

Massachusetts Electric  
Company and Nantucket  
Electric Company  
d/b/a National Grid

**MA EV Phase I Factor Filing**

May 15, 2020

Submitted to:  
Massachusetts Department of Public Utilities  
Docket No. D.P.U. 20-64

Submitted by:

**nationalgrid**

Massachusetts Electric Company  
Nantucket Electric Company  
d/b/a National Grid  
D.P.U. 20-64  
Exhibit NG-MM-1  
May 15, 2020  
H. O. \_\_\_\_\_

**PRE-FILED DIRECT TESTIMONY**  
**OF**  
**MAY MOY**

## **Exhibits**

- Exhibit NG-MM-2    Massachusetts EV Charging Station Program Evaluation Report –  
Program Year 1
- Exhibit NG-MM-3    Summary of Year 1 Program Costs
- Exhibit NG-MM-4    EV Charging Infrastructure Rebate Documentation
- Exhibit NG-MM-5    Technical Service Cost Documentation
- Exhibit NG-MM-6    Marketing Cost Documentation
- Exhibit NG-MM-7    Evaluation Cost Documentation

1 **I. Introduction and Qualifications of May Moy**

2 **Q. Please state your name and business address.**

3 A. My name is May Moy. My business address is 40 Sylvan Road, Waltham, MA 02451.

4 **Q. By whom are you employed and in what position?**

5 A. I am the Manager of New England (NE) Product Implementation for National Grid USA  
6 Service Company, Inc. (“NGSC”), where I provide services to Massachusetts Electric  
7 Company (“Mass. Electric”) and Nantucket Electric Company (“Nantucket”) each d/b/a  
8 National Grid (together, the “Company”).

9 **Q. Please provide a brief summary of your educational and professional background.**

10 A. In 1988, I earned a Bachelor of Science degree in Industrial Engineering from Northeastern  
11 University. I started my career at GTE Government Systems as an Operations Cost  
12 Estimator after graduation. In 1993, I joined Boston Gas Company in Boston, MA, where  
13 I worked as a Marketing Analyst, Marketing Development Analyst and a Load  
14 Management Analyst. During this time, I earned my MBA at Bentley University. In 1996,  
15 I joined AllEnergy Marketing Company where I worked as an Energy Analyst. In 1998, I  
16 landed a dual-role position as a Financial Analyst/Quality Control Manager at a start-up  
17 called ServiceEdge, which was acquired by Keyspan. At Keyspan, which was later  
18 acquired by National Grid, I became a Finance Manager at Keyspan Home Energy  
19 Services. Since then, I have held various positions at National Grid, including Lead

1 Program Manager, Manager of Partnerships & Joint Ventures, and Manager of Customer  
2 Experience & Innovation.

3 **Q. Have you previously testified before the Massachusetts Department of Public Utilities**  
4 **(“Department”)?**

5 A. No, I have never testified before the Department.

6 **II. Purpose of Testimony**

7 **Q. What is the purpose of your testimony?**

8 A. The purpose of my testimony, in conjunction with the joint testimony submitted by Ms.  
9 Mindy Rosen and Ms. Amy Solomon, is to support the recovery of costs associated with  
10 implementation of the Company’s Phase I EV Program (the “Program”) and to document  
11 the Company’s actual operation and maintenance (“O&M”) costs incurred while  
12 implementing the Program from January 1, 2019 through December 31, 2019. My  
13 testimony presents the Company’s calculation of five cost components that comprise the  
14 Company’s Program rate recovery proposal including: (1) incremental employee costs;  
15 (2) EV charging infrastructure project rebate costs; (3) technical service costs;  
16 (4) marketing costs; and (5) evaluation costs. In addition, the Company is providing an  
17 update on its progress to date in reaching the Program’s overall goal of supporting the  
18 Commonwealth’s clean energy and climate goals by installing 680 charging stations in its  
19 electric service territory as approved in the Department’s Order in D.P.U. 17-13, dated  
20 September 10, 2018 (the “Order”).

1 **III. Overview of the Program**

2 **Q. Please describe the management structure of the Program.**

3 A. Consistent with the Order, the Program is managed through a program management office  
4 that is comprised of the following positions that amount to approximately 5.5 full-time  
5 equivalent (“FTE”) positions:

- 6 • Myself and one other implementation manager
- 7 • 3 program managers
- 8 • 3 support analysts
- 9 • 1 marketing analyst; and
- 10 • 1 evaluation Analyst.

11 Please refer to the Joint Pre-filed Direct Testimony of Amy F. Solomon and Mindy Rosen  
12 and their Exhibit NG-3 for a detailed calculation of the incremental labor costs included in  
13 this filing.

14 **Q. Please describe the Company’s organizational structure for EV programs.**

15 A. The program management office for the EV Phase I and II Programs is based within the  
16 Company’s Customer organizational structure. Similar to the Company’s energy  
17 efficiency programs, the EV Program team is organized in a vertical manner to leverage  
18 the expertise and skill sets of each group to manage and implement the EV Programs. The  
19 two groups that work on EV Programs are: 1) the Product Growth Transportation Team,  
20 and 2) the Product Implementation Team. The Product Growth Transportation Team is

1 responsible for developing new clean transportation products and strategy. The Product  
2 Growth Transportation Team then transitions the programs to the Product Implementation  
3 Team. The Product Implementation Team is responsible for the implementation of the EV  
4 Programs and other clean energy programs.

5 **Q. Can you please describe the key elements of the Program as approved in the Order?**

6 A. The Order approved the following elements for the Program:

- 7 • **Charging Station Program.** The charging station program provides for incentives  
8 for the installation of Level 2 and direct current fast charging (“DCFC”) charging  
9 stations at business customers’ facilities. Customer incentives are intended to fund  
10 100% of the make ready costs that includes electrical infrastructure costs to power  
11 Level 2 and DCFC stations and up to 100% of the Level 2 electric vehicle supply  
12 equipment (“EVSE”) (or charging station) rebates. In the Order, the Department  
13 directed the Company to prioritize the installation of publicly accessible Level 2  
14 charging stations. In addition, the Department directed the Company to establish a  
15 target to ensure that 10% of the charging station sites are located in environmental  
16 justice communities.
- 17 • **Marketing.** The marketing plan provides for the implementation of a marketing  
18 communication and outreach plan to business customers willing to host charging  
19 infrastructure (“Site Hosts”).

- 1           • **Performance Incentive.** The Company is allowed to earn a \$1 million  
2 performance incentive if 680 stations are activated or committed before the end of  
3 the third year of the Phase I EV Program with all stations activated no later than the  
4 end of the fifth year. The performance incentive has a minimum threshold of 510  
5 stations (75% x 680), which allows the Company to earn \$0.75 million and a  
6 maximum threshold of 850 stations (125% x 680), which allows the Company to  
7 earn \$1.25 million.
- 8           • **Evaluation.** The evaluation plan provides for (1) periodic studies of a broad  
9 sample of residential customers; (2) pre- and post-surveys of residents and site host  
10 employees; (3) surveys or interviews of participating and non-participating sites;  
11 and (4) analysis of Program data.
- 12           • **Research & Development (“R&D”).** A research and development plan provides  
13 for the collection and analysis of data from the sites developed through the Program  
14 and the research of potential demand response Program designs.

15 **IV. Implementation of the Program**

16 **Q. When did National Grid begin implementing the Program?**

17 A. The Company began implementing the Program in Q4 2018 with implementation tasks  
18 ranging from the training of the sales staff, development of the Program application form,  
19 and promotion to vendors and business customers such as at the Company’s Energy  
20 Solutions Summit on October 25, 2018. This work was primarily coordinated by an

1 employee whose position is not incremental to serve the Program and, therefore, the  
2 Company is not seeking recovery for this employee's costs in this filing.

3 **Q. Please provide a summary of the Company's progress in 2019 implementing the**  
4 **Program elements?**

5 A. The Company has implemented, or is in the process of implementing, all elements of the  
6 Program approved in the Order including the following:

7 • **Charging Station Program and Public Accessibility**

8 ▶ **Station Installation.** A total of 108 charging stations were installed and  
9 activated at 52 different sites: 107 are Level 2 stations and one is a DCFC  
10 station. As part of the Program design, the Company has prioritized the  
11 installation of Level 2 stations at publicly accessible locations. As reported  
12 in the Evaluation Report (attached hereto as Exhibit NG-MM-2), as of  
13 December 31, 2019, 63% (68 of the 108 activated stations) were installed  
14 at public parking areas and classified as publicly accessible. The Evaluation  
15 Report further found that "The Charging Program is succeeding in  
16 incentivizing publicly accessible stations..." (Exh. NG-MM-2, at 48).

17 ▶ **Increasing Customers Choices.** By continuously reviewing and certifying  
18 EVSE manufacturers' equipment, the Company increased the range of  
19 eligible Level 2 and DCFC EVSE for the Program available to customers  
20 throughout 2019. In addition, the Company has provided several trainings  
21 to EVSE installation vendors about the benefits of the Program.  
22



1 Hosts for EV charging stations. This included promoting the Company's  
2 Program web page ([www.ngrid.com/ma-evcharging](http://www.ngrid.com/ma-evcharging)) containing marketing  
3 materials, application forms, EVSE eligible equipment list, and links to the  
4 Massachusetts Electric Vehicle Incentive Program ("MassEVIP"). The  
5 Product Implementation Team provided continuous training to the internal  
6 sales team, while also providing opportunities to meet with EVSE vendors  
7 to learn more about the functionality and associated benefits of EV charging  
8 stations.

9 ▶ **Stakeholder Engagement:** The Company has continued to meet with  
10 external parties including low-income stakeholders, state agencies  
11 including the Massachusetts Department of Environmental Protection  
12 ("DEP") responsible for administering the MassEVIP program and  
13 representatives from the Massachusetts Department of Energy Resources  
14 ("DOER") Leading by Example Program. In addition, the Company in  
15 collaboration with Eversource sponsored quarterly meetings organized by  
16 Advanced Energy Group to focus on addressing EV infrastructure barriers.

17 • **PIM**

18 The Company anticipates meeting, at a minimum, the threshold of 510 activated (or  
19 committed) stations by the end of the Program's third year with all stations activated  
20 no later than the end of the fifth year.  
21

1       • **Evaluation**

2  
3       The Company is evaluating the Program on a regular basis to monitor the Company's  
4       success meeting Program goals. As noted previously, the Company's Evaluation  
5       Report for the first year of the Program is provided as Exhibit NG-MM-2.

6       • **R&D**

7  
8       The Company is not seeking cost recovery in PY1 for the R&D plan because the  
9       Company planned for the R&D work to begin in PY2 to allow for charging stations to  
10      be installed and utilized in PY1. The following is summary of the R&D plan  
11      components originally filed by the Company:

- 12           ▪ Analysis of EVSE site host data. In PY1, Site Hosts' EVSE utilization data was  
13           analyzed as part of the evaluation work completed by ERS. (See Section 4.4.3  
14           of Exhibit NG-MM-2). In PY2, the Company plans to use this analysis to  
15           assess potential future electric system impacts of EV charging.
- 16           ▪ Demand Response. In PY2, the Company will research potential demand  
17           response program designs through both direct communications with the  
18           charging stations and via the vehicles' onboard telematics.

19      In PY2, the Company plans to review the current state of demand response programs being  
20      delivered by the Massachusetts Program Administrators through the energy efficiency  
21      programs to assess whether additional research funded through the Program is needed. The  
22      Company plans to summarize its review and conclusions in its PY2 cost recovery filing.

1 **Q. Please describe the Company's progress on its target to ensure that 10% of Level 2**  
2 **sites are located in disadvantaged communities.**

3  
4 A. As of December 31, 2019, based on the analysis in the PY1 Evaluation Report, the  
5 Company had exceeded its target of 10% of the Level 2 sites being located in disadvantaged  
6 communities with 27% being located in communities meeting two or more of the  
7 environmental justice criteria.

8 **Q. Please provide a summary of the Program costs and rebates for the 108 activated**  
9 **stations reported in the Evaluation Report.**

10 A. Overall, the actual total costs to install and activate 108 stations was approximately \$1.7M.  
11 The Program provided total rebates to Site Hosts totaling approximately \$1.4M (79%) and  
12 Site Hosts funded the remaining approximately \$0.4M (21%)

13 **V. First Year Observations and Lessons**

14 **Q. Please summarize the Company's key observations from the first year of**  
15 **implementing the Program.**

16 A. First, the Company has observed that customer outreach and education of the potential  
17 benefits of hosting sites for EV charging stations is vital to increase site host demand. In  
18 addition, engagement with EVSE vendors and installers, and coordination with  
19 stakeholders, was very important to advance the goals of the Program. Finally, the  
20 Company identified barriers to charging station installations, particularly regarding  
21 challenges associated with making a business case for DCFC stations, high networking  
22 fees, and access to MUD. Each of these observations are discussed in further detail, below.

1 **Q. Please summarize the Company’s Outreach to Site Hosts.**

2 A. Consistent with the Order, the Company promoted the Program to Site Hosts using the  
3 Company’s sales staff in face-to-face meetings, webinars and social and print media  
4 marketing campaigns. The Company actively promoted the Program webpage  
5 ([www.ngrid.com/ma-evcharging](http://www.ngrid.com/ma-evcharging)) containing marketing materials, application forms,  
6 EVSE eligible equipment list, and links to the MassEVIP Program. The Product  
7 Implementation Team continually trained and updated the internal sales team while also  
8 providing opportunities to meet with EVSE vendors and learn more about charging  
9 stations, their functionality, and associated benefits of EV charging stations.

10 The Company has also engaged with Site Hosts through the Company’s sales staff,  
11 leveraging the Company’s annual Energy Summit (Fall 2018 and Fall 2019) and Municipal  
12 Summit (Spring 2019), and the Company’s “Take Charge” marketing campaign. The  
13 “Take Charge” campaign promoted the Program to business customers, including  
14 demonstrating how these stations can enhance their business or property and demonstrate  
15 their leadership to the entire community. The campaign was designed to raise awareness  
16 of the Program among business customers such as property managers, workplaces, and  
17 retail owners using channels such as online and digital advertising, email campaigns, and  
18 print advertising. Business customers were empowered to “take charge” by taking the first  
19 step by visiting [www.ngrid.com/takechargeprogram](http://www.ngrid.com/takechargeprogram).

1 Lastly, based on feedback from its sales staff, customers and vendors to simplify the  
2 application process, the Company implemented a “prescriptive” application process for  
3 smaller projects, defined as involving four or less charging stations per site. The new  
4 prescriptive application simplifies the process by removing the hurdle of requiring upfront  
5 vendor cost estimates to determine rebate amounts. By listing pre-determined rebate  
6 amounts directly on the application, which is similar to energy efficiency prescriptive  
7 applications, the wait time for vendor cost estimates was eliminated. This resulted in a  
8 quicker turnaround period for approving applications from 1-2 weeks to 2-3 days.

9 **Q. Can you please summarize the Company’s engagement with EVSE Vendors and**  
10 **Installers?**

11 A. In August 2019, the Company offered an EVSE Workshop and Trade Show to engage and  
12 provide a networking opportunity for vendors, internal sales representatives, and team  
13 members from ERS, the independent evaluators who conducted the Evaluation Study.  
14 Eight EVSE manufacturing and networking providers each provided a brief presentation  
15 (topics included the benefits of networked charging stations, EV Ecosystems, public and  
16 DCFC charging practices). This was offered in conjunction with a trade show allowing  
17 EVSE providers to display their equipment. Over 100 vendors and Company employees  
18 attended the show, resulting in a higher degree of familiarity with EVSE options, business  
19 contacts, sales opportunities and best practices.

1 The Company also engaged with EVSE installation vendors, equipment distributors, and  
2 EVSE manufacturers through the Company’s sales staff, leveraging the Company’s annual  
3 Energy Summit (Fall 2018 and Fall 2019) and Municipal Summit (Spring 2019), and the  
4 Company’s “Take Charge” marketing campaign.

5 In early 2020, the Company launched an Electric Vehicle Charging Station Installer (“EV  
6 CSIs”) initiative, similar to initiatives offered through the Company’s energy efficiency  
7 plan. The Company selected 22 vendors through a procurement process. Similar to the  
8 initiatives offered through the Company’s energy efficiency plan, the benefits of leveraging  
9 a CSI network is to provide another channel, in addition to internal sales representative, to  
10 promote the economic and environmental benefits of electrification. Although customers  
11 are not required to use CSI’s, the CSI’s can provide assistance through the process as they  
12 are trained on program policies, guidelines, EVSE functionalities, application requirements  
13 and topics such as ADA guidelines. The EV Program Manager meets monthly with the EV  
14 CSIs to discuss the Program, program policies and guidelines, and to educate the vendors  
15 on EVSE through presentations by EVSE manufacturers. Topics range from ADA  
16 requirements, the work request process for new services, CSI project status and  
17 implementation, and other related EV subjects.

18 **Q. What efforts did the Company make to coordinate with EV stakeholders?**

19 A. The Company has collaborated with stakeholders including:

- 1                   • Eversource: The Company meets regularly with Eversource to discuss Program  
2                   implementation barriers and opportunities to leverage resources. In addition,  
3                   the Company has partnered with Eversource to jointly sponsor stakeholder  
4                   engagement meetings through the Advanced Energy Group. These quarterly  
5                   meetings focus on National Grid and Eversource’s charging station  
6                   infrastructure programs, barriers for cities and towns and driving adoption of  
7                   charging stations in multi-unit dwellings and retail locations. In collaboration  
8                   with Eversource and the MassEVIP implementation team, the Company  
9                   provided a training and follow up webinar for vendors at the 2019 and 2020  
10                  MassSave Vendor Open House in Worcester.
- 11                  • Low and Moderate Income (“LMI”) Stakeholders: The Company has met with  
12                  LMI stakeholders (including National Consumer Law Center (“NCLC”) and  
13                  Low Income Energy Affordability Network (“LEAN”) and the DOER to  
14                  identify potential electric vehicle and charging station opportunities. The  
15                  Company’s support of E4thefuture’s attempt to start a car-share program for  
16                  residents in Worcester’s CDC South region came from this meeting. While the  
17                  car-share program ultimately was unable to proceed due to high insurance costs  
18                  for the vehicles, a charging station was installed in Worcester’s CDC South area  
19                  for public use.

- 1           • Massachusetts DEP: The Company and Massachusetts Department of  
2           Environmental Protection, through the MassEVIP program implementation  
3           teams, meet regularly to discuss implementation topics including promoting the  
4           programs to customers and rebate processing.

5 **Q. Has the Company successfully coordinated with stakeholders regarding other**  
6 **available funding sources for EV charging infrastructure?**

7 A. The Company first met with the MassEVIP implementation team in February 2019 to  
8 discuss coordination efforts including adding links on the Program webpage to the  
9 MassEVIP program (and vice versa), sharing MassEVIP information with its sales teams,  
10 and working to leverage program funds to maximize the number of charging stations  
11 installed and activated in the Commonwealth while also seeking to maintain simplicity for  
12 customers. Since that first meeting in February 2019, the Company has continued to meet  
13 and coordinate with the MassEVIP implementation team, including receiving MassEVIP  
14 reports detailing participants approved and rejected for their workplace, MUD, and public  
15 access programs. In addition, the Program application form has contained a section  
16 requiring applicants to certify whether they have applied for funding from other sources,  
17 including MassEVIP. This information is then used in conjunction with the reports received  
18 by MassEVIP to adjust Program participants' payments.

19 In 2020, the Company has expanded its coordination with MassEVIP. Customers approved  
20 by MassEVIP are eligible for 100% of the charging station costs, receiving 60% from

1 MassEVIP and the remainder from the Program. For example, MassEVIP would fund 60%  
2 of the charging station cost for a charging station installed at a workplace that is accessible  
3 to the public and employees. The Program would fund the remaining 40%, compared to  
4 75% if the applicant had not applied to the MassEVIP Program.

5 **Q. Did the Company modify its Program in any ways based on the stakeholder**  
6 **coordination efforts?**

7 A. Yes, based on its stakeholder coordination efforts, the Company has implemented, or is in  
8 the process of implementing the following initiatives:

- 9 • Partnering with the Metropolitan Area Planning Commission (“MAPC”) to hire a  
10 dedicated resource (“EV Charging Station Infrastructure Ambassador”) to engage  
11 with cities and towns throughout the Commonwealth. This individual will be tasked  
12 with raising awareness of the Company’s Program, working with the cities and  
13 towns, coordinating with vendors to submit proposals, and assist the cities and  
14 towns with completing the project applications and activating charging stations.<sup>1</sup>
- 15 • Conducting a demonstration project for the installation of EV charging stations on  
16 jointly owned electric poles located on city streets, potentially solving an unmet  
17 need for residents or businesses with on-street parking only. The Company has  
18 installed a prototype at its Millbury training facility to better understand the  
19 installation process while testing the feasibility of this option. The Company is also

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<sup>1</sup> MAPC and the Company had identified an individual to serve in this role, which has now been postponed due to COVID19.

1 working to finalize the necessary agreements between the Company, Verizon, and  
2 the city of Melrose for a demonstration project of 20 stations. The Company is  
3 projecting, based on preliminary estimates, that these projects will be less costly  
4 than installing an equivalent number of ground mounted Level 2 stations.

- 5 • Focusing on underserved segments by partnering with a vendor to focus on the  
6 MUDs segment, as an example. The vendor has developed an outreach campaign  
7 and targeted customers participating in the Company's energy efficiency programs  
8 for MUDs.
- 9 • Promoting the MassEVIP program on its website and in customer discussions. In  
10 addition, prior to paying a rebate to a customer, the Company reviews the  
11 MassEVIP program data provided by the MassEVIP implementation team and  
12 adjusts the Company's rebate accordingly.

13 **Q. What barriers and challenges did the Company encounter?**

14 A. The Company has encountered challenges in this first year as the Phase I EV Program was  
15 launched and implemented. These include:

- 16 • **Unattractive business case for investments in DCFC charging stations:** As  
17 documented in the Evaluation Report, customers are reluctant to invest in the  
18 installation of DCFC stations given their low utilization rates due to current EV  
19 adoption rates, high upfront capital costs, operating costs including networking,  
20 maintenance, and high demand charges, and, lastly, lack of proof demonstrating

1 ancillary benefits to installing a DCFC station such as increased sales. The majority  
2 of DCFC charging stations are funded by: (a) Tesla, to support its vehicle sales;  
3 (b) Electrify America, as mandated by the EPA settlement agreement; (c) other  
4 companies, at locations where rebates fund 100% of the installation and DCFC  
5 equipment costs, all of which alleviates Site Hosts uncertainty regarding investing  
6 in DCFC equipment. In January 2017, when the Program was filed, the Company  
7 anticipated third-party funding for the DCFC charging stations, but that third party  
8 funding has not yet materialized.

- 9 • **Networking costs:** Based on the 38 projects completed and incentives paid in 2019,  
10 Site Hosts are installing and activating an average of two Level 2 stations per site  
11 with 54% of the projects consisting of only one charging station. As a point of  
12 reference, the Company had originally assumed five charging stations per site.  
13 Based on discussions with vendors and customers, this lower than expected number  
14 of activated stations is primarily associated with the stations' networking costs  
15 which can be between \$2,000-\$2,400 per station for a total of five years. This may  
16 be compounded at sites where networking and access to charging session data is  
17 not perceived as beneficial to Site Hosts (e.g. charging stations for fleet vehicles,  
18 multi-unit dwellings such as apartment complexes).
- 19 • **Lower than anticipated participation from MUDs:** None of the 38 sites  
20 completed in 2019 were located at MUDs and as of March 2020, six stations were

1 installed and paid with another 33 stations in the Program pipeline. The Company  
2 believes MUDs are an important segment to target to encourage EV adoption by  
3 providing EV drivers with access to charging in their apartment or condominium  
4 buildings.

- 5 • **Lack of a robust community of experienced charging station installers:** At the  
6 initial launch of the Program, the Company encountered a limited number of  
7 vendors and electricians experienced in the installation of charging stations,  
8 including a small number of EVSE manufacturers actively engaging with  
9 customers in our region.
- 10 • **LMI Participation:** Although the Program funds 100% of the electrical  
11 infrastructure costs and 100% of the Level 2 charging stations in disadvantaged  
12 community sites meeting two or more of the environmental justice criteria, Site  
13 Hosts are responsible for funding the energy, networking, and maintenance costs  
14 for the stations for a minimum of 5 years. Potential Site Hosts in these communities  
15 such as low-income housing and non-profit service providers find these cost-shares  
16 to be a barrier.

17 **Q. How has the Company addressed those challenges and barriers?**

18 A. Below is summary of how the Company has addressed and continues to address the key  
19 challenges noted above.

- 1           •       **Unattractive business case for investments in DCFC charging stations:** In 2019,  
2                   the Company’s National Account sales team hosted a Grocers Energy Summit  
3                   where the Company’s implementation team presented on rebates available from the  
4                   Program and a DCFC manufacturer presented on DCFC stations and their benefits.  
5                   Continued follow up from that workshop and other outreach efforts by DCFC  
6                   manufacturers resulted in few projects. Therefore, the Company tasked its  
7                   evaluation vendor to research barriers to DCFC installations to help inform the  
8                   Company on how it can best focus its efforts to increase the number of DCFC  
9                   stations. In addition, the Company’s implementation team raised these issues with  
10                  the MassEVIP implementation team as that team continues to assess future  
11                  programs and rebates available through the MassEVIP Program. The Company had  
12                  a similar experience in Rhode Island with no DCFC stations proposed by Site Hosts  
13                  and vendors until the state’s Electrify Rhode Island Program was launched. The  
14                  Company then received applications for more than 15 DCFC stations because the  
15                  Electrify Rhode Island Program funds offer rebates for the DCFC stations.
- 16           •       **Networking costs:** As reported above, more than half the projects are for one  
17                   charging station per site, so the Company has initiated a demonstration program to  
18                   fund a portion of the networking costs if two or more stations are installed and  
19                   activated at the site. Based on initial results, Site Hosts are more willing to install  
20                   multiple stations.

- 1       •       **Lower than anticipated participation from multi-unit dwellings:** The Company  
2       launched a demonstration project to increase MUDs participation in the Program.  
3       The Company partnered with a Lead EV CSI who developed and implemented an  
4       outreach and marketing campaign to landlords and property management firms  
5       identified through its delivery of energy efficiency programs and services to the  
6       multi-family segment.
- 7       •       **Lack of a robust community of experienced charging station installers:** In 2019  
8       the Company hosted a workshop where vendors, installers, and EVSE  
9       manufacturers could meet the Company’s sales teams, learn about the benefits and  
10      capabilities of charging stations and discuss the Program. From that workshop, the  
11      Company developed an EV CSI initiative that supports, similar to the energy  
12      efficiency program’s “Project Expeditors,” the charging station vendor installer  
13      industry and Site Hosts. While the EV CSI initiative officially launched with its  
14      first meeting in early 2020, The implementation team spent the second half of 2019  
15      completing the procurement event, establishing metrics, and educating the EV CSI  
16      Vendors about the Program. The EV CSI initiative officially launched with its first  
17      meeting in early 2020.
- 18      •       **LMI Participation:** The Company continues to collaborate with stakeholders such  
19      as NCLC and LEAN to fund Site Hosts’ networking and maintenance costs while  
20      also participating in discussions supporting increased EV adoption by LMI

1 customers and communities, including ideas for car share programs and increased  
2 funding for used and new electric vehicles.

3 **Q. What actions are the Company taking to improve future years of the Program?**

4 A. The Company continues to take actions to improve future years of the Program through  
5 frequent outreach and collaboration among its sales staff, EV CSIs, EVSE manufacturers  
6 and other external stakeholders including cities and towns, equipment distributors, DEP's  
7 MassEVIP implementation team, LMI communities and the DOER's Leading By Example  
8 team.

9 Actions either being considered or implemented include:

- 10 • **Program Tracking System, Payment Process and Project Tracking:** The  
11 Company recognizes the need for a more robust tracking system and is currently  
12 defining the business requirements to support Program tracking and reporting. The  
13 Company had included in its original budget funds to initiate this work.  
14 Additionally, the Company has streamlined the payment process and reduced the  
15 paperwork and time required to process payments to Site Hosts and vendors.  
16 Finally, the implementation team has enhanced its project tracking process to:  
17 (1) regularly follow up with sales staff, vendors and Site Hosts to update project  
18 statuses and expected completion dates; and (2) better estimate the total number of  
19 stations in the pipeline using a similar "weighting" methodology based on the

1 project statuses that was implemented for tracking of business customers' energy  
2 efficiency projects.

- 3 • **EV CSIs:** The Company will continue to expand the capabilities of these 22  
4 vendors by increasing their knowledge of the EV charging market, EVSE  
5 functionality and capabilities and supporting their efforts with customers.  
6 Additionally, as discussed earlier, the Company will continue to work with the EV  
7 CSIs to assess how to better support the installation of charging stations at  
8 apartment and condominium complexes. Lastly, the Company intends to survey  
9 recent program participants to understand their satisfaction with the EV CSIs and  
10 the program in general. These lessons and feedback will be discussed with the EV  
11 CSIs and then incorporated into future program improvements.
- 12 • **New Construction Demonstration Project:** The Program focused primarily on  
13 existing buildings and Company is working on launching a demonstration project  
14 to target the installation of charging stations at new construction buildings and sites.  
15 The Company is exploring partnerships with electrical supply distributors to  
16 explore if EV charging can be specified at the time when a new construction project  
17 is initiated. If successful, this will create another channel to deploy EV charging at  
18 commercial facilities. At the conclusion of the project, the Company will assess its  
19 success and whether to expand participation to all equipment distributors and Lead  
20 EV CSI vendors.

1 **Q. What is the Company's expectation for the remaining years of the Program?**

2 A. The Company is focused on achieving its goal of 680 charging stations activated and  
3 available for EV drivers by the end of the Program. It will continue to support the EVSE  
4 market while also identifying, testing, implementing and evaluating new program concepts  
5 that helps to address market barriers while also providing experience and insights to help  
6 develop new programs in future Company filings. In addition, the Company continues to  
7 coordinate its efforts with stakeholder and to focus on growing the vendor community,  
8 both of which are critical to the long-term success of the Program.

9 **VI. Program Costs**

10 **Q. What were the total installation and charging station equipment costs for the 108**  
11 **activated stations reported in the PY1 Evaluation Report**

12 A. The total installation and charging station equipment and costs to install and activate 108  
13 stations was approximately \$1.7M allocated as follows:

- 14 • \$0.9M (55%) - Charging station equipment costs including maintenance and  
15 networking costs, tax, and shipping.
- 16 • \$.08M (45%) - Electrical infrastructure costs to power the charging stations such  
17 as electricians' labor, electrical materials, and site and parking lot excavation.

18 The Program was designed to fund 100% of these the electrical infrastructure costs with  
19 Site Hosts responsible for costs such as signage and painting.

1 *Table 1: Total Project Costs (PY1)*

Charging Level	Number of Stations	Total Project Costs		
		Electrical Infrastructure Costs (Total)	EVSE Costs (Total)	Charging Program Costs (Total)
Level 2	107	\$776,325	\$862,578	\$1,638,903
DCFC	1	\$48,625	\$37,493	\$86,118
Total	108	\$824,950	\$900,071	\$1,725,021

2

3 **Q. What percent of the total project costs were funded by Site Hosts for the 108 activated**  
 4 **stations?**

5 A. The Program provided Site Hosts with EVSE rebates totaling \$0.5M primarily to fund  
 6 charging station equipment costs, shipping, and tax. Site Hosts were responsible for the  
 7 remaining \$0.4M (45%) of the EVSE costs which funded Site Hosts’ share of the charging  
 8 station equipment costs, maintenance and networking costs.

9 The Program provided Site Hosts with electrical infrastructure rebates totaling \$875,000  
 10 to fund the “make-ready” costs for the projects. As noted in the tables below, the rebate  
 11 amount of \$875,000 exceeds the actual costs (\$825,000) due to the prescriptive application  
 12 which provided for the payment of a fixed prescriptive rebate amount versus actual costs.

1 The Company has since modified its prescriptive application to pay either the fixed  
2 prescriptive rebate amount or the actual cost, whichever is less to the Company.

3 *Table 2: Phase I EV Program Rebates (PY1)*

Charging Level	Number of Stations	Total Rebated Costs		
		Electrical Infrastructure Rebates (Total)	EVSE Rebates (Total)	Charging Program Rebates (Total)
Level 2	107	\$828,368	\$493,796	\$1,322,164
DCFC	1	\$46,825	\$0	\$46,825
Total	108	\$875,193	\$493,796	\$1,368,989

4 **Q. How many of the 108 activated stations have incurred costs for which the Company**  
5 **is seeking cost recovery in this filing?**

6 A. The Company is seeking recovery of costs for the 74 stations paid in 2019 only. As of  
7 December 31, 2019, the Company had processed payments for 74 of the 108 activated  
8 stations but had not, as of December 31, 2019, processed the payments for the remaining  
9 34 activated stations. The remaining 34 activated stations were processed for payment in  
10 2020 and will be included with PY2 costs.

11 **Q. What is the total cost of implementing the Program from January 1, 2019 through**  
12 **December 31, 2019?**

13 A. The costs for implementing the Program through December 31, 2019 total approximately  
14 \$1.4M as summarized in Table 3 below.

1 *Table 3: Phase I EV Program Costs*

Cost Category	January 1, 2019 through December 31, 2019
Incremental Employee Costs and Burdens	\$234,509
EV Charging Infrastructure Project Rebate Costs (74 of 108)	\$932,237
Technical Service Costs	\$2,410
Marketing Costs	\$187,239
Sub-Total Charging Program Costs	1,356,395
Evaluation Costs	\$107,517
TOTAL Phase I EV Program Costs	1,463,912

2

3 **Q. How do these costs compare to the Company’s original cost estimates?**

4 A. The Company originally estimated total program costs of \$17,866,439<sup>2</sup> for the installation  
5 and activation of 680 stations, or a per station estimated cost of \$26,274 (\$17.9M/680).  
6 The Company’s actual Charging Program Costs from Table 3 above were \$1,356,395 or a  
7 per station actual cost of \$18,330, 30% less than the estimated station cost, as show in  
8 Table 4 below.

9 *Table 4: Phase I Charging Program Costs*

Charging Program Costs	Total	Total Stations	Cost Per Station	Notes
Estimated Program Costs	\$17,866,438	680	\$26,274	Three-year total estimated costs
Actual Program Costs	\$1,356,395	74	\$18,330	Program Year 1 actual costs

<sup>2</sup> Massachusetts Electric Company, D.P.U. 17-13, Exhibit KAB/BJC-2, Line 6, *Subtotal Charging Program Costs*, Total Years 1-3 (Column I).

1 **Q. Can the Company explain the differences between its original estimated program**  
2 **costs and the actual program costs presented above in Table?**

3 A. At this time, the Company attributes differences between the original projections and the  
4 actual costs in PY1 to the following program management efficiencies and service  
5 connection costs:

- 6 • **Infrastructure Costs for New Service Connections:** Projects involving Level 2  
7 charging stations have not required new service connections. The Company  
8 originally estimated that 50% of these Level 2 projects would require new service  
9 connections to power the Level 2 stations which are being powered by the  
10 customers' existing electrical service to their buildings and facilities<sup>3</sup>; and
- 11 • **Program Management Costs:** Lower program management costs are primarily  
12 attributed to: (i) fewer incremental employees managing the Phase I Program than  
13 originally budgeted, (ii) the Company not incurring costs associated with site  
14 estimates since vendors are providing Site Hosts these services as part of their  
15 turnkey services, (iii) the Company has not incurred contracting costs associated  
16 with executing easements, and (iv) the Company has not incurred costs during PY1,  
17 for a program tracking system and a charging station data repository.

18 There are also market force elements of the Program that resulted in higher actual program  
19 costs than originally estimated. These include:

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<sup>3</sup> Massachusetts Electric Company, D.P.U. 17-13, Exhibit KAB/BJC-4, Page 2, Line 17.

- 1       •       **Number of stations per site:** the actual number of activated stations installed per  
2       site is lower than the original projections, resulting in a greater number of projects  
3       and costs associated with the electrical infrastructure on the customers’ property.  
4       The Company continues to identify opportunities to increase the number of  
5       activated stations per site, such as creating incentives for Site Hosts to install more  
6       stations (e.g. funding networking costs) and more actively promoting the  
7       MassEVIP funding. In addition, a lower number of DCFC stations were installed  
8       than originally projected, which increased the per station electrical infrastructure  
9       costs. For DCFC projects, unlike Level 2 projects, the increased electrical  
10      infrastructure costs are comprised of costs for new service and costs for the  
11      electrical infrastructure on the customers’ property. Given the barriers associated  
12      with DCFC installations discussed above, the Company is working with Site Hosts  
13      to “future proof” their sites, which will allow the number of DCFC stations to be  
14      expanded in the future without the need for additional electrical infrastructure costs.
- 15      •       **Level 2 EVSE rebate costs:** Actual Level 2 rebate costs are higher than originally  
16      projected due to a greater percentage of Level 2 stations installed in publicly  
17      accessible locations (63% as reported above) that are eligible for a rebate of 75%  
18      of the charging station equipment costs. The Company originally projected 20% of  
19      Level 2 stations located at workplaces, fleets and private businesses (70%) and  
20      eligible for only a 50% rebate. In addition, the charging station equipment prices

1 eligible for rebates are higher than the Company originally projected. The  
2 Company is continuing to work with the EV CSIs and EVSE manufacturers to  
3 promote greater communication and lower charging station prices.

4 **Q. Please describe the roles and functions of the incremental employees charging the**  
5 **Program?**

6 A: The primary roles and functions of the incremental employees charging the Program  
7 included:

- 8 • **Implementation Program Manager:** responsible for overall program  
9 management, outreach to the sales team and vendors, reviewing and approving  
10 applications, project tracking and reporting, approving payments, stakeholder  
11 engagement, development and implementation of demonstration projects.
- 12 • **Implementation Support Analyst:** responsible for support functions including  
13 generating and distributing site host commitment letters, quality control, and  
14 processing rebate payments.
- 15 • **Marketing Analyst:** responsible for the marketing and outreach campaigns,  
16 development of Program materials and web site content.
- 17 • **Evaluation Analyst:** responsible for managing the evaluation vendor and studies.  
18

1 **Q. What share of the incremental employee labor costs and labor burdens were allocated**  
2 **to incremental employees providing implementation functions, marketing functions**  
3 **and evaluation functions?**

4 A: Implementation Program Managers and Support Analysts accounted for 89% of the total  
5 \$234,509 in employee labor costs and labor burdens. The Marketing Analyst accounted  
6 for 10%, and the Evaluation analyst accounted for 1%.

7 **Q. Did the Company incur costs for the Program prior to January 1, 2019?**

8 A. Yes, as noted previously in my testimony, the Company incurred non-incremental  
9 employee costs prior to January 1, 2019, which the Company has excluded from this cost  
10 recovery filing.

11 **Q. How many projects required the Company to install Company-owned electric**  
12 **distribution infrastructure?**

13 A. The Company provided Company-owned electric distribution infrastructure for one  
14 (1) project consisting of one DCFC and five Level 2 stations. The Company-owned  
15 electric distribution infrastructure consisted of a new service connection that included  
16 installation of a duct bank with primary cables, a transformer, and concrete pad. The  
17 Company's capital costs for this project was approximately \$14,000 which will be treated  
18 similar to an O&M cost and recovered through next year's Program cost recovery filing.

19 **Q. What additional information has the Company provided regarding the costs incurred**  
20 **for implementing the Program?**

21 A. The Company has provided a summary of the EV Charging Infrastructure program costs  
22 in Exhibit NG-MM-3. The Company is also providing supporting documentation for EV

1 Charging Infrastructure Rebates in Exhibit NG-MM-4; Technical Service cost  
2 documentation in Exhibit NG-MM-5, Marketing costs in Exhibit NG-MM-6 and  
3 Evaluation costs in Exhibit NG-MM-7. The summary contained in Exhibit NG-MM-3  
4 includes unique project identifiers and payment amounts. The Company invoices  
5 corresponding to each of these projects and the payments is contained within Exhibits NG-  
6 MM-4. Remaining supporting invoices are provided in Exhibits NG-MM-5, 6 and 7.

7 **Q. Do the Company's payments for invoices match the invoice amounts provided in your**  
8 **exhibits?**

9 A. Yes. The Company's payments match the 19 invoices billed directly to the Company from  
10 January 1, 2019 to December 31, 2019 for marketing, technical services, and evaluation  
11 services.

12 The Company has provided documentation for invoices for 38 charging station installation  
13 projects each with explanations of the calculation of the Company's payments. In most  
14 cases, the Company's payments for the 38 projects differ from the total amounts shown on  
15 the invoices to Site Hosts. The Company payments and the amounts shown on the invoices  
16 differ because the Company does not reimburse for the non-installation related costs such  
17 as costs of signage, line painting, costs for charging station maintenance plans and  
18 networking costs, all of which can be included on the installation vendors' invoices to Site  
19 Hosts.

1 **VII. Performance Incentive**

2 **Q. Is the Company projecting to reach the minimum of 510 stations to be eligible for the**  
3 **performance incentive approved in the Order?**

4 A. As discussed above, the Company has activated 108 charging stations in the first year of  
5 the Program. In addition, the PY1 Evaluation Report reported, as of December 31, 2019,  
6 the Company had a total of 211 committed stations in the pipeline. If all these stations were  
7 combined, this would bring the Company's total to 319 activated or committed stations.  
8 Currently, the Company is on track to reach the minimum threshold of 510 activated or  
9 committed stations by December 31, 2021 (the end of the third year of the Phase I EV  
10 Program) with all stations activated no later than the end of the fifth year.

11 **VIII. COVID-19**

12 **Q. What are the projected impacts of COVID-19 on the Program and the Company's**  
13 **performance?**

14 A. At the time of the filing, the Company is continuing to assess the impacts of COVID-19 on  
15 program performance. While it is still too early to accurately forecast the impacts due to  
16 uncertainty regarding its duration, COVID-19 has significantly reduced the number and  
17 frequency of meetings between the sales staff, vendors and customers to identify new  
18 projects. COVID-19 has also affected the launching of planned marketing and outreach  
19 campaigns, which have been put on hold by the Company. In addition, many existing  
20 projects are delayed, either due to shipping delays of EVSE equipment or delays in

1 construction work. Lastly, Company initiatives and planned strategies to increase outreach  
2 to cities and towns have also been delayed.

3 **IX. Conclusion**

4 **Q. Does this conclude your testimony?**

5 **A.** Yes, it does.