less than one hour), the capability of the technology (i.e., up to 200 miles of range per hour of charging), and the cost of DCFC EVSE (i.e., DCFC EVSE is higher cost, so for long-dwell sites Level 2 EVSE may be more cost effective) (Exh. KAB/BJC-1 (Rev.) at 16, 18, 40, 41). For the purpose of studying the data from the five R&D DCFC stations, however, National Grid proposes to build the charging stations at its own properties, which do not meet the criteria of high-traffic locations (Exh. KAB/BJC-1 (Rev.) at 55; Tr. at 107). Since the five R&D DCFC stations would not serve the same charging needs as DCFC stations in their most suitable locations, the assertion that the use of the DCFC stations would provide useful data for future demand response

programs is questionable. (Exh. KAB/BJC-1 (Rev.) at 40). Further, the Companies require site hosts to operate DCFC equipment capable of reporting utilization and transaction data and receiving and executing real-time instructions of demand response (Exh. KAB/BJC-1 (Rev.) at 53; Exh. KAB/BJC-3 at 7-8). Thus, the Companies will be able to analyze the data from the DCFC stations deployed through its Charging Program, instead of the five R&D DCFC stations. Lastly, to the extent that the Companies seek to test the potential to manage the demand impacts of these stations through on-site technology such as solar panels, the Companies can recruit site hosts for the Charging Program where such testing would be possible. Based on record evidence, the Department finds that the Companies have provided insufficient evidence to demonstrate that the cost of the proposed deployment of five DCFC stations for R&D is reasonable or in the public interest.

In sum, the Department will allow cost recovery for analyzing EVSE data and researching potential demand response programs[19] as proposed in the R&D plan and disallow cost recovery for the five DCFC stations proposed in the R&D plan (Exhs. KAB/BJC-8; KAB/BJC-9).

d. Evaluation Plan

i. Introduction

National Grid proposes an evaluation plan that includes (1) periodic surveys of a broad sample of residential customers, (2) pre and post surveys of residents and site host employees, (3) surveys or interviews of participating and non-participating sites, and (4) analysis of program

[19] The Department anticipates that the Company will coordinate its R&D plan with its evaluation plan as to not duplicate research efforts.

data (Exh. KAB/BJC-1 (Rev.) at 56-57). National Grid plans to hire an independent evaluation expert to complete this work (Exhs. KAB/BJC-1 (Rev.) at 56-57; KAB/BJC-10, at 1-4). The goals of the proposed evaluation plan are to assess the impact of the Education Campaign and increased charging station availability on consumer awareness, attitudes, and behaviors; to understand the characteristics and experiences of site hosts and program recruits that chose not to participate; and to measure technical impacts such as utilization and costs (Exhs. KAB/BJC-1 (Rev.) at 57; KAB/BJC-10, at 1-4). The proposed evaluation plan aims at addressing such questions as how much increased availability of charging infrastructure increases consumer purchases or leases of EVs; what are the impacts of charging stations on the electric distribution system including the Companies' system peak; what are the impacts of charging stations on site hosts' electric demand; and what are feasible and cost-effective options for managing station demand based on driver usage patterns (Exhs. KAB/BJC-1 (Rev.) at 57-58; KAB/BJC-10, at 1-4).

ii. Positions of the Parties

(A) Intervenors

NRDC supports the evaluation plan, stating that it will provide valuable opportunities to inform future utility EV proposals (NRDC Brief at 8). Charge Point maintains that the Companies should supplement the proposed customer surveys and program review in the EV Program evaluation plan with a process to receive input from industry stakeholders in an open dialogue, and to develop alternative approaches to load management (ChargePoint Brief at 11-12). CLF maintains that the National Grid proposal must include robust data collection,

reporting, and review requirements to support sufficient learning and program adjustment (CLF Brief at 22).

(B) Companies

The Companies argue that the cost of the evaluation plan is reasonable and sufficiently supported (Companies Brief at 13, 28).

iii. Analysis and Findings

Ongoing evaluation of the EV Program is essential to ensure that the program's components fulfill their intended purpose and to provide opportunities to make adjustments to the program that may improve results. The Department finds that the Companies have sufficiently demonstrated the importance of the evaluation plan to the EV Program's success and that the proposal to recover the costs of the evaluation plan is reasonable.

e. Performance Incentive

i. Introduction

National Grid proposes to earn performance incentives based on the number of EV charging sites developed and activated by site hosts as part of the proposed EV Charging Program (Exh. KAB/BJC-1 (Rev.) at 58-62). National Grid proposes that if it achieves the target of developing 140 EV charging sites within three years it would receive a $1 million performance incentive (Exh. KAB/BJC-1 (Rev.) at 60). In order to receive any performance incentive, National Grid needs to develop at least 105 EV charging sites, or 75 percent of the performance target (Exh. KAB/BJC-1 (Rev.) at 60). With each additional site developed after achieving 75 percent of the performance target, the performance incentive percentage would increase proportionally, until it reaches 125 percent (175 EV charging sites) at which point

National Grid would earn the maximum performance incentive of $1.25 million (Exh. KAB/BJC-1 (Rev.) at 60).

ii. Positions of the Parties

(A) Intervenors

The Attorney General is not opposed to the Companies' receiving a performance incentive for achieving particular goals, but argues that relying on the number of sites as the sole target is not sufficient to determine the success of the Companies' program because an increase in EV charging sites in the Companies' service territory does not necessarily mean that those sites are in the most optimal locations or are being used at all (Attorney General Brief at 13-15). The Attorney General asserts that the Companies should tie the performance incentive to their ability to control costs because National Grid's costs per charging port ($18,610) are 41 percent higher than Eversource's costs, and higher than all three utility-run EV infrastructure programs in California (Attorney General Brief at 14, 17). A few intervenors suggest that aligning performance incentive with increased EV adoption and EV miles traveled would help ensure that the Companies' program is working in furtherance of the Commonwealth's ZEV goals (Attorney General Brief at 13; CLF Brief at 24-26; Acadia Center Brief at 14-15; Acadia Center Reply Brief at 4-5; Global Partners Brief at 9; Global Partners Reply Brief at 3).

Mass Energy and Sierra Club argue that there are fatal flaws in the Companies' proposed performance incentive (MESC Brief at 23; CLF Brief at 25). They contend that a performance incentive may be appropriate in some instances (MESC Brief at 24). In this instance, however, they argue that an incentive is not appropriate because there is no disincentive for the Companies to develop charging sites (MESC Brief at 24). Alternatively, if the Department approves a

performance incentive, Mass Energy and Sierra Club argue that the incentive must be tied to different metrics, such as increased EV deployment and charging station use, and they content that the target goal should represent a stretch for the Companies to achieve (MESC Brief at 24; CLF Brief at 25-26).

Acadia Center asserts that a well-crafted performance incentive can be a very effective tool (Acadia Center Brief at 14, citing Exh. ME-1, at 49; Acadia Center Reply Brief at 4-5). Acadia Center argues that the Companies' proposed single-metric performance incentive, however, is neither well-crafted nor effective because it does not incent the achievement of a stretch goal or counteract a disincentive that the utility would otherwise face (Acadia Center Brief at 14, citing Exh. ME-1, at 49; Acadia Center Reply Brief at 4-5).

(B) Companies

To support its proposed incentive, National Grid compares its EV Program to energy efficiency programs (Companies Brief at 32). National Grid contends the EV Program is similar to energy efficiency programs in that it is designed to provide benefits for customers and society that would not be achieved absent a program administered by the Companies (Companies Brief at 32). Also, the Companies argue that the amount of incentive is consistent with the amount allowed in the similar energy efficiency programs (i.e., 5.5 percent of the Companies' budget) (Companies Brief at 34). Further, the Companies contend that the performance incentive rewards the Companies for taking on activities that are outside of its normal business and that while the EV Program does not earn a return for the Companies, it contributes toward the Commonwealth's energy, climate, and transportation policy goals (Companies Brief at 32).

Also, the Companies argue that the performance incentive encourages the Companies to prioritize the achievement of the program's goals (Companies Brief at 32).

The Companies contend that Department precedent regarding incentive proposals requires petitioners to "demonstrate the incentive is more likely than current regulation to advance the Department's traditional goals of safe, reliable, and least-cost energy service and to promote the objectives of economic efficiency, cost control, lower rates, and reduced administrative burden in regulation" (Companies Brief at 32-33, citing Incentive Regulation, D.P.U. 94-158, at 57 (1995). The Companies argue that their proposal is compliant with the requirements established by the Department in D.P.U. 94-158 because the incentive is: (1) not focused on cost recovery issues; (2) tied to specific, measurable results with clear targets in place; (3) verified by an independent evaluation expert; and (4) proposed to incentivize the Companies to achieve benefits for customers and society that would not otherwise be achieved absent a program (Companies Brief at 34).

iii. Analysis and Findings

The focus of our investigation in D.P.U. 94-158 was broad-based incentive regulation as an alternative to cost-of-service/rate-of-return regulation, and not on a form of narrowly-targeted incentives like the performance incentive presented by National Grid in its EV Program. D.P.U. 94-158, at 52; see Boston Edison Company/Cambridge Electric Light Company/Commonwealth Electric Company, D.T.E./D.P.U. 06-107-B at 23 (2009). Nonetheless, the Department has since looked to the guidelines and principles established in D.P.U. 94-158 to ensure that a company's proposed performance incentive is appropriately

designed and results in just and reasonable rates. D.T.E./D.P.U. 06-107-B at 23; see D.P.U. 94-158, at 52.[20]

In D.P.U. 94-158, the Department recognized that first and foremost incentive plans must assign benefits to customers, whether in the form of lower prices or increased service. D.P.U. 94-158, at 54. As discussed above, the record contains substantial evidence demonstrating that the deployment of charging stations through the EV Program will provide direct benefits to National Grid's customers that use or wish to use EVs in the form of increased service (Exh. KAB/BJC-1 (Rev.) at 13, 18-19). There is also substantial record evidence demonstrating that the EV Program will stimulate EV adoption—thereby providing benefits for all of National Grid's customers in the form of diluted fixed costs of transmission and distribution services and lower electricity rates, the reduction of GHG emissions, public health benefits, fuel security, and economic benefits (Exhs. KAB/BJC-1 (Rev.) at 9-13, 18, 19, 63-64; NG-Rebuttal-1, at 4; ME-1, at 15-24; NRDC-1, at 5-9).

Moreover, National Grid has demonstrated that its proposed performance incentive results in a lower cost to ratepayers compared with the revenue requirement National Grid would be entitled to under traditional ratemaking if it were to capitalize the EDC Equipment portion of the Charging Program (Exhs. KAB/BJC-1 (Rev.) at 61-62; AG-1-20, Att.).[21]

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[20] Here, the Department does not consider all the elements of incentive regulation discussed in D.P.U. 94-158, which was issued at a time of regulatory changes and in consideration of the increasing influence of competitive market forces. See D.T.E./D.P.U. 06-107-B at 25 n.30, citing, D.P.U. 94-158, at 40, 51. In addition to complementing the changes then underway, the Department sought to develop guidelines that would also adjust to future changes. D.P.U. 94-158, at 40.

[21] Based on the Companies' "EV Revenue Requirement Calculation," the net present value of the return and taxes under an historic capital adjustment method would be $1,051,253,

Even considering potential lower costs, we are concerned with the Companies' proposal to earn the performance incentive based on the number of sites developed. The Companies state that the EV Program aims to increase the availability of charging stations; the Companies set the Charging Program goals to develop 140 sites, 680 stations, and 1,280 ports in order to effectuate "a significant impact on the amount of available charging in its service territory" (Exhs. KAB/BJC-1 (Rev.) at 5, 30; CLF 1-1). Nonetheless, based on the minimum number of ports required for a site to be developed under the Charging Program, it would be possible for the Companies to significantly underachieve the Charging Program's goals of stations and ports deployed while still developing the minimum number of sites to trigger the performance incentive (Exh. KAB/BJC-1 (Rev.) at 61).[22] As a result, the Department finds it more appropriate to set the number of stations in use as the target the Companies must achieve to earn the performance incentive, with a target goal of 680 stations to receive a $1 million performance incentive (see Exh. KAB/BJC-1 (Rev.) at 60).[23]

Accordingly, the Department will allow the Companies to earn a performance incentive based on the number of EVSE charging stations in use as a result of the Charging Program. Consistent with the Companies' proposal, at least 75 percent of the target goal (i.e., 510 stations)

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with the capital additions depreciated over 29 years; the net present value of a $1 million performance incentive collected in year 4 of the program would be $659,919 (Exh. AG 1-20, Att.).

22 On brief, Mass Energy and Sierra Club present a credible analysis, with record cites, of this potential misalignment of the performance incentive with the EV Program goals (MESC Brief at 24 n.6).

23 The target goal of 680 charging stations is based on National Grid's target of 600 Level 2 stations and 80 DCFC stations (Exh. KAB/BJC-1 (Rev.) at 60).

must be deployed through the EV Program before National Grid is eligible to collect any performance incentive (Exhs. KAB/BJC-1 (Rev.) at 30, 62; KAB/BJC-4; AG-1-20, Att.).[24] Also, the performance incentive earned will reflect the percentage of the target number of charging stations developed; with each additional station developed after the minimum of 510 stations, the performance incentive will increase proportionally within the following range: $750,000 for 75 percent of the target goal and $1.25 million for 125 percent of the target goal (i.e., 850 stations) (see Exh. KAB/BJC-1 (Rev.) at 60).

Regarding the cost of the proposed EV Program, we acknowledge that the Attorney General argues that the proposed program cost is much higher than other existing EV charging programs in the country (Attorney General Brief at 14). The Department notes that, in particular, the capital investment and rebates for customer equipment and EV supply equipment only account for approximately half of the proposed total cost of the proposed EV Program (Exh. KAB/BJC-2). As discussed in the Cost Recovery section, National Grid will need to demonstrate that its spending is reasonable and prudent for final cost recovery. Nevertheless, the Department urges the Company to consider performance incentive designs in the future that encourage cost containment, including containment for non-capitalized costs. Further, we will closely monitor National Grid's spending practices through the annual cost recovery filings and the stakeholder process.

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[24] The minimum of 510 charging stations is based on National Grid's target of 450 Level 2 stations and 60 DCFC stations (Exh. KAB/BJC-1 (Rev.) at 60).

In sum, we determine that it is appropriate for National Grid to receive an incentive payment for the work that it carries out in the proposed EV Program.[25] Importantly, our determination is significantly influenced by: (1) the fact that the performance incentive is earned following the successful implementation of a limited-term proposal that we encouraged the Companies to develop in order to effect progress toward the Commonwealth's EV goals and (2) the fact that the incentive is proposed in lieu of the return on capital investment that could cost the ratepayers more than the incentive (Exhs. KAB/BJC-1 (Rev.) at 11-12, 61-62; DPU 1-34; DPU 1-35; DPU 2-1).

f. Recommended Additions to the EV Program

i. Load Management, Demand Response, and Time-of-use or Time-varying Rates

(A) Introduction

As discussed above, the proposal requires site hosts to select from EVSE capable of participating in future demand response programs, and the Companies propose to collect data from EVSEs to help them understand how charging stations are used by drivers (Exhs. KAJ/BJC-1, Rev. at 53; NG-Rebuttal-1, at 10). However, the Companies do not propose

[25] In an effort to persuade the Department to allow the performance incentive, the Companies compare the EV Program to energy efficiency programs. The Department, however, finds that there are more differences between the two programs than similarities. For instance, unlike the proposed EV Program, energy efficiency programs have to be cost-effective. Also, performance incentives for energy efficiency programs are permitted by statute, but there is no statute permitting incentives for EV charging infrastructure. To be clear, in allowing the Companies' performance incentive as modified above, the Department does not hold that a proposed performance incentive mechanism designed to accomplish a public policy goal may be allowed simply because it is similar to the energy efficiency programs in that regard, nor does the Department expand the energy efficiency programs to include this EV-related proposal.

to conduct demand response during the course of the program (Exh. KAJ/BJC-1 (Rev.) at 55). The Companies do not expect a significant amount of new load on the distribution system because the program is limited in scope and duration (Exh. NG-Rebuttal-1, at 18). The Companies state that implementation of new rates will increase the administration expense of the program and delay its implementation (Exh. NG-Rebuttal-1, at 19). Also, the proposal does not include any new rate design or structures related to EVs (Exh. NG-Rebuttal-1, at 3). The Companies also state that it is premature to adopt new rates for EVs until EV charging use has been further studied and the Company develops its broader strategy for time-varying basic service rates under the Department's framework in Policy Framework For Time-Varying Rates, D.P.U. 14-04-C (2014) (Exh. NG-Rebuttal-1, at 3, 8, 26). The Companies explain that site hosts eligible for the Time-of-Use Rate G-3 for delivery service would be able to take advantage of that time-varying rate, and site hosts interested in time-varying commodity charges can seek that service through their competitive supplier (Exh. NG-Rebuttal-1, at 19).

(B) Positions of the Parties

(1) Intervenors

A few intervenors maintain that the Companies' current rate design is not optimized for EV charging, and that the Companies should propose EV time-of-use ("TOU") rates without delay as such rates can influence EV driver charging behavior and provide public benefits (Attorney General Brief at 17; MESC Brief at 16-17; MESC Reply Brief at 10-11; CLF Brief at 15-16; Acadia Center Brief at 17-18; Global Partners Reply Brief at 4; NRDC Brief at 9-10;). CLF argues that the Companies should exclude demand charges from rates charged to site hosts because they disincentivize EV usage and distort fueling costs for EV drivers (CLF Brief at 17).

Similarly, Charge Point asserts that while TOU rates can influence site host and driver behavior, EV rate structures should be appropriately adapted to different EV charging use cases, including pilots for single-family residential smart charging programs and DCFC commercial rate structures (Charge Point Reply Brief at 9-12). Charge Point also suggests a special tariff for DCFC (Charge Point Brief at 12-13). Charge Point contends that advanced technical specifications, including collecting 15-minute interval data and two-way communication capability, are necessary to assist the Companies in future distribution planning and design (Charge Point Brief at 7-8).

Several intervenors raise concerns over commercial customer demand charges that site hosts may receive, arguing that demand charges may become a barrier to EV charging, especially for DCFC (Acadia Center Brief at 18; Global Partners Reply Brief at 4; NRDC Brief at 16).

(2) Companies

The Companies state a new EV-specific TOU rate is not part of the proposal and should not be required by the Department because developing a new rate design would unnecessarily delay implementation of the program and, therefore, delay progress toward the Commonwealth's public policy goals; and nothing in their EV Program prevents implementation of a new rate design at a later time (Companies Reply Brief at 4-5). The Companies argue that designing a new rate is a complicated matter, and that they are open to the design of an EV-specific rate design within a separate proceeding (Companies Reply Brief at 5).

(C) Analysis and Findings

Effective rate design for EV charging and the integration of demand response with EV charging will promote efficient charging behavior and can assist in securing societal benefits

related to EV infrastructure deployment. The Department recognizes that the Companies need time to collect data and information from site hosts before they can design and implement effective rate design and EV demand response programs. The initial goal of the Companies' proposed EV Program is to increase the availability of EV charging stations in the Companies' service territory by recruiting and working with site hosts (Exh. KAB/BJC-1 (Rev.) at 5; Companies Reply Brief at 4). Without site hosts, the Companies will not be able to collect data or develop effective rate design and EV demand response programs (Exh. KAB/BJC-1 (Rev.) at 6, 52). The Department finds that there is substantial evidence that the Companies will not experience a significant increase in load on the distribution system as a result of the EV Program because of its limited scope and duration (Exh. NG-Rebuttal-1, at 18). Therefore, the Department will not require the Companies to adopt the intervenors' rate design, demand response, or load management modifications at this time. During the EV Program, the Department directs the Companies, to collect EV charging data that can be used to develop TOU rates and a potential EV demand response program (Exh. KAB/BJC-1 (Rev.) at 54, 57-58).

The Department anticipates that the Companies will work closely with stakeholders during the data collection process (Exh. KAB/BJC-1 (Rev.) at 56-58). Specifically, the Department finds that data collection is essential in the development of EV charging TOU rates, alternative demand charges, and potential demand response programs.[26] See Order Adopting

[26] For example, in its grid modernization Order the Department decided to open an investigation to consider the next steps for cost-effective deployment of customer-facing grid modernization investments. This investigation will include exploring a targeted deployment of advanced metering functionality to certain customer groups such as new net metering and electric vehicle customers. National Grid shall fully participate in this investigation and coordinate its EV charging TOU rate design efforts accordingly. D.P.U. 15-120; D.P.U 15-121; D.P.U. 15-122, at 135-136.

Policy Framework for Time Varying Rates, D.P.U. 14-04-C at 7-8 (2014). In addition, the Companies plan to require site hosts to install EV supply equipment that is capable of reporting utilization and transaction data and receiving and executing real-time instructions of demand response (Exh. KAB/BJC-3, at 7-8). To that end, the Companies shall deploy service meters capable of two-way communications with the Companies' grid system when installing a new service meter on newly constructed EV charging sites, in order to avoid stranded costs (see Exh. KAB/BJC-3, at 1-2).

ii. EVSE Terms of Service

(A) Introduction

Under the Companies' proposal, whether a site host will charge a fee for drivers to use the EVSEs or otherwise restricts the use of the ESVEs will be at the discretion of the site host not governed by the Companies (Exh. KAJ/BJC-1 (Rev.) at 39).

(B) Positions of the Parties

(1) Intervenors

Some intervenors suggest that the Department should establish safeguards for rates charged to EV drivers such as limiting the effective mark-up on electricity that site hosts can impose (MESC Brief at 13-15; MESC Reply Brief at 8-9; CLF Brief at 17-18; NRDC Brief at 10-12).

Charge Point argues that the Department has no jurisdiction to impose conditions on the terms of service provided by site hosts, including conditions on how site hosts set charging prices (Charge Point Brief at 10-11, Charge Point Reply Brief at 4-5). Charge Point maintains that site

hosts should have flexibility in how they provide charging service based on their unique business needs (Charge Point Reply Brief at 5-7).

(2) Companies

The Companies assert that restrictions on pricing charged by site hosts are not appropriate as regulating end-use pricing charged by non-utility operators of EVSE is not within the Department's authority (Companies Reply Brief at 5). The Companies contend that pricing restrictions may disincentivize EV Program participation by site hosts (Companies Reply Brief at 6-7). The Companies emphasize that they will collect and report EV Program pricing data that may be used to inform pricing structure design in the future (Companies Reply Brief at 7).

(C) Analysis and Findings

The Department has determined that an EVSE owner/operator is selling a service and not electricity within the meaning of G.L. c. 164, and that the provision of EV charging service is not within the Department's jurisdiction under G.L. c. 164. D.P.U 13-182-A at 9. Accordingly, it is not within the Department's jurisdiction to regulate the terms of service for charging services that are not owned or operated by an EDC. D.P.U 13-182-A at 9. Therefore, the Department will not adopt the intervenors' suggestions.

iii. Coordination with Stakeholders and Reporting Requirements

(A) Introduction

The Companies state that they coordinated with Eversource on the design of the EV Program and have discussed coordinating education campaigns with Eversource (Exhs. KAJ/BJC-1 (Rev.) at 47; NG-Rebuttal-1, at 6). The Companies propose to seek observations from stakeholders on an ongoing basis as part of program planning and

implementation to identify improvements needed in the program (Exh. KAJ/BJC-1 (Rev.) at 26). The Companies propose to report the data collected through its R&D plan as part of its evaluation (Exh. KAJ/BJC-1 (Rev.) at 54). The Companies believe that sharing analysis and evaluation surveys will be essential to learning from the EV Program and proposes to do so on an annual basis (Exh. NG-Rebuttal-1, at 27). During the program, the Companies will collect and report on the fee paid to site hosts by drivers using charging stations (Exh NG-Rebuttal-1, at 32).

(B) Positions of the Parties

(1) Intervenors

The Attorney General and DOER recommend that the Department require National Grid to coordinate its efforts with Eversource and other entities involved in EV initiatives and report on these efforts in its annual EV Program cost recovery proceeding (Attorney General Brief at 8-11; DOER Brief at 8). Further, DOER recommends that the Companies work with DOER to set guidance for the availability and definition of public and independent funding sources (DOER Brief at 8-9). DOER states that it is imperative for the Companies to coordinate their efforts with other EDCs as well as other state, regional, and national initiatives (DOER Brief at 8). ChargePoint requests that the Department establish a stakeholder review and input mechanism as part of the evaluation plan (ChargePoint Brief at 11). ChargePoint asserts that the stakeholder review mechanism should take the form of a collaborative process to develop alternative approaches to load management, such as rate design, and ensure that stakeholder concerns are addressed and fully considered (ChargePoint Brief at 12).

Mass Energy, Sierra Club, and CLF recommend that the Department schedule a formal review of National Grid's program based on data collected and reported during the first two years of the EV Program's implementation (MESC Brief at 23; CLF Brief at 24). Mass Energy and Sierra Club recommend that the Department formalize National Grid's data collection and reporting commitments with a reporting interval no less than semi-annually alongside an opportunity for stakeholder feedback (MESC Brief at 23-24; MESC Reply Brief at 12). CLF argues that the Department must condition approval of the EV Program on incorporation of adequate and sufficiently frequent stakeholder engagement (CLF Brief at 22-23). CLF maintains that more and better metrics and establishment of a formal stakeholder engagement process would allow the Department and stakeholders to rigorously assess the performance of the EV Program (CLF Brief at 23). Further, CLF requests that the Department direct the Companies to coordinate with local governments, EJ community service providers, and other trusted community leaders and liaisons to develop initiatives to ensure that all Massachusetts residents have access to the benefits of the EV Program (CLF Brief at 22)

(2) Companies

National Grid states that it will continue to coordinate with Eversource and other stakeholders on program design and implementation, and National Grid claims that it has measures in place to ensure that its incentives are not duplicative of other available funding sources (Companies Brief at 20-21; Companies Reply Brief at 19, citing Exh. NG-Rebuttal-1, at 5-6). National Grid also states its willingness to work with DOER to set guidance for applicants about the availability of public and independent funding (Companies Reply Brief at 19).

(C) Analysis and Findings

As discussed above, the Department recognizes the value of stakeholders' contribution in initiatives to increase the adoption of EVs in the Commonwealth, and the Department will include all EDCs in the forthcoming EV metrics stakeholder process. Rather than delaying the implementation of the proposed EV Program until a formal proceeding on coordination can begin, the Department directs the Companies to continue their ongoing coordination with other EDCs and state and regional programs to make the best use of available resources to advance EV charging infrastructure development in the Commonwealth. Further, the Department directs the Companies to include a complete and detailed description of its coordination activities in their annual cost recovery filings consistent with their proposals, including coordination with (1) DOER to set guidance for applicants about the availability of public and independent funding; (2) stakeholders on the selection of site locations, especially DCFC sites, and site host selection criteria; and (3) local groups closely affiliated with EJ communities to consider recommendations on their unique charging needs (Companies Reply Brief at 19; see Exh. KAB/BJC-1 (Rev.) at 36, 39-40). Moreover, to ensure that the benefits of coordination are fully realized and to promote opportunities to learn from the EV Program, the Department directs the Companies to include with their annual cost recovery filings the data collected from the R&D plan and the survey results from the evaluation plan. Also, the Department directs the Companies to submit their analysis of the demand response research and EVSE data from the R&D plan with its proposed final evaluation report (Exh. KAB/BJC-10, at 4).

4. Conclusion

With the modifications described above, we find that National Grid's proposed EV Program is in the public interest. D.P.U. 13-182-A at 75.

VII. COST RECOVERY

A. Introduction

To recover program costs, National Grid proposes to implement EV factors on a reconciling basis that recover the costs discussed above (Exh. JAL-1, at 3). The Companies propose that the site hosts will not be responsible for any contribution in aid of construction ("CIAC") and that the full amount of any capital investment or O&M costs incurred for each site host be funded as an EV Program expense (Exh. JAL-1, at 4). Therefore, the Companies will not record in its general ledger any capital investment associated with the EV Program (i.e., the capital investment will be recorded in the general ledger at a zero value; and will be recorded as a regulatory asset) (Exh. JAL-1, at 4).

B. Positions of the Parties

1. Companies

National Grid argues that it has demonstrated that its proposed EV Program Provision and associated cost recovery method are reasonable (Companies Brief at 30). According to the Companies, they have provided ample evidence in support of their cost estimates that show the costs, including those devoted to program management, are reasonable (Companies Reply Brief at 14). Moreover, National Grid asserts that it will diligently manage the program to control incentive costs and program management costs in order to achieve the program's goals for the number of sites activated within the projected program budget (Companies Brief at 29; Companies Reply Brief at 14). Further, National Grid contends that actual costs are subject to

review (Companies Reply Brief at 14, citing Exh. JAL-1, at 3). The Companies assert that the Department will have an opportunity to conduct a thorough investigation to determine if the Companies' actual program costs are prudent as part of the Companies' filings for approval of EV Program cost recovery following the end of each program year (Companies Reply Brief at 14, citing Exh. JAL-1, at 5). Therefore, the Companies maintain that, given the nature of this program, its limited scope, and the diversified benefits associated with increased adoption of EVs, their proposed EV Program Provision is just and reasonable (Companies Brief at 32). No other party addressed the Companies' proposed tariff or cost recovery proposal.

2. Analysis and Findings

a. Costs Eligible for Recovery

Only EV Program capital investments and incremental O&M expenses are eligible for cost recovery through the EV Factors. First, with respect to capital investments, EV Program capital investments may be treated as incremental if their primary purpose is to accelerate progress in achieving the objectives of the Companies' EV Program.

The capital investment necessary to implement the EV Program will be recorded in the Companies' general ledger at zero dollar value through an accounting process similar to an eligible customer paying a CIAC for 100 percent of the costs associated with any utility make-ready work for the EVSE (Exhs. DPU 1-34; DPU 1-35).[27] The funds collected through the EV Factor pay for the construction costs that would normally be recovered directly from the customer in the form of a CIAC (Exh. DPU 2-1). National Grid will establish a regulatory asset

[27] This process will also reimburse the Company for any O&M costs incurred (Exh. DPU 1-35).

on its balance sheet (Exh. DPU 2-1). The Companies will credit this account each month with revenue billed to customers through the EV Factors (Exh. DPU 2-1). When a construction project has been completed on a site host's premises, the Companies will transfer the cost of the construction from the general ledger plant and expense accounts to the regulatory asset account (Exh. DPU 2-1). This accounting will be accomplished through a journal entry that will debit the regulatory asset account for the capital costs associated with the installation of infrastructure necessary to support the installation of EV charging stations and will credit Account 107, Construction Work In Progress (Exh. DPU 2-1). If the work order includes costs that are expensed, rather than capitalized, these costs will be recorded in the appropriate O&M account (Exh. DPU 2-1). The journal entry for this transaction will record a debit to the regulatory asset for the amount of the expense and a credit to the O&M account (Exh. DPU 2-1). The Companies will recover their EV Program investment through the EV Factors, not through base distribution rates or any through other reconciling mechanism (Exh. DPU 1-34).

With respect to O&M expenses, National Grid must demonstrate that all O&M expenses proposed for recovery through the EV Factors are (1) incremental to the representative level of O&M expenses recovered through base distribution rates and (2) solely attributable to preauthorized EV Program expenses.

A representative level of O&M costs already is recovered through base distribution rates. Allowing recovery of costs through a targeted cost recovery mechanism increases the risk that a company could recover a portion of these costs more than once. D.P.U. 12-76-B at 23; D.P.U. 15-120/D.P.U. 15-121/D.P.U. 15-122, at 218. In order to prevent this result, as described in detail below, National Grid must develop a rigorous method to demonstrate that only

incremental EV Program-related costs are proposed for targeted cost recovery, subject to our findings above. See D.P.U. 15-120/D.P.U. 15-121/D.P.U. 15-122, at 218.

As is the case with any costs to be recovered from ratepayers, all EV Program expenditures must be prudently incurred to be eligible for targeted cost recovery. The Department's standard of review on prudence involves a determination of whether a company's actions, based on all that it knew or should have known at that time, were reasonable and prudent in light of the existing circumstances. Attorney General v. Department of Public Utilities, 390 Mass. 208, 229 (1983). Department preauthorization of the EV Program means that the Department will not revisit the prudence of the Companies' decision to proceed with those categories of investments. The Department will, however, review the prudence of National Grid's implementation of these investments. D.P.U. 15-120/D.P.U. 15-121/D.P.U. 15-122, at 220. The Department will review EV Program expenditures annually to review the actual expenditures to determine if they are reasonable and prudently incurred. All costs recovered from ratepayers for any expenditures determined to be imprudent shall be refunded through the reconciliation component of the EV Factors, with associated carrying charges.[28]

Moreover, the Department emphasizes the importance of the Companies' developing and maintaining systematic, ample, and contemporaneous documentation of all EV Program costs for which they seek targeted cost recovery. A failure to provide clear, cohesive, and reviewable evidence demonstrating eligibility will result in disallowance of targeted cost recovery of the expenditures in question. Massachusetts Electric Company, D.P.U. 95-40, at 7 (1995); Boston

[28] The Companies' proposed Electric Vehicle Market Development Provision provides for interest at the customer deposit rate (M.D.P.U. No. 1334, Sheet 3).

Gas Company, D.P.U. 93-60, at 26-27 (1993); The Berkshire Gas Company, D.P.U. 92-210, at 24 (1993). National Grid must submit contemporaneous project documentation and other evidence demonstrating that each of these conditions has been met. The Department will review the Companies' submissions and disallow targeted cost recovery of all expenses where the proper showing has not been made.

To assist the Department in our review of EV Program costs, and to ensure that double recovery does not occur, the Department directs the Companies to develop and propose a rigorous protocol to demonstrate that the expenses are incremental to the costs already recovered through base distribution rates. See, e.g., D.P.U. 15-120/D.P.U. 15-121/D.P.U. 15-122, at 222. National Grid shall include its proposed protocol together with the compliance tariff filed in compliance with this Order.

Although we will not prescribe in this Order all elements of the protocol to demonstrate that EV Program costs are incremental to the costs already recovered through base distribution, the Department identifies certain expectations. First, the Department will limit eligible O&M labor expense to new positions created after the issuance of this Order, unless the Companies can demonstrate that the associated costs are attributed solely to EV Program activities and are not otherwise recovered through base distribution rates. Accordingly, the Companies must be prepared to identify and track the costs for positions created to perform EV Program activities since the test-year in its most recent rate case. Expenses for existing employees who have been moved to a new position performing EV Program activities will not be eligible for recovery through the EV Factors, as these costs already are recovered through base distribution rates. In addition, there shall be a presumption that all overhead and burdens are ineligible for recovery

through the EV Factors. These costs are indirectly incurred and, therefore, will be ineligible for recovery through the EV Factors unless the Companies develop a protocol to demonstrate otherwise. As part of the proposed protocol, we expect National Grid to provide a detailed description of the method it proposes to implement to track and clearly identify the increase in expensed costs (including capital investments recovered as an expense) over the costs currently recovered through base distribution rates. With this method, the Companies must be able to track the employees who are working specifically on EV Program activities and track the associated increase in employee hours as well as non-labor costs in a manner that clearly demonstrates that the costs are (1) directly related to the EV Program and (2) incremental to the costs already recovered through base distribution rates. Finally, we emphasize that National Grid is responsible for tracking such costs in a reviewable manner that reduces the administrative burden for the Department. Accordingly, we expect that the proposed protocol will incorporate a system to clearly segregate preauthorized EV Program investments from non-EV Program investments in National Grid's accounting systems.

b. Annual EV Factor Filing

The Companies shall make annual EV Factor rate adjustment and reconciliation filings comprised of (1) actual, eligible expenditures from the prior EV Program year and (2) a reconciliation component in the second year and beyond. Interest on over- or under-recovery of the revenue requirement shall be calculated on the average monthly balance using the customer deposit rate (Exh. JAL-2, at 3).

With each annual EV Factor filing, the Companies shall provide testimony and supporting exhibits, including full project documentation of all EV Program capital projects

placed into service during the plan investment year and documentation of O&M expenses, describing in detail how the Companies' proposed costs meet the eligibility requirements set forth in Section VI.D, above. Specifically, annual filings shall contain testimony and supporting documentation demonstrating that the costs sought for recovery are preauthorized, incremental (consistent with protocol and the tests described above), prudently incurred, in service, and used and useful (where applicable). Additionally, the filing also shall describe any cost variances as defined in the Companies' capital authorization policies, provide a demonstration that the proposed EV Factors are calculated appropriately, and provide bill impacts.

c. Billing

The Companies propose to include the EV Factors with the distribution kWh charge on customers' bills (Exh. JAL-1, at 6). However, the EV Program is a public policy initiative. Therefore, the Department directs the Companies to implement the EV Factor as a separate line item on a customer's bill. The Companies may collect the costs that they incur to implement the EV Factor as a separate line item through the annual EV Program cost recovery filing.

Accordingly, the EV Factor shall not be included in the following kWh charges: (1) basic service; (2) distribution; (3) transmission; (4) transition; (5) energy efficiency; or (6) renewable energy. For the majority of net metering facilities, the charges that constitute a customer's net metering credit include some or all of the following kWh charges: (1) basic service; (2) distribution; (3) transmission; and (4) transition. 220 CMR 18.04. Accordingly, for the purposes of net metering credit calculation, net metering credits shall exclude the EV Factor line item.

d. Tariff Modifications

Above, we directed the Companies to include its proposed protocol with the tariff filed in compliance with this Order. The Department additionally directs the Companies to make four modifications in the Companies' compliance tariff: (1) delete the referenced "Electric Vehicle Program Adjustment Provision" in the last paragraph of its proposed tariff, and instead insert "Electric Vehicle Market Development Program Provision" (Exh. DPU 1-44); (2) include the formula for calculating the annual EV Factor (Exh. DPU 1-45), (3) modify the language regarding the performance incentive to make it consistent with the directive contained in this Order; and (4) include that, for billing purposes, the EV Factor will be a separate line item on a customer's bill.

3. Conclusion

The Department has denied cost recovery of the company-owned DCFC stations in National Grid's R&D Plan. Additionally, the Department has denied cost recovery for the proposed Education Campaign. Accordingly, the Companies are directed to file for cost recovery consistent with the Department's above directives in this Order.

VIII. ORDER

Accordingly, after notice, hearing, and due consideration, it is

ORDERED: That Massachusetts Electric Company and Nantucket Electric Company's proposed Electric Vehicle Market Development Program is APPROVED, subject to the modifications contained in this Order; and it is

FURTHER ORDERED: Massachusetts Electric Company and Nantucket Electric Company's proposed Electric Vehicle Market Development Program Provision, M.D.P.U. No. 1334, is DISALLOWED; and it is

FURTHER ORDERED: That Massachusetts Electric Company and Nantucket Electric Company shall file a new Electric Vehicle Market Development Program Provision consistent with the directives contained in this Order; and it is

FURTHER ORDERED: That Massachusetts Electric Company and Nantucket Electric Company comply with all of the directives contained in this Order.

By Order of the Department,

/s/
Angela M. O'Connor, Chairman

/s/
Robert E. Hayden, Commissioner

/s/
Cecile M. Fraser, Commissioner

An appeal as to matters of law from any final decision, order or ruling of the Commission may be taken to the Supreme Judicial Court by an aggrieved party in interest by the filing of a written petition praying that the Order of the Commission be modified or set aside in whole or in part. Such petition for appeal shall be filed with the Secretary of the Commission within twenty days after the date of service of the decision, order or ruling of the Commission, or within such further time as the Commission may allow upon request filed prior to the expiration of the twenty days after the date of service of said decision, order or ruling. Within ten days after such petition has been filed, the appealing party shall enter the appeal in the Supreme Judicial Court sitting in Suffolk County by filing a copy thereof with the Clerk of said Court. G.L. c. 25, § 5.