

**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES**

D.P.U. 21-90

DIRECT PRE-FILED TESTIMONY OF

KEVIN BOUGHAN

ON BEHALF OF

**NSTAR ELECTRIC COMPANY
d/b/a
EVERSOURCE ENERGY**

EXHIBIT ES-KB-1

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GLOSSARY OF ACRONYMS AND DEFINED TERMS

<u>Acronym/Defined Term</u>	<u>Meaning</u>
BEV	Battery Electric Vehicle
CapEx	Capital Expense
CCS	Combined Charging System standard
CECP	Clean Energy and Climate Plan
CHAdEMO	A direct current fast charging standard
Climate Act	Chapter 8 of the Acts of 2021
CIAC	Contribution in Aid of Construction
CO ₂	Carbon Dioxide
Customer premise work	Portion of make-ready infrastructure on the customer side of the meter
CY	Calendar Year
DCFC	Direct Current Fast Charging
DERMS	Distributed Energy Resource Management System
EDC	Electric Distribution Company
EJC	Environmental Justice Community
EV	Electric Vehicle
EVI-Pro Lite	A tool for projecting consumer demand for electric vehicle charging infrastructure
EVSE	Electric Vehicle Supply Equipment
FASP	Fleet Assessment Services Program
FCEV	Fuel-cell Electric Vehicle
FTE	Full-Time Equivalent
FY	Fiscal Year
GHG	Greenhouse Gas
GVWR	Gross Vehicle Weight Rating
GWSA	Global Warming Solutions Act

ICE	Internal Combustion Engine
IT	Information Technology
kW	Kilowatt
kWh	Kilowatt hours
L1	Level 1
L2	Level 2
LDV	Light-duty Vehicle (vehicle classes 1-2, or those vehicles <10,000 pounds)
LI/EJC	Low Income Customers and Environmental Justice Communities
LMI	Low- and Moderate-Income
MA	Massachusetts
MassEVIP	Massachusetts Electric Vehicle Incentive Program
MHDV	Medium- and Heavy-duty Vehicle (vehicle classes 3-6 and 7-8, or those vehicles above 10,000 pounds)
MOR-EV	Massachusetts Offers Rebates for Electric Vehicles program, including MOR-EV Trucks
MUD	Multi-Unit Dwelling
MW	Megawatt
NOx	Nitrogen Oxides
NPV	Net Present Value
NREL	National Renewable Energy Laboratory
O&M	Operations and Maintenance
OpEx	Operational Expense
Phase I Program	First phase of the Company's Electric Vehicle Program (DPU 17-05)
Phase II Program	Second phase of the Company's Electric Vehicle Program (DPU 21-90)
PHEV	Plug-in Hybrid Electric Vehicle

PHEV-20	Plug-in Hybrid Electric Vehicle with 20 miles of range
PIM	Performance Incentive Mechanism
PM _{2.5}	Particulate Matter 2.5
Proprietary Network	Chargers using a proprietary hardware or a restricted access network available only to certain vehicles brands
PY	Program Year
QEL	Qualified Equipment List
R&D	Research and Development
RFP	Request for Proposals
TCI-P	Transportation and Climate Initiative Program
TCO	Total Cost of Ownership
The Company	NSTAR Electric Company d/b/a Eversource Energy
Transportation Act	Section 29 of Chapter 383 of the Acts of 2020
Utility-side work	Portion of make-ready infrastructure on the utility side of the meter
V2G	Vehicle-to-Grid
V2H	Vehicle-to-Home
VGI	Vehicle Grid Integration
VIO	Vehicles in Operation
VMT	Vehicle Miles Traveled
ZEV	Zero Emission Vehicle
ZEV MOU	Zero Emission Vehicle Memorandum of Understanding

1 **I. Introduction**

2 **Q. Mr. Boughan, please state your full name and business address.**

3 A. My name is Kevin M. Boughan. My business address is 107 Selden Street, Berlin,
4 Connecticut 06037.

5 **Q. Please state your position.**

6 A. I am employed by Eversource in the position of Manager, Research & Business
7 Development, responsible for managing the Company's electric vehicle ("EV")
8 development strategies including the development of specific EV charging development
9 programs across Eversource.

10 **Q. Please describe your educational background and training.**

11 A. I graduated from Davidson College in 1997 with a Bachelor of Arts degree in History. In
12 2006 I earned a Master of Business Administration from Yale School of Management with
13 a concentration in marketing and strategy.

14 **Q. Please describe your professional experience.**

15 A. From 2006 to 2017 I held several positions at Praxair, Inc., an industrial gases company in
16 Danbury, Connecticut, in strategy and energy business development, ending my tenure in
17 the position of Director, Global Market Strategy and Competitive Assessment. My
18 experience includes evaluating and commercializing new energy products, auditing
19 internal and project controls, evaluating management strategy and advising on corporate
20 acquisitions. In 2017, I left my position at Praxair, Inc. to join Eversource as Manager,
21 Research & Business Development in the Strategic Planning group.

1 **Q. Have you ever testified before the Department of Public Utilities (“Department”)?**

2 A. Yes. I have testified before the Department in NSTAR Electric Company d/b/a Eversource
3 Energy, D.P.U. 19-23, the Company’s 2019 Grid Modernization Cost Recovery Filing,
4 NSTAR Electric Company d/b/a Eversource Energy, D.P.U. 20-54, the Company’s 2020
5 Grid Modernization Cost Recovery Filing, and NSTAR Electric Company d/b/a
6 Eversource Energy, D.P.U. 21-58, the Company’s 2021 Grid Modernization Cost
7 Recovery Filing, and D.P.U. 20-74, Petition of NSTAR Electric Company d/b/a
8 Eversource Energy for approval of Supplemental Budgets for its 2018 to 2021 Grid
9 Modernization Plan.

10 **II. Purpose of Testimony**

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

12 A. The purpose of my testimony is to present the Company’s proposal to implement a second
13 phase of its Electric Vehicle Infrastructure Program in its service territory. I will describe
14 the elements of this proposal and the benefits to customers and the Commonwealth.
15 Further, my testimony will demonstrate the proposal’s compliance with the directives of
16 D.P.U. 20-69-A and the Department’s relevant standards of review. In addition to my
17 testimony, the Company is sponsoring separate testimony of Richard D. Chin,
18 Exhibit-ES-RDC-1, proposing a commercial electric vehicle rate design tariff pursuant to
19 Section 29 of Chapter 383 of the Acts of 2020 (the “Transportation Act”) and Robert W.
20 Frank addressing cost recovery. Together, these program elements constitute the
21 Company’s Electric Vehicle Phase II Program (“Phase II Program”).

1 **III. Program Summary**

2 **Q. Please summarize the Company's Phase II Program proposal.**

3 A. The Phase II Program builds upon the Company's first Program by providing offerings to
4 meet the diverse needs of all the Company's customers, building the infrastructure required
5 to support statewide EV adoption, and helping to enable the Commonwealth's broader
6 transition to a clean transportation future. Recognizing that this transition will require a
7 complete shift in one of the economy's largest segments and that each of the Company's
8 customers' needs are different, this Program aims to provide options to meet the diverse
9 needs of all the Company's customers and provide shared benefits across all communities
10 the Company serves. The Phase II Program is structured to both build the electric backbone
11 for the transportation sector and facilitate EV adoption, ensuring the Commonwealth's
12 homes, workplaces, fleets, communities, and highway-corridors are ready for EVs at the
13 scale necessary to meet the Commonwealth's ZEV targets.

14 The Company's proposed Phase II Program includes the following offerings for:

- 15 a. **Public and Workplace Segment:** provides financial support for Electric Vehicle
16 Supply Equipment ("EVSE") installations at public sites and workplaces, for Level
17 2 ("L2") chargers, and Direct Current Fast Charging ("DCFC")
- 18 b. **Residential Segment:** provides programmatic and financial support for EVSE and
19 at-home charging enablement at:
- 20 i. properties with 1-4-units; and
21 ii. multi-unit dwellings ("MUDs") with five or more units;
- 22 c. **Fleet-Segment:** provides financial support for light duty fleet EVSE installations,
23 fleet electrification advisory services and tools

1 **d. Other Offerings**

- 2 i. **Pilots to Increase Access to Electric Mobility in Environmental Justice**
3 **Communities (“Equity Pilots”)** to provide support for innovative
4 programs that increase access to electric mobility in EJC and to accelerate
5 electric fleet conversion for fleets that serve EJCs.
- 6 ii. **Workforce Development and Electrician Training** to support the EV
7 workforce of the future, including new workforce entrants and incumbent
8 workers.
- 9 iii. **Demand Charge Alternative Rate Structure** for commercial customers
10 with a sliding scale of demand charges and volumetric charges, in
11 accordance with the requirements of the Transportation Act.

12 The Company is proposing to run the Phase II Program for a period of four years. The
13 Company has estimated the total cost of the Phase II Program will be approximately \$190.2
14 million, as summarized in the following table:

15 **Program Budget**

Program Component	Total Budget (\$M)
Public and Workplace Total	\$109.1
Make-Ready	\$85.0
EVSE Rebates	\$17.2
Networking Incentive	1.2
EJC DCFC Hubs	\$5.6
Residential Total	\$52.7
Make-Ready	\$32.9
EVSE Rebates	\$9.2

Networking Incentive	\$1.0
LI/EJC Turnkey Install	\$6.2
Site Plans	\$1.2
Vendor-Based Administration Costs	\$2.1
Fleet Total	\$2.0
Fleet Assessment Services	\$2.0
Other Supporting Elements Total	\$28.2
Equity Pilots	\$5.0
Workforce Development and Electrician Training	\$1.2
Company Staffing	\$9.6
Marketing & Outreach	\$10.1
IT and Back-Office System Costs	\$0.3
Program Evaluation	\$2.0
Total	\$191.9

1 The Company’s proposed Phase II Program will support the transition to a clean energy
2 future by reducing the barriers for residents, site-hosts and fleet owners to adopt clean
3 transportation choices while also providing the necessary support and resources for our
4 diverse customers to adopt EVs. The Phase II Program will support the installation of
5 cohesive networks of charging infrastructure, assist fleet operators to develop their own

1 electrification roadmaps, accelerate deployment of at-home charging, and increase
2 equitable access to the benefits of clean transportation. Not only do utilities play a key role
3 in deploying the infrastructure to support increased EV adoption, but they are critical
4 players to ensure the transition happens with a balance of equitable access and
5 affordability, beneficial electrification, grid optimization, and the needs of the clean energy
6 future.

7 **Q. What are the goals of the Phase II Program?**

8 A. The Company's goal is to create a future in our region where clean transportation is
9 universal and the environmental and public health benefits are shared by all the Company's
10 customers and communities. Although the transition to net-zero GHG emissions will
11 happen over multiple decades, the investments necessary to support our customers in this
12 transition must begin immediately and be aggressive. This proposal supports the
13 Commonwealth in reaching its near-term and long-term transportation and climate goals
14 through the acceleration of infrastructure deployment and EV adoption.

15 **Q. How are EJC's considered across the Phase II Program offerings?**

16 A. The Company has developed each segment of the proposal to more directly address the
17 unique needs of EJC's and low-income customers. A guiding principle of the Phase II
18 Program is to ensure that the proposed EV offerings are implemented equitably. EVs
19 present a tremendous opportunity to mitigate the GHG emissions and particulate matter
20 that exist disproportionately in EJC's. The installation of EV infrastructure and enabling
21 EV miles driven within EJC's will provide increased access to clean transportation and

1 promote public health. The Company recognizes that today, the upfront costs to EV
 2 adoption are high and that there is a need to tailor programs for low-income customers, so
 3 they are not left behind in the transition to EVs.

4 The Company is laying the foundation for equitable access to clean transportation with
 5 specially designated EJC and low-income offerings outlined by program segment in the
 6 table below. Additional information is detailed in the individual program segment sections.

7 **Overview of EJC and Low-Income Offerings**

Public and Workplace	Increased Incentives <ul style="list-style-type: none"> • 100% make-ready costs and full rebate for all EVSE installed in EJC • Network incentive (\$480 / port) for all ports installed in EJC Unique Offerings <ul style="list-style-type: none"> • Fully funded DC Fast Charging Hubs in EJC Expectations <ul style="list-style-type: none"> • 20% of ports deployed in EJC
Residential	Increased Incentives <ul style="list-style-type: none"> • Make-ready and EVSE support of up to \$1,700 for 1-unit properties (compared to \$700 for non-EJC) and up to \$2,700 for 2-4-unit properties (compared to \$1,400 for non-EJC) • 100% make-ready costs and full rebate for EVSE installed at large MUDs in EJC • Network incentive (\$480 / port) for all ports installed at large MUDs in EJC Unique Offerings <ul style="list-style-type: none"> • Turnkey installation and increased financial support for LI/EJC to cover costs of residential make-ready and managed-charging capable L2 EVSE

	<ul style="list-style-type: none"> EV Site Plans will help large MUDs (many of which are in EJC) develop a plan for EVSE
Fleet	<p>Increased Incentives</p> <ul style="list-style-type: none"> 100% make-ready costs and full rebate for EVSE for light duty fleets in EJC <p>Unique Offerings</p> <ul style="list-style-type: none"> 100% make-ready costs and EVSE rebate for MD-HD fleets that serve EJC (part of Equity Pilots program) <p>Expectations</p> <ul style="list-style-type: none"> 40% of 150 private and non-profit Fleet Assessments conducted in EJC
Other Offerings	<p>Pilots to Increase Access to Electric Mobility in Environmental Justice Communities (“Equity Pilots”)</p> <ul style="list-style-type: none"> 100% EVSE for fleets and workplaces that serve low-income communities MUD Installations with Car Sharing component

1 **Q. Are you sponsoring exhibits with your joint testimony?**

2 **A.** Yes. The table below lists the exhibits that we are sponsoring with our testimony:

Exhibit	Description
ES-KB-1	Testimony of Kevin Boughan
ES-KB-2	Program Investment & Development Summary
ES-KB-3	Summary of Estimated Phase II EV Program Costs
ES-KB-4	Summary of Estimated Costs by Cost Recovery Approach
ES-KB-5	Estimated Program Staffing Requirements
ES-KB-6	Estimated Residential 1-4 Unit Charging Offering Costs
ES-KB-7	Estimated Multi-Dwelling Charging Offering Costs
ES-KB-8	Estimated Public and Workplace Offering Costs
ES-KB-9	Company Stakeholder Outreach
ES-KB-10	Electric Vehicle Site Host Agreement

1 **IV. Background**

2 **Q. Please provide an overview of the Commonwealth’s environmental policies related to**
3 **the promotion of electric vehicles.**

4 A. The Commonwealth of Massachusetts has positioned itself as a leader in the United States
5 to tackle the challenges posed by climate change by implementing ambitious programs and
6 policies to maximize equity, the health and wellbeing of the Commonwealth’s residents,
7 and environmental benefits. As one of the first states in the nation to pass ambitious
8 greenhouse gas reduction targets in 2008, the Commonwealth has continued to lead with
9 the passage of An Act Creating A Next-Generation Roadmap For Massachusetts Climate
10 Policy, Chapter 8 of the Acts of 2021 (the “Climate Act”)¹ establishing a commitment to
11 net-zero emissions by 2050, with a minimum of a 50 percent reduction in greenhouse gas
12 (“GHG”) emissions by 2030 and a minimum of 75 percent by 2040. The Company not
13 only supports the Commonwealth with these goals but has also committed as a company
14 to reach net-zero emissions by 2030. These collective goals will require swift innovation
15 and action across all sectors of the economy.

16 With transportation being the largest contributing sector to GHG emissions in the
17 Commonwealth (42% as of 2017)² and a significant source of pollutants that contribute to
18 ground level ozone and other air pollution problems that adversely impact public health in
19 the region, transportation electrification and EVs provide the opportunity to significantly

¹ St. 2021, c. 8, available at <https://malegislature.gov/Laws/SessionLaws/Acts/2021/Chapter8>.

² Transportation Sector Report: A Technical Report of the Massachusetts 2050 Decarbonization Roadmap Study December 2020; <https://www.mass.gov/doc/transportation-sector-technical-report/download>

1 reduce emissions in the short- and long-term, while also supporting our grid to enable a
2 clean energy future. Decarbonizing the transportation sector will be challenging, but the
3 transition to a decarbonized and electric transportation future is vital and requires an
4 immediate and aggressive set of responses in order to meet the Commonwealth’s Climate
5 Act goal of net-zero emissions economy-wide by 2050.³

6 The Company and its peer electric distribution companies play an important role in
7 accelerating this transition and will continue to be key enablers and partners to our
8 customers, communities, and the industry as EV adoption grows exponentially in the
9 coming years. Paired with support from complementary federal and state resources, such
10 as the Massachusetts Offers Rebates for Electric Vehicles Program (“MOR-EV”)⁴ and the
11 forthcoming Transportation and Climate Initiative Program (“TCI-P”),⁵ the Company’s
12 comprehensive Phase II Program will ensure the Commonwealth, its communities,
13 residents, and businesses have the infrastructure and support needed to facilitate
14 widespread EV adoption.

15 **Q. How many electric vehicles are in Massachusetts today?**

16 A. Based on information shared with Eversource by National Grid, as of January 1, 2021,
17 there were only approximately 36,000 EVs registered in the Commonwealth, or about 0.6%

³ Climate Act, § 8.

⁴ Massachusetts Offers Rebates for Electric Vehicles Program, <https://mor-ev.org/>.

⁵ Transportation and Climate Initiative Program, <https://www.mass.gov/info-details/transportation-climate-initiative-tci>

1 of light-duty-vehicles (“LDVs”) in operation in the state.⁶ In 2020, EVs were roughly 3.0%
2 of new vehicle sales in Massachusetts.⁷ This puts Massachusetts seventh in the nation in
3 EV sales, but far from the leader (California is at nearly 8.0%).⁸ Nationwide, the United
4 States averaged 2.0% of new vehicles sales in 2020, far from EV sales leaders Europe
5 (10%) and China (5.7%).⁹ In 2020, approximately 70% of new EVs sold in the
6 Commonwealth were battery electric vehicles (“BEVs”) and 30% were plug-in hybrid
7 electric vehicles (“PHEVs”), along with a single fuel-cell electric vehicle (“FCEV”),
8 highlighting the importance of public and at-home charging infrastructure for BEVs.¹⁰

9 As of January 1, 2021, there were roughly 32 medium and heavy-duty electric vehicles
10 (“MHDVs”) in the Commonwealth out of roughly 204,000 MHDV in the Commonwealth.
11 All were BEVs and most are transit or school buses. However, there are currently more
12 than 50 MHDV models available, and more than 125 models are expected to be available
13 by 2023.¹¹ The total cost of ownership (“TCO”) for BEV MHDVs continue to decline as
14 manufacturing scales, and adoption is expected to transition quickly as each segment

⁶ IHS-Polk Vehicle in Operation data for Massachusetts as of January 1, 2021. Data purchased by the Company. See also <https://ihsmarkit.com/products/automotive-market-data-analysis.html> (“IHS Polk”)

⁷ ibid

⁸ Alliance for Automotive Innovation, 2020 Vehicles Sales by State, accessed May 5, 2021, at <https://www.autosinnovate.org/evagenda>.

⁹ 2021 IEA EV Outlook <https://www.iea.org/reports/global-ev-outlook-2021/trends-and-developments-in-electric-vehicle-markets>.

¹⁰ Company analysis of IHS-Polk data.

¹¹ Zero-Emission Technology Inventory (ZETI) tool by CALSTART. <https://globaldrivetozero.org/resources/zero-emission-technology-inventory/>.

1 reaches TCO parity. State government resources, such as the approximately \$10 million
2 MOR-EV Trucks Program, will accelerate that vehicle transition.

3 **Q. What is the pace of EV adoption necessary to meet the Commonwealth's**
4 **decarbonization goals?**

5 A. As explained in the MA 2050 Decarbonization Roadmap Report:

6 The current pace of EV adoption in the Commonwealth lags the pace
7 necessary to achieve decarbonization targets compliant with the Global
8 Warming Solutions Act (GWSA). Without new policy intervention (by the
9 Commonwealth, California, or the federal government), less than 500,000
10 vehicles are projected to be electrified in 2030. In contrast, a pace consistent
11 with meeting GWSA targets implies that over one million of the 5.5 million
12 light-duty vehicles (LDVs) projected to be then-registered in the
13 Commonwealth are electric in 2030.”¹²

14 In addition to the Commonwealth's broad and ambitious climate goals, Massachusetts was
15 among the first states to join California and others, setting its zero-emission vehicle
16 (“ZEV”) MOU targets of 300,000 LDV registered by 2025¹³ and 30 percent and 100
17 percent of all new MHDV sales to be ZEV by 2030 and 2050 respectively.¹⁴ With
18 approximately 36,000 LDV and 32 MHDV currently registered in the state, the investments
19 and actions taken over the next few years will be critical to accelerate and support this

¹² Transportation Sector Report: A Technical Report of the Massachusetts 2050 Decarbonization Roadmap Study December 2020 accessed July 12, 2021 at <https://www.mass.gov/doc/transportation-sector-technical-report> (p.4).

¹³ New England States for Coordinated Air Use Management (NESCAUM), Multi-State ZEV Action Plan: 2018-2021, accessed July 12, 2021, at <https://www.nescaum.org/documents/2018-zev-action-plan.pdf>

¹⁴ Northeast States for Coordinated Air Use Management, Multi-State Zero Emission Medium- and Heavy-Duty Vehicle Initiative – Memorandum of Understanding (2020), accessed July 12, 2021, at <https://www.nescaum.org/documents/multistate-truck-zev-governors-mou-20200714.pdf>

1 transition successfully. Longer term, the state’s interim Clean Energy and Climate Plan
2 (“CECP”) noted the need for approximately 750,000 to 1,000,000 EVs by 2030.¹⁵

3 **Q. What is the current state of public charging infrastructure in the Commonwealth?**

4 A. The Company considers “publicly accessible” charging infrastructure to generally refer to
5 parking locations that any member of the public can access and use, although there may be
6 costs to do so (i.e., parking or access fees, fees for use of the charger, etc.). Related, some
7 public charging networks are proprietary, indicating they only serve a subset of EVs on the
8 road due to hardware compatibility (e.g., Tesla’s plug standard) or network restrictions
9 (e.g., Rivian is using the CCS fast charging standard but intends to limit many of its sites
10 to Rivian customers¹⁶). Proprietary or restricted access networks arise more for fast
11 charging than L2 charging, where nearly all vehicles can use the J1772 plug standard and
12 there are few restrictions by vehicle brand.

13 As of June 30, 2021, there were approximately 3,504 publicly accessible L2 ports and 360
14 publicly accessible DCFC ports in Massachusetts. Of these publicly accessible ports, 1,913
15 L2 and 188 DCFC are located in the Company’s service territory, about 54% of the
16 statewide total. In our service territory public charging access is growing, with
17 approximately 73% of all publicly accessible L2 ports installed in the past 18 months.
18 Public DCFC growth is slower, adding 64 ports in the past 18 months. Public DCFC

¹⁵ MA Interim Clean Energy and Climate Plan for 2030 (Strategy T2, p.21), <https://www.mass.gov/doc/interim-clean-energy-and-climate-plan-for-2030-december-30-2020/download>

¹⁶ <https://electrek.co/2021/03/18/rivian-reveals-map-planned-fast-charging-stations-wall-charger/>

1 development is also somewhat nuanced due to different charging standards, proprietary
2 networks, and business models (e.g., use of Volkswagen settlement funds via Electrify
3 America).

4 However, these high-level port counts can obscure the local realities of EV charging access.
5 Public ports in Company territory were located at approximately 953 sites, however there
6 are only 24 sites with two or more DCFC ports.¹⁷ Existing DCFC ports are also split across
7 the CCS, CHAdeMO, and Tesla charging standards, further reducing the likelihood of
8 drivers being near a compatible port. At a local level, a significant number of customers
9 live and drive in areas with minimal public EVSE today, sometimes referred to as
10 “charging deserts.”

11 **Q. What is the current state of at-home charging?**

12 A. At-home charging access is critical to enabling and sustaining personal EV ownership.
13 Among current EV owners, generally considered early adopters, approximately 95% had
14 access to at-home charging in 2020, representing 80-85% of all EV charging energy.¹⁸ The

¹⁷ Alternative Fuels Data Center, U.S. Department of Energy, available at <https://www.afdc.energy.gov/stations/#/analyze?region=US-MA&country=US&fuel=ELEC>. (Data as of June 30, 2021) The Company filtered the data to derive the approximate number of public Level 2 and DCFC ports in Massachusetts. (Under “Advanced Filters”, Filter “Location” as “United States” and “Massachusetts”, filter “Fuel” by “Electric” and “Charger Types” using both “Level 2” and “DC Fast” separately, filter “Station” by “Public” and “Available”).

¹⁸ 2020 Survey of Rhode Island EV owner from Rhode Island Electric Transportation Initiative Evaluation Final Report – Rate Year 2, page 17 ([http://www.ripuc.ri.gov/eventsactions/docket/4770-NGrid-RY2%20Transportation%20Initiative%20Annual%20Report%20Combined%20\(10.30.2020\).pdf](http://www.ripuc.ri.gov/eventsactions/docket/4770-NGrid-RY2%20Transportation%20Initiative%20Annual%20Report%20Combined%20(10.30.2020).pdf)) (“RI RY2 Evaluation Report”) and Finding 9 from the Phase I Program Year 2 evaluation report, D.P.U. 21-67 Exhibit NG-MM-1 (“Phase I PY2 Evaluation Report”).

1 vast majority of BEV drivers today have L2 charging at home (95% of Tesla owners and
2 60% of non-Tesla BEV owners), whereas two-thirds of PHEV drivers use Level 1 chargers
3 at home.¹⁹ An estimated 5% of all residential customers are L2 “EV ready” today (i.e., they
4 have an existing 240-volt outlet near their car), although almost none of the 36% of
5 customers living in duplex or multi-family properties have L2 EV ready spots today.²⁰ The
6 Company estimates over 50% of its residential customers face a significant barrier to at-
7 home charging, although those barriers are addressable with utility planning and financial
8 support, especially as vehicle and charger costs are expected to decline over time.

9 The importance of at-home charging access does not undercut the need for a robust network
10 of public and workplace charging to ensure that customers without at-home charging
11 access can own and operate EVs and to ensure that all customers can meet the entirety of
12 their driving needs, including days away from home or with long-distance driving. The
13 dynamic of drivers mostly relying on at-home charging, while still requiring robust public
14 charging, is a major part of the difficult economics to operate profitable public EVSE,
15 especially in the near-term with low numbers of EVs. Commercial fleet operators are faced
16 with similar needs. Commercial fleets will primarily rely upon charging at a centralized
17 depot but will also require the use of public charging infrastructure. The Company’s

¹⁹ RI RY2 Evaluation Report, Figure 4-2, page 18.

²⁰ *Estimating EV charging infrastructure costs across major U.S. metropolitan areas*, International Council on Clean Transportation, Aug 2019, Table 6 available at: <https://theicct.org/publications/charging-cost-US>

1 proposed Phase II Program addresses public, workplace, at-home, and commercial fleet
2 charging infrastructure.

3 **Q. Is there outside funding available to support EV adoption and EV charger**
4 **deployment?**

5 A. Yes. In addition to the existing utility programs in the Commonwealth, there are other state
6 and federal programs and incentives that help to support EV adoption and the deployment
7 of EV chargers. Although these programs have helped to move the market, there is much
8 more needed to accelerate deployment of chargers and adoption of EVs. As learned during
9 the Company's current EV offerings, the more alignment, compatibility, and cross
10 leveraging of these resources, the better experience and process we can provide customers.

11 Specifically, in addition to the availability of federal tax incentives, the Commonwealth
12 currently has six grant programs, funded by the Volkswagen Settlement and administered
13 by the Massachusetts Department of Environmental Protection, that are aimed at
14 supporting electrification of the Commonwealth's transportation network. These programs
15 have been beneficial for customers and have allowed the Company to maximize the impact
16 of its Phase I Program. However, as learned through the Company's stakeholder outreach,
17 it can be complicated, confusing, and burdensome for customers to navigate multiple
18 funding programs offering similar or overlapping resources. Feedback from customers
19 highlighted the desire for a more streamlined process. The Company aims to coordinate
20 and leverage the funding for customers whenever feasible and recommends coordination

1 with state entities to develop aligned and complementary offerings to ease the process for
2 customers.

3 **Q. What are the barriers to EV adoption?**

4 A. The barriers to widespread EV adoption are multiple, although all are surmountable with
5 sustained policies and investment. Key barriers to EV adoption currently include (but are
6 not limited to):

- 7 • high costs (especially the upfront vehicle purchase and charger installation);
- 8 • lack of charging infrastructure; and
- 9 • range anxiety (the fear of being unable to complete a trip);²¹

10 These primary barriers to EV adoption were first identified by the Company in its
11 testimony in D.P.U. 17-05 Exhibit ES-GMBC-1, page 103-104, and multiple industry
12 studies confirm they remain the same today²².

13 EVSE have their own set of barriers, which can be broadly classified into those affecting
14 installation and those affecting operation. EVSE financial viability at public, workplace,
15 and MUD sites hinges on station utilization,²³ which is largely determined today by the

²¹ Barriers as summarized in Matteo Muratori et al 2021 Prog. Energy 3 022002 doi.org/10.1088/2516-1083/abe0ad, and further supported by research from the Phase I PY 1 Evaluation Report (for example, Finding 7) and Phase I Program Year 2 Evaluation Report (for example Table 4-22).

²² Autolist, August 2019, Survey: Price, range and weak charging network are top reasons consumers avoid EVs, <https://www.autolist.com/news-and-analysis/survey-electric-vehicles>; and Georgia Institute of Technology School of Public Policy, June 2020, <http://www.news.gatech.edu/2020/06/09/what-do-electric-vehicle-drivers-think-charging-network-they-use>; and Volvo Reports: The State of Electric Vehicles in America, Feb 2019, <https://www.media.volvocars.com/us/en-us/download/249123>

²³ Muratori et al page 15, “PEV-charging economics vary with location and station configuration and depend critically on equipment and installation costs and retail electricity prices, which are dependent on utilization.”

1 number of nearby EV owners, trends in vehicle technologies (i.e., vehicle range and
2 charging capabilities), and station pricing. EVSE tend to face difficult paths to financial
3 sustainability without ongoing subsidies from the site hosts. Sites with “dedicated”
4 vehicles, however, such as MUDs and commercial fleet depots will be able to integrate
5 EVSE into their larger operations over time. Public DCFC are more likely to be financially
6 self-sustaining in the long run,²⁴ however their near-term paths to profitability are still
7 limited due to a small BEV population fragmented across multiple charging standards
8 (CCS, CHAdeMO, and Tesla) and the financial impacts of demand charges at low-levels
9 of station utilization. Near-term charging economics, combined with the lack of existing
10 public and private charging infrastructure, signal a strong need for utility support for
11 charging infrastructure and customer programs to help accelerate EV adoption and meet
12 the Commonwealth’s climate goals.

13 **Q. How does the Phase II Program address these barriers to EV adoption?**

14 A. Utility support for charging infrastructure and customer-facing charging programs can
15 address many, but not all, of the top barriers to widespread EV adoption. The need for
16 expanded networks of public charging infrastructure, access to at-home charging, and
17 infrastructure planning and support for high-powered charging sites (such as fleet depots
18 or highway rest stops) all require strong utility involvement. Financial support to address
19 EVSE installation costs is paramount in each situation. Additionally, the Company

²⁴ Muratori et al page 15, “it is likely that DCFCs will be profitable with sufficient demand.”

1 proposed an alternative to traditional demand rate-based structures to facilitate faster
2 charging for electric LDVs, MHDVs, and fleet vehicles targeted to EVSEs at lower levels
3 of utilization, which may reduce barriers to initial investment in new DCFC stations.

4 **Q. How did the Company size the Phase II Program?**

5 A. Through the Company's experience electrifying approximately 350 public, workplace and
6 large MUD customer sites in its Phase I program, the Company has established and
7 validated processes for standardized infrastructure and EVSE installation at scale. This
8 experience has informed the Company's ability to execute EVSE installations given field
9 engineering, construction, and contractor resources, the pipeline of interested customers,
10 and our ability to recruit and commit site hosts. The Company has used these experiences
11 to estimate an aggressive but attainable pace of infrastructure build of continued EVSE
12 deployment, while accounting for new and expanded offerings within. For newly
13 introduced components of Phase II, the Company relied on its experience in implementing
14 similar programs to size appropriate aggressive but attainable goals, balanced with the
15 Commonwealth's decarbonization goals.

16 **Q. Did the Company size the Phase II Program with the Commonwealth's**
17 **decarbonization goals in mind?**

18 A. Yes. In addition to sizing the program based on the Company's operational experience, the
19 Company estimated future charging needs and program sizes using a mix of approaches
20 for the following segments: Public and Workplace; Residential, including those with 1-4-
21 units, and MUDs (5 or more units); and Commercial Fleets. Overall, the segments are sized

1 to support the Commonwealth’s ambitious EV adoption goals, focusing on the Company’s
2 service territory’s share of the LDV ZEV MOU goal.

3 The size of the largest segment of the Phase II Program, Public and Workplace, comports
4 with the output of the EVI-Pro Lite tool from NREL using an approach agreed upon by the
5 Company, Eversource, and Unitil. and reflecting the statewide light-duty ZEV MOU target
6 of 300,000 EVs in 2025. The outputs from EVI Pro Lite were split to reflect the estimated
7 EVSE necessary to achieve the goals based on each utility’s share of vehicles in the
8 Commonwealth.²⁵ The size of the proposed Eversource public and workplace programs
9 reflect approximately 80% of this output from EVI Pro Lite to allow for deployments that
10 might occur without the use of utility make-ready funds.

11 The MUD offering size reflects significant year-over-year growth in MUD ports enabled
12 (relative to the Phase I Program). The Residential 1-4-unit offerings are sized based upon
13 expected vehicle sales. The Residential 1-4-unit offerings are sized to serve roughly 15%
14 of new EVs sold under the light-duty ZEV MOU forecast, reflective expected customer
15 eligibility and participation.

16 The Fleet Segment is sized to support the light-duty ZEV MOU target in 2025. Commercial
17 fleet operators are poised to quickly transition to electric fleets, as more EV models of all

²⁵ National Grid analysis of IHS-Polk vehicles in operation data as of April 1, 2021.

1 types become available in the coming years, corporate decarbonization goals continue to
2 accelerate, and TCO approaches parity with ICE vehicles.

3 **V. Phase II Program Proposal**

4 **A. Comparison of Phase I and the Proposed Phase II Program**

5 **Q. Please provide an overview of how the Phase II Program differs from the Phase I**
6 **Program.**

7 A. The Company’s Phase I Program, as authorized in D.P.U. 17-05 in 2017, with additional
8 bridge funding authorized in D.P.U. 20-74²⁶ in 2021, “seeks to help accelerate EV charging
9 infrastructure development within its service territory, encourage EV purchases and
10 contribute to GHG emissions reduction in the Commonwealth”²⁷ by investing in
11 infrastructure beyond the meter up to the charging station, filling a funding need that would
12 not otherwise be met by the private market. Through June 2021, the Company has installed
13 charging ports at 335 customer sites, enabling 2,879 ports, (including 50 large MUD
14 customer sites, and approximately 20% of ports installed at EJC’s) and is on track to meet
15 or exceed program goals.

16 This program has provided the Company with the experience and insights necessary to
17 deploy charging infrastructure at scale and to integrate EV charging load with the
18 Company’s electric system.

²⁶ NSTAR Electric Company d/b/a Eversource Energy, D.P.U. 20-74 at 40 (Feb 4, 2021).

²⁷ NSTAR Electric Company d/b/a Eversource Energy, D.P.U. 20-74, 2021 Grid Modernization Program Extension and Funding Report at 49.

1 The Phase II Program builds on the success of the Phase I program, through expanded
 2 offerings that address the diverse needs of different market segments as a means of
 3 advancing the Commonwealth’s near-term 2025 and 2030 decarbonization goals and to
 4 help the Commonwealth be on a trajectory to achieve its net-zero emissions target by 2050.
 5 While the Phase II Program builds share some of the program components of the Phase I
 6 program, the scale and breadth of the Phase II Program components is significantly larger
 7 given the Company’s experience and commitment to facilitate the Commonwealth’s
 8 achievement of its decarbonization goals. Please see the table below for a summary of the
 9 Program offerings.

<u>Segment offerings</u>	<u>Phase I</u>	<u>Phase II</u>
Public/Workplace Segment		
L2 Make-Ready	Yes	Yes
L2 Non-EJC EVSE Rebates	No	Yes
L2 EJC EVSE Rebates	Yes	Yes
DCFC Make-Ready	Yes	Yes
DCFC Non-EJC EVSE Rebates	No	Yes
DCFC EJC EVSE Rebates	Yes	Yes
DCFC EJC Charging Hubs	No	Yes
Primary Metered Customer Side Infrastructure Incentive	No	Yes
Networking Incentives	No	Yes

Residential Segment		
L2 Wiring Incentive	No	Yes
L2 Charger Rebate	No	Yes
EJC Turnkey Solution	No	Yes
Large MUD L2 Make-Ready	Yes	Yes
Large MUD L2 Non-EJC EVSE Rebates	No	Yes
Large MUD L2 EJC EVSE Rebates	Yes	Yes
Large MUD Networking Incentive	No	Yes
Large MUD EV Site Ready Plans	No	Yes
Fleet Segment		
Assessment Services	No	Yes
Light Duty Make-Ready	No	Yes
Light Duty Non-EJC EVSE Rebates	No	Yes
Light Duty EJC EVSE Rebates	No	Yes
MD-HD Fleets Serving EJC Make-Ready and EVSE Rebate (Pilot) ²⁸	No	Yes
Other Offerings		
Workforce Development and Electrician Training	No	Yes
Demand Charge Alternative	No	Yes
Equity Pilots	No	Yes

²⁸

MD-HD pilot program is a component of the Company's Equity Pilots offering.

1 **Q. How does the Phase II Program build on the Phase I Program?**

2 A. Over the course of the Phase I program, the Company learned many lessons. These lessons
3 informed the design of the Phase II Program.

4 **Q. Please provide a summary of lessons learned in Phase I.**

5 A. The Company has learned many lessons through the implementation of the Phase I
6 Program. In particular, those lessons relate to operational execution, site host recruitment
7 and market segmentation.²⁹

8 Operational Execution

- 9
- 10 • To participate in the program and complete installation of charging station
11 infrastructure, many documents must be review and executed by the customer.
12 These documents can have long lead times, leading to a delay in infrastructure
13 deployment. The Company has taken steps to alleviate documentation delays
14 through introducing the Site Host Agreement as one of the first steps in the
15 enrollment process. Additionally, the Company introduced a Site License
16 Agreement which gives the Company permission from the Site Host to access the
17 site and perform work until a permanent easement for the facilities is granted. These
revisions have helped reduce delay.³⁰
 - 18 • The Company determined the cost to deploy the infrastructure to support 10 ports
19 to be only marginally more expensive than the cost to support 5 ports. Additionally,
20 consolidating to this one level 2 use case allows the Company to standardize
21 electrical infrastructure equipment and enable procurement efficiencies. Going
22 forward, the Company will support 10 charging ports, where possible.³¹
 - 23 • The Company determined that ongoing maintenance of electric equipment situated
24 behind a customer meter involved unique requirements that are not generally part
25 of the normal course of operations for the Company. The Company determined
26 that continuing to own and maintain “customer side infrastructure” would require
27 expansion of the current operations organization and increase O&M costs. The

²⁹ Eversource Energy, D.P.U. 21-30 2020 Grid Modernization Annual Report at 129 (April 1, 2021).

³⁰ Id.

³¹ Id. at 129-130.

1 Company recommends that upon completion of installation in Phase II, the
2 customer will retain ownership of the “customer side infrastructure”.

- 3 • The Company determined more assistance was needed to scale program
4 implementation to the level anticipated in Phase II. As such, the Company issued
5 an RFP and contracted with 15 additional partners.³²
- 6 • Standardization of physical components, where possible, reduces costs through the
7 ability to scale and to maximize deployment efficiency. Additionally, to the extent
8 possible, site design and engineering has been standardized.³³
- 9 • The EV infrastructure vendor channel in the Commonwealth needs to grow. As
10 such, the Company conducted various vendor workshops with charging station
11 manufacturers and electric distributors, designed to educate them on the program,
12 Eversource standards and processes, and the local market conditions and value
13 propositions.³⁴
- 14 • Being diligent in upfront engineering and design work is key to limiting surprises
15 and unexpected cost adders during the construction process.³⁵

16 Site Host Recruitment

- 17 • Customers have varying levels of EV knowledge. As such, the Company created
18 coordinated Print, Social Media, and Mailing campaigns to appropriate C&I
19 customers, and multi-unit dwelling property owners. The Company also conducted
20 targeted outreach to various sectors, including EJ Community site hosts. To assist
21 the customer, the Company created a customer package and roadmap to completion
22 of sites and convenes quarterly stakeholder events to solicit customer and
23 community stakeholder feedback.³⁶
- 24 • Rebates or incentives are helpful in defraying or eliminating the cost of the EVSE
25 to the site host and eliminating barriers to participation in the program. With the
26 Mass EVIP grants, there can be timing issues. As such, it is important to be well-
27 coordinated.³⁷
- 28 • There has been interest in hosting more than 10 charging ports, which is the current
29 program’s maximum. Having the flexibility to selectively choose exceptions where

32 Id. at 130.

33 Id.

34 Id.

35 Id. at 131.

36 Id.

37 Id. at 132.

1 a greater number of chargers makes sense and helps to accelerate EV adoption is
2 beneficial to advancing the Commonwealth's goals.³⁸

3 Market Segmentation

- 4 • The Company discovered multi-unit dwellings to be a challenging use case. Parking
5 spaces in multi-unit dwellings tend to be a scarce resource and often building
6 owners do not yet see EV charging as an amenity by which to increase property
7 value and attract tenants.³⁹
- 8 • One of the requirements for participation in the Program is that the charging station
9 site must be separately metered, and therefore must be wired directly to Eversource
10 equipment. As a result, many customers who were initially flagged as good targets
11 based on parking characteristics such as universities, airports and other large
12 campus customers, were ineligible because they have their own distribution
13 network behind the meter.⁴⁰
- 14 • The Company has been successful in deploying infrastructure in EJ Communities.
15 The Company surpassed its 10 percent target of capital deployed at installations in
16 EJ Communities. In the first three years of the Program, the Company deployed
17 approximately 20 percent in EJ Communities.⁴¹
- 18 • The deployment of DC fast chargers has not been successful. The Company has
19 concluded that there are two primary barriers to customers willing to be site hosts
20 for DC fast chargers: 1) the high upfront cost of the hardware/software; and 2) high
21 anticipated operating costs.⁴²
- 22 • The originally identified EV adoption barriers of upfront cost of EVs, lack of
23 available charging infrastructure and EV range remain today.⁴³

24 **Q. Did the Company meet with stakeholders to gather feedback on Phase I Program?**

25 A. Yes. Throughout the program thus far, Eversource has presented updates and solicited
26 continual program feedback from multiple stakeholders in the Make-Ready Program.

38 Id.

39 Id. at 133.

40 Id.

41 Id.

42 Id. at 133-134.

43 Id. at 134.

1 Specifically, the Company met with the Massachusetts Department of Energy Resources
2 (“DOER”); EEA; Department of Transportation; Massachusetts Bay Transportation
3 Authority; Massachusetts Department of Environmental Protection; Environmental
4 Business Council of New England; Sierra Club of Massachusetts; Union of Concerned
5 Scientists; Natural Resources Defense Council; Acadia Center; The Energy Consortium;
6 the Zero Emission Vehicle Commission; Georgetown Climate Center, Green Energy
7 Consumers Alliance; National Grid; Electrify America; Plug-In America; Nissan; General
8 Motors; Tesla; multiple charging station vendors; multiple towns and municipalities in
9 Massachusetts.

10 In addition to meeting with the various stakeholders identified above, Eversource presented
11 at various forums to help its sight host recruitment and general raise awareness efforts. The
12 Company attended and spoke at quarterly meetings hosted by the Advanced Energy Group
13 to provide regular updates on program status and recent activities, and to solicit and
14 incorporate feedback from the public.

15 Lastly, Eversource maintained close coordination with National Grid through quarterly
16 meetings to share lessons learned and discuss opportunities to collaborate jointly on the
17 deployment of the EV programs.

18 A list of the stakeholders engaged throughout this process is included in Exhibit ES-KB-9.

1 **Q. Did the stakeholder engagement and feedback ultimately help inform the design of**
2 **the Phase II Program proposal?**

3 A. Yes. The Company utilized the feedback received from stakeholders to inform the design
4 of the Phase II Program. The Company received broad stakeholder support for the scope
5 and scale of this Program, specifically the expanded nature of the programs to serve all
6 customer segments and prioritize equity throughout. Key themes and feedback that were
7 incorporated into this proposal include:

8 For Public and Workplace Segment:

- 9 • Providing incentives for L2 EVSE will encourage site densification, encouraging
10 more ports to be installed at each customer location.
- 11 • Because of the high upfront cost equipment, DCFC EVSE incentives are necessary
12 to adequately support the installation of fast charging sites.
- 13 • Operation of low utilization, high power draw DCFC is a barrier to deployment
14 without appropriate demand charge alternatives.
- 15 • Need for an increased bench of qualified contractors to install behind the meter
16 equipment.
- 17 • Participation in the program should not exclude customers who own their own
18 distribution network but are otherwise excellent candidates to be site hosts.

19 For Residential Segment:

- 20 • Home charging is a critical component of the EV charging eco-system, and
21 solutions for integrating EV load should be implemented.
- 22 • Provide higher levels of financial support to LI/EJC customers to ensure residents
23 are supported to be able to make their homes or apartments EV ready.
- 24 • Expand upon the definition of the equity group to include customers on the
25 Company's low-income discount rate.
- 26 • Provide no-cost and turn-key EV charging installs for LI/EJC customers.

27 For Fleet Segment:

- 28 • Support for MHDV electrification to enable MOR-EV Trucks Program, through
29 fleet assessments for public, non-profit and private fleets.

1 For Other Program Components:

- 2 • Recognizing that port installation and enablement in EJCs is important, and that
3 solutions for expanding access to electric mobility for EJC and low-income
4 customers should be expanded and new solutions explored and validated.

5 **VI. Consistency with Department Standard of Review**

6 **Q. Has the Department established a standard of review for EV charging proposals that**
7 **is relevant to this proposal?**

8 A. Yes. The Department opened an investigation regarding EVs and EV charging in 2013.⁴⁴
9 At the conclusion of the first part of the investigation, the Department established the
10 standard of review to be applied to any electric distribution company's proposal for cost
11 recovery associated with ownership and operation of EVSE. Specifically, any such
12 proposal must: (1) be in the public interest; (2) meet a need regarding the advancement of
13 EV in the Commonwealth not likely to be met by the competitive EV charging market; and
14 (3) not hinder the development of the competitive EV charging market.⁴⁵

15 **Q. In your opinion, does the Phase II Program meet the Department's standard of**
16 **review?**

17 A. Yes. The Phase II Program meets each of the Department's criterion. The Phase II Program
18 supports the Commonwealth's public policy goals, meets a need for ramping up the EVSE
19 in the state that has not been met by the competitive market and is not likely to be met by
20 2025 and supports, rather than hinders, the development of the competitive market by

⁴⁴ Order On Department Jurisdiction Over Electric Vehicles, The Role Of Distribution Companies In Electric Vehicle Charging And Other Matters, D.P.U. 13-182-A at 13 (August 4, 2014), affirmed in D.P.U. 17-05 Revenue Order and in D.P.U. 17-13 Final Order.

⁴⁵ Id.

1 expanding the opportunities for market participants to gain experience in owning and
2 operating EVSE. The Company has carefully designed and sized the Phase III Program
3 offerings to address existing market barriers to EVSE and EV charging. The Phase III
4 Program will promote and work with qualified EVSE vendors in the Commonwealth and
5 help make Massachusetts residences EV ready for the future. The Company will address
6 herein how each element of the Phase II Program is consistent with the Department's
7 standard of review for utility EV proposals.

8 **Q. Did the Department provide directives in D.P.U. 20-69-A relevant to EV proposals?**

9 A. Yes, the Department's Order in D.P.U. 20-69-A provides that each company must file an
10 EV proposal with: (1) a commercial EV rate design proposal addressing alternatives to
11 demand charges; and (2) any new or expanded EV charging infrastructure proposals. The
12 filing must be made on or before July 14, 2021.⁴⁶

13 For EV infrastructure proposals, the Department directed the Massachusetts electric
14 distribution companies ("EDCs") to coordinate future EV infrastructure program proposals
15 to ensure a consistent approach for host recruitment and incentives – at a minimum and
16 ensure the proposal is not duplicative of other build out incentive programs.⁴⁷ Additionally,
17 new proposals should mitigate barriers that impede recruitment of DCFC site hosts for
18 strategic locations.⁴⁸ Further, the Department directed the EDCs to incorporate analyses of

⁴⁶ Grid Modernization, D.P.U. 20-69-A at 40-41 (May 21, 2021).

⁴⁷ Id. at 46.

⁴⁸ Id. at 47.

1 traffic and EV charging patterns to identify priority locations for public stations and
2 coordinate and propose statewide and company-specific performance metrics associated
3 with EV charging infrastructure programs.⁴⁹

4 For EV charging incentives, the Department directed the EDCs to avoid overlap by
5 coordinating their EV charging incentive offerings. Additionally, the Department noted in
6 any proposal, the EDCs should address issues related to customers charging their EV in
7 multiple service territories.⁵⁰

8 Lastly, for any proposed alternatives to traditional demand rate structure, the Department
9 directed the EDCs to consider the following: (1) converting kW-based charges to kilowatt-
10 hour-based charges; (2) off-peak charging demand charge rebates or discounts; and (3)
11 sliding scale demand charges based on the load factor of the electric vehicle charging site.⁵¹
12 Additionally, the Department provided that all proposed demand charge alternatives should
13 be based on EV charging data collected through one of the following: (1) smart chargers
14 or networked chargers; (2) EV telematics; (3) interval meters installed at request of
15 customer.⁵² The EDCs must coordinate development of demand charge alternative
16 proposals for C&I EV customers, including public EV charging site hosts with L2 and/or

⁴⁹ Id.

⁵⁰ Id. at 49, n. 32.

⁵¹ Id. at 42.

⁵² Id. at 42-43.

1 DCFC stations.⁵³ The EDCs must identify a timeline and approach to transition all
2 proposed demand charge alternatives to the future demand charge rate designs that will be
3 enabled through the full deployment of advanced metering functionality.⁵⁴ Finally, any
4 proposed tariff included as part of the EDC's demand charge alternative proposals must be
5 filed as an exemplar tariff.⁵⁵

6 **Q. In your opinion, does the Phase II Program satisfy the D.P.U. 20-69-A directives?**

7 A. Yes, the Phase II Program satisfies the Department's D.P.U. 20-69-A directives. The
8 Company coordinated extensively with the Massachusetts EDCs on the development of its
9 EV infrastructure program to ensure a consistent approach for host recruitment and
10 incentives. In particular, the Company worked with National Grid and Unitil to make sure
11 the EDCs' proposed programs are as consistent as possible. Based on the Company's and
12 National Grid's respective experience to date with EV charging programs, the companies
13 worked together to revise their program designs with the goal of offering all Massachusetts
14 customers a consistent offering and EV charging experience. The Company also developed
15 new offerings to address barriers to the recruitment of site hosts for the deployment of
16 DCFC stations, as discussed further in Section VII. A. The Company also worked with
17 National Grid and Unitil to propose common statewide performance metrics for the
18 programs, as discussed in Section VI. Lastly, the Company coordinated with the EDCs on

⁵³ Id. at 43.

⁵⁴ Id.

⁵⁵ Id.

1 the development of a demand charge alternative offering. As part of this coordination, the
2 EDCs discussed a timeline and approach to transition all proposed demand charge
3 alternatives to the future demand charge rate designs that will be enabled through the full
4 deployment of advanced metering functionality. The Company proposes a sliding scale of
5 demand and volumetric charges for commercial customers, based on the load factor for the
6 EV charging stie, as discussed in the prefiled testimony of Richard D. Chin,
7 Exhibit-ES-RDC-1.

8 **Q. How closely aligned are the EDCs' electric vehicle proposals?**

9 A. The Company coordinated with National Grid and Unitil throughout the process of
10 designing this proposal. As a result of that coordination, the EDCs' proposals include
11 consistent rebate levels, eligibility requirements, and delivery methods for the Public and
12 Workplace Segment and Residential Segment. Based on the companies' respective
13 experience with earlier programs, however, there are slight differences, including that
14 Eversource is not proposing a pole-mounted L2 charger offering and is not offering any L1
15 charger incentives for long-dwell time sites. Eversource's Phase II Program also differs
16 from National Grid in its Fleet Segment. Eversource is proposing a smaller-scale Fleet
17 Pilot, as compared to National Grid's fleet offering. Additionally, National Grid's Phase
18 III Program includes an off-peak rebate offering that Eversource has not included.

19 The Company and National Grid also coordinated with Unitil on the development of these
20 offerings. However, as this is Unitil's first EV charging incentive program, and due to
21 Unitil's service territory size, the program offerings differ to a greater extent.

1 **Q. Will the Company incorporate analyses of traffic and EV charging patterns to**
2 **identify priority locations for future public charging stations?**

3 A. The Company has included in its proposal an effort to ensure public DCFC are installed in
4 a number of strategically important locations within the program term. Beyond that
5 initiative, however, the Company's Phase I and proposed Phase II Programs offer
6 consistent financial support across the service territory, only differentiating support by
7 market segment (e.g., public versus MUD charging) and whether the site is in an EJC.
8 Thus, public station locations are otherwise largely determined by customers.

9 Going forward, Eversource is working to develop an adoption propensity and travel model
10 for electric vehicles in the state of Massachusetts. Using state targets, the propensity models
11 will allow the identification of areas with a high likelihood to adopt electric vehicles. In
12 combination with GPS tracking based travel data, a detailed yearly model showing travel
13 at a census tract level (where are vehicles originating and where are they going to). In
14 combination, Eversource will be able to develop location specific EV charging profiles,
15 adoption rate forecasts, and determine need for charging infrastructure. Eversource is also
16 cooperating with the MassCEC and the Commonwealth of MA to access EV registration
17 information as an input into the EV models.

1 **Q. Did the Company and EDCs coordinate to develop statewide performance metrics to**
2 **report on the progress of their EV charging infrastructure programs?**

3 A. Yes, the Company consulted with National Grid and Unitil regarding performance
4 metrics⁵⁶ that each company would report for their service territory and programs. The
5 Company proposes to track and report on the following statewide performance metrics for
6 its Phase II Program:

- 7 • Program implementation metrics:
- 8 ○ Total number of charging sites developed;
 - 9 ○ Total number of ports installed by port type (i.e., L2 and DCFC) by market
10 segment (e.g., public, workplace, MUD, fleet, and EJC);
 - 11 ○ Program financial support provided to DCFC stations;
 - 12 ○ Program financial support provided to stations in EJs; and
 - 13 ○ Total number of participants in the Workforce Development and Electrician
14 training.
- 15 • Program benefit metrics:
- 16 ○ EVSE utilization (e.g., kWh delivered per port per year); and
 - 17 ○ CO2 emissions avoided from EVs relative to ICE vehicles.

18 **Q. Did the Company coordinate with the EDCs to develop company-specific**
19 **performance metrics to report on the progress of its Phase II Program for EV**
20 **charging infrastructure programs?**

21 A. Yes, the Company and National Grid propose to track and report on the following
22 performance meters for the Residential Segment:

- 23 • Total number of Residential Charger Rebates distributed;
- 24 • Total number of Residential Make-Ready Rebates distributed;

⁵⁶ As part of its Phase I program, the Company currently tracks through the Grid Modernization Annual Reporting mechanism the following metrics: total Make-Ready sites developed, capital invested in DCFC infrastructure, capital invested in EJs, charger utilization (kwh/port), % of residential customers within a 20 and 40 mile range of Make-Ready site, and EV adoption / CO2e reduction.

- Total number of Residential LI/EJC Offerings distributed.

The Company also proposes two Company-specific metrics related to its Equity Pilots program offering.

- Number of MD-HD ports deployed and vehicles electrified; and
- Number of car sharing vehicles supported.

Q. Is the Company proposing to recover incentives associated with these metrics?

A. No. The statewide and company-specific performance metrics listed above are for purposes of reporting progress on the Company's Phase III Program over time. In addition to these reporting metrics, however, the Company is proposing two performance incentive mechanisms that will track the progress of other aspects of the Phase III Program and provide an opportunity for the Company to earn incentives based on its progress. These performance incentive metrics are described in detail in Section IX, herein.

VII. Program Details

A. Public and Workplace Segment

Q. Please describe the Public and Workplace Segment.

A. Building off the success of the Phase I Program as previously described, the Public and Workplace Segment will provide similar make-ready infrastructure incentives and expand those offerings based on the lessons learned from the Phase I Program. The Company has found that additional financial incentives and offerings are needed to sufficiently spur EV adoption, make public and workplace charging more affordable for site hosts, and equitably serve its customers. The Public and Workplace Segment will include the following offerings:

- 1 i. a Make-Ready offering for L2 and DCFC installations with utility-side make
2 ready incentives, customer-side make ready incentives, EVSE rebates, and a
3 networking stipend for eligible ports;
4 ii. an offering to support DCFC charging hub installations in EJs;

5 The Commonwealth’s Decarbonization Roadmap’s Transportation Technical Report⁵⁷
6 highlights the continued need for Public and Workplace charging to accelerate EV adoption
7 at the pace necessary to reach the Commonwealth’s goals.

8 **Q. What is the goal of the Public and Workplace Segment?**

9 A. The goal of the Public and Workplace Segment is to provide an expanded charging network
10 that enables EV drivers to have sufficient charging options away from home within the
11 Company’s service territory. The Public and Workplace Segment will provide incentives
12 for make-ready infrastructure for L2 chargers, and DCFC. The Company proposes to
13 provide make-ready incentives to enable approximately 3,350 Public L2 Ports,
14 approximately 2,760 Workplace L2 Ports⁵⁸, and approximately 27 MW of Public DCFC
15 ports. The Company will remain flexible to deploy these ports according to customer and
16 market interest.

⁵⁷ Massachusetts Executive Office of Energy and Environmental Affairs (EEA) 2050 Decarbonization Roadmap Study, Transportation Sector Technical Report, <https://www.mass.gov/doc/transportation-sector-technical-report/download> Section 5.1.2.4.

⁵⁸ Light duty passenger vehicle fleet charging ports are included as a segment of the Workplace charging program. For consistency with National Grid’s proposal, this fleet program is described below in Section VII. C.

<i>Public and Workplace Approximate Port and MW Targets</i>	
Public L2	~3,350
Workplace L2	~2,760
Public DCFC	~27 MW

1 The Public and Workplace Segment aims to deploy approximately 20% of its ports within
2 EJs. The Company is proposing to install a MW target of DCFC as the capacity of DCFC
3 ports can range from 24-kW to 350-kW. It is important to note that a port target may not
4 result in equal outcomes for meeting the Commonwealth's DCFC needs, which serves as
5 the motivation for adopting a capacity-based target.

6 **Q. How did the Company size the Public and Workplace Make-Ready offering?**

7 A. As described above, the Company used a combination of its experience from the Phase I
8 program to project the ability to deploy EV infrastructure at scale and the output of the
9 EVI-Pro Lite⁵⁹ tool to inform the sizing and port distribution of the Make-Ready offering
10 within the Public and Workplace Segment. EVI-Pro Lite is an accepted and useful tool in
11 helping to size EVSE infrastructure, however the outputs of the tool are highly sensitive to
12 variability in the inputs. For example, a 1 percent shift in the input of percent of drivers
13 with access to home charging changes the L2 and DCFC outputs by 2-3 percent. Similarly,
14 a 1 percent shift between share of PHEVs and BEVs changes the number of L2 chargers

⁵⁹ U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, Alternative Fuels Data Center, Electric Vehicle Infrastructure Projection Tool (EVI-Pro) Lite, available at: <https://www.afdc.energy.gov/evi-pro-lite>

1 by about 3 percent. Without being able to predict the exact ratio of BEVs to PHEVs on the
2 road, as well as the exact future charging behaviors of those EVs, the Company emphasizes
3 the importance of maintaining flexibility in the deployment of these port targets as well as
4 their associated budgets.

5 When using EVI-Pro Lite, the Company started with the Commonwealth's light-duty ZEV
6 MOU target for the end of 2025 which was scaled to the fraction of the Commonwealth's
7 vehicles in operation that exist in the Company's service territory. The rest of the inputs to
8 EVI-Pro Lite include: 50 percent PHEV support (approximately half of PHEV miles are
9 electric), 77 percent of charging is done at home, 67 percent of vehicles being BEV-250, 5
10 percent of vehicles being PHEV-50, and 28 percent of vehicles being PHEV-20. As stated
11 previously, the offering proposes to deploy EVSE to match the charging need for
12 approximately 80 percent of the ZEV MOU target to align with National Grid. The
13 Company believes this is a reasonable target accounting that some chargers may be
14 installed without the assistance of the Company's make-ready incentives. Additionally,
15 EVI-Pro Lite outputs a DCFC count of 150-kW chargers. As discussed earlier, not all
16 DCFC provide the same charging capacity, and the Company proposes to target the overall
17 DCFC capacity given by EVI-Pro Lite, which is by 150-kW DCFC port count.

1 *Public and Workplace Make-Ready Offering*

2 **Q. Please describe the Public and Workplace Make-Ready offering.**

3 A. The Company proposes continuing a Public and Workplace Make-Ready offering to
4 provide the charging infrastructure needed to support the Commonwealth's ZEV MOU
5 target, and other decarbonization goals including the 2030 CECP. As in the Phase I
6 program, the Public and Workplace Make-Ready offering will provide incentives for
7 make-ready infrastructure for L2 and DCFC.

8 The portion of the make-ready infrastructure on the utility side of the meter ("the utility-
9 side work") will be completely paid for by the Company.

10 The portion of the make-ready infrastructure on the customer's side of the meter ("the
11 customer premise work") will be covered up to 100-percent of the average installation cost
12 of the average cost for that installation type, not to exceed actual installation costs. To
13 account for certain site-specific characteristics and potential cost-shifts in the industry, the
14 Company may allow up to 150-percent of the average costs on a case-by-case basis. The
15 average cost for the customer premise work for each installation type will be recalculated
16 periodically to keep up with market dynamics.

17 As in the Phase I program, Eversource will install the "utility-side Infrastructure," and
18 contract with third-party electrical contractors to install behind-the-meter "customer-side
19 Infrastructure." Specifically, the EV infrastructure that Eversource is installing includes
20 the following: (1) distribution primary lateral service feed; (2) necessary transformer and

1 transformer pad; (3) new service meter; (4) new service panel; and (5) associated conduit
2 and conductor necessary to connect each piece of equipment.

3 In the case of customers who own their own distribution network (“primary metered
4 customers”) the company will invest in the “customer-side infrastructure” only.

5 While the process of installation will remain the same for all customers, in contrast to the
6 Phase I program, upon completion of installation, the customer will retain ownership of
7 the “customer side infrastructure”.

8 Consistent with implementation of the Company’s Phase I program, the Company will
9 install infrastructure to support a standard 75 kva use case for all Level 2 deployments to
10 reduce costs through the ability to scale and to maximize deployment efficiency through
11 the ability to order and inventory necessary equipment.

12 **Q. Will the Company offer EVSE Rebates as a part of the Public and Workplace**
13 **Segment?**

14 A. Yes. the Company is proposing to offer the following EVSE rebates for L2 and DCFC
15 EVSE which are broadly aligned with National Grid’s and Unitil’s proposed programs.
16 Regarding DCFC, the Company experienced in its Phase I Program that DCFC deployment
17 was challenging due to the high upfront costs for site hosts. However, when MassEVIP
18 offered a limited DCFC EVSE rebate, the Company saw an increase in the number of
19 DCFC project applications. Given the need for greater DCFC deployment, the Company
20 is proposing to add DCFC EVSE rebates in the Phase II Program.

1 A summary of the proposed rebate levels is in the table below.

2 **Public and Workplace EVSE Rebates**

L2 EVSE Rebate Levels	
<u>Customer Segment</u>	<u>Rebates Levels</u>
EJC	100% of installed costs for up to 10 ports
Muni	50% of installed costs for ports 3-10
Other (Non-EJC/on-Muni Public and Workplace)	50% of installed costs ports 5-10
DCFC EVSE Rebate Levels	
<u>Customer Segment</u>	<u>Rebates Levels</u>
Public, Non-EJC	\$40,000/port; Ports must be above 50 kW, minimum 100 kW/site, site max EVSE incentive (\$400,000).
Public, EJC	\$40,000/port for ports above 50 kW and up to 150 kW, minimum 100 kW/site, site max EVSE incentive (\$400,000) For ports 150 kW and above, up to \$80,000/port

3 In all cases, the customer will own and operate the EVSE.

4 **Q. Will the Company offer EVSE Rebates to Public and Workplace Segment customers**
5 **who participated in the Phase I program?**

6 A. Yes. Customers who have sites that were enabled as part of the Phase I program will be
7 eligible to receive rebates for up to 50% (100% for EJC) for any new incremental EVSE
8 purchased after Phase II approval and installed on existing make-ready infrastructure. The
9 Company's budget assumes that approximately 100 Phase I Make-Ready sites will take
10 advantage of this offering, supporting approximately 300 incremental L2 ports, without the
11 need for additional Male-Ready infrastructure. The Company estimates the cost of rebates
12 to Phase I customers to be approximately \$720,000.

1 **Q. Will the Company offer a network stipend as part of the Make Ready offering?**

2 A. The Company will require networking for all L2 and DCFC chargers. Networking allows
3 customers to more effectively locate and efficiently use chargers via mapping and queueing
4 in charging apps. Additionally, networking provides the Company with charging data
5 which can be leveraged for future program design and current program refinements. The
6 Company recognizes the challenge posed to some site hosts by networking fees. Therefore,
7 the Company proposes to offer a stipend to support 4 years of networking at a level of
8 \$480/port for networking for Municipal L2 and DCFC, and any EJC chargers.

9 **Q. What are the eligibility requirements for participation in the Public and Workplace**
10 **Make-Ready offering?**

11 A. The Company's eligibility requirements for participation in the Public and Workplace
12 Make-Ready offering will be the same as in the Phase I Program, as enumerated in the
13 Company's Electric Vehicle Site Host Agreement (Exhibit ES-KB-10), with the exception
14 as noted above that customers who own their own distribution network will be eligible for
15 customer side infrastructure funding and EVSE incentives.

16 **Q. How is the Company proposing to enable DCFC access in EJCs?**

17 A. DCFC access within or in close proximity to EJCs is a critical part of ensuring an equitable
18 transition to clean transportation. All communities need accessible DCFC, but EJCs have
19 unique needs, often having higher percentages of MUD's (therefore more complicated or
20 limited at-home charging), as well as often having a higher percentage of ride hailing
21 drivers, and drivers who do not have access to home charging or parking (so called, "garage
22 orphans"). The Company proposes to introduce a DCFC charging hub offering.

1 This offering seeks to deploy 4 to 5 charging hubs, each with approximately four 175kW
2 DC fast chargers in EJCs. The Company will fully fund the utility side and customer side
3 make ready infrastructure and provide rebates for the full cost of the EVSE and installation,
4 and a networking rebate. The Company will issue an RFP to solicit interested
5 owner/operators of the DCFC charging hubs to ensure a consistent and coordinated
6 approach to siting, and operation.

7 **Q. What is the Company’s proposed budget for the Public and Workplace Charging**
8 **Program?**

9 A. The Company’s proposed budget is in the table below.

10 *Budget/Costs*

<i>Estimated Public and Workplace Segment Budget</i>	
<i>Category</i>	<i>Budget</i>
Utility Side Make Ready (Capital)	<i>~\$48M</i>
Customer Side Make-Ready (O&M)	<i>~\$37M</i>
EVSE Rebates (O&M)	<i>~\$17M</i>
Networking Rebate (O&M)	<i>~\$1M</i>
EJC DCFC Hub	<i>~\$6M</i>
<i>Total</i>	<i>~\$109M</i>

11 **Q. How is the Public and Workplace Segment consistent with the Department’s**
12 **Standard of Review for utility EV proposals?**

13 A. The Public and Workplace Segment is in the public interest as it sets incentives at a level
14 that will foster an accelerated deployment of EVSE, while efficiently utilizing ratepayer
15 funds. In this way, the Public and Workplace offerings will also meet the needs that have

1 not and will not likely be met by the competitive EV charging market. Finally, the
2 Company is not proposing to meet one-hundred-percent of the market need so not to
3 overshoot ZEV MOU target deployment of charging stations by not crowding out EVSE
4 deployments that might not be able to accept utility make-ready funding.

5 **B. Residential Segment**

6 **Q. Please provide a description of the offerings for the Residential Segment.**

7 A. Given the importance of at-home charging and the needed scale to support it, the Company
8 is proposing Residential offerings to support all residential customers. The Residential
9 offerings include:

- 10 1) for 1-4-unit properties:
- 11 i) support for EVSE costs; and
 - 12 ii) residential make-ready, which encompasses:
 - 13 (a) 240V wiring near the customer's parking space (e.g., in garage,
 - 14 driveway, or parking lot);
 - 15 (b) 240V outlet equipment and installation;
 - 16 (c) EVSE installation; and
 - 17 (d) associated panel upgrades, service upgrades, and permits; and
- 18 2) for MUDs:
- 19 i) an expanded make-ready program; and
 - 20 ii) support for site-specific EVSE plans for 20+ unit properties.

21
22 The financial and programmatic support is tailored to housing types (i.e., 1-unit, 2-4 unit,
23 and 5-or-more unit residences) and equity-related criteria (e.g., customer lives in an EJC,
24 customer is on a discounted rate). The goal of the offerings is to enable ubiquitous at-home
25 charging for the Company's residential customers to accelerate EV (particularly BEV)
26 ownership and enable the lower-cost, more convenient, and more grid-optimized charging

1 that at-home EVSE provides. The Residential offerings will advance the adoption of EVs
2 in the Commonwealth, which is in the public interest and is not likely to be done by the
3 competitive market in time to meet the Commonwealth's climate goals.

4 Support for 1-4-unit properties will decrease the upfront costs associated with at-home
5 charging by offering two types of rebates: one towards residential make-ready and one
6 towards managed charging capable EVSE. Enrollment in a managed charging program is
7 required to take advantage of both rebates. The Residential Make-Ready Rebate will
8 address the variable and significant costs associated residential make-ready, including
9 240V wiring in the garage or driveway of a property. The Company proposes to provide
10 customers in 1-unit properties with a rebate up to \$700 and customers in 2-4-unit properties
11 up to \$1,400, not to exceed actual costs. The Charger Rebate will support at-home charging
12 by reducing the equipment costs of managed charging capable L2 EVSE. The Company
13 proposes a one-time rebate per residential account of up to \$300 to offset the incremental
14 cost difference between a networked and non-networked L2 EVSE. Finally, the LI/EJC
15 Offering will provide increased financial and enhanced programmatic support to qualifying
16 customers.

17 Support for MUDs will follow the design of the Public and Workplace Segment described
18 earlier and build upon the lessons learned from the Phase I Program. In summary, MUDs
19 will receive financial support to cover 100% utility-side costs, up to 100% of average

1 customer-side make-ready costs, 100% of typical EVSE costs for sites in EJC's and 50% of
2 EVSE costs for all other MUDs, and the Networking Stipends where requested.

3 **Overview of Residential Segment Offerings**

Offering	Description
1-4-Unit Properties	
Residential Make-Ready Rebate	Reduces the costs associated with residential make-ready and EVSE installation in a customer's driveway or garage. Up to \$700 for customers in 1-unit properties, and up to \$1,400 for customers in 2-4-unit properties, not to exceed actual costs. Enrollment in a managed charging program is required to take advantage of this rebate.
Charger Rebate	Reduces the cost of purchasing managed charging capable EVSE. Up to \$300 per customer towards the cost of a managed charging capable L2 EVSE, not to exceed actual costs. Enrollment in a managed charging program is required to take advantage of this rebate.
LI/EJC Offering	Increased financial support and turnkey assistance for qualifying customers. No-cost managed charging capable L2 EVSE and residential make-ready up to \$1,700 for customers in 1-unit properties and up to \$2,700 for customers in 2-4-unit properties, not to exceed actual costs.
5+ Unit Properties (MUDs)	
Support for utility-side infrastructure	100% of actual costs (with the right of the Company to deny program support to high-cost projects)
Support for customer-side infrastructure	Up to 100% (with the right of the Company to approve support up to 150% of the average cost per port on a case-by-case basis)

EVSE and EVSE installation support	Up to 100% of the average cost per port for sites in EJC's and 50% of the average cost per port for other sites, budgeted at \$4,000 per L2 port and \$2,000 per L2 port respectively, but not more than actual costs.
Networking Rebate	Upfront rebate of \$120 per port / year for 4 years (\$480 per port)
20+ Unit Properties	
EV Ready Site Plans	Up to \$6,000 to cover the cost of a site plan on the long-term infrastructure and equipment approach to installing at least one L2 port per residential unit. (Ideally done before any further make-ready or EVSE installations take place.)

1 **Q. How has the Company supported at-home charging in its prior programs?**

2 A. The Company has only supported at-home charging in a limited capacity to date. The
3 Company has successfully activated 239 ports (465 ports enabled) at 50 MUDs as part of
4 the Phase I Program through June 2021. At-home charging is often less accessible to people
5 living in MUDs than in single-family residences. The Company also offers a managed
6 charging demand response program for residential EV drivers, providing incentives for
7 participating customers. The current managed charging program, ConnectedSolutions⁶⁰,
8 does not directly promote access to at-home charging, but serves to optimally integrate EV
9 charging load to the grid.

⁶⁰ <https://www.connectedsolutionsev.com/>

1 **Q. Why is at-home EV charging important for advancing EV adoption?**

2 A. At-home EV charging is critically important to enabling EV ownership, reducing the cost
3 of EV ownership,⁶¹ and creating opportunities to manage EV charging in grid-optimized
4 and consumer-friendly ways.⁶² At-home EV charging has been rated as a primary criterion
5 for those considering buying an EV,⁶³ and second most important criterion needed to
6 increase EV consideration.⁶⁴ Further, at-home charging can meet the charging needs of
7 over 95% of travel days for long-distance BEVs, a sign of its tremendous importance in a
8 BEV-oriented future.⁶⁵ Finally, research shows that EV owners with L2 charging at home
9 are half as likely to discontinue their EV ownership (i.e., go back to internal combustion
10 engine (“ICE”) vehicles) as those with Level 1 charging at home, highlighting the
11 importance of L2 at-home charging to the EV ownership experience.⁶⁶

12 Approximately 95% of EV owners in 2020 had access to at-home charging,⁶⁷ resulting in
13 80-85% of charging happening at home.⁶⁸ The vast majority of BEV drivers today have L2

⁶¹ Borlaug et al., *Levelized Cost of Charging Electric Vehicles in the United States*, Joule (2020), <https://doi.org/10.1016/j.joule.2020.05.013> reports the lowest cost charging being at-home charging, with potential Lifetime Fuel Cost Savings (relative to internal combustion engine vehicles) of \$4,500 to \$9,400 for a BEV in Massachusetts. Fuel savings are maximized when at-home charging under time-of-use rates is maximized.

⁶² Residential Electric Vehicle Rates That Work, SEPA, November 2019, page 10. <https://sepapower.org/resource/residential-electric-vehicle-time-varying-rates-that-work-attributes-that-increase-enrollment/>

⁶³ 2018 NG Customer Council EV Research, slides 8-9, and 2020 DNV GL EV Study Results, slide 19.

⁶⁴ 2020 DNV GL EV Study Results, slide 19.

⁶⁵ Wei, W., Ramakrishnan, S., Needell, Z.A. et al. Personal vehicle electrification and charging solutions for high-energy days. *Nat Energy* 6, 105–114 (2021) available at: <https://doi.org/10.1038/s41560-020-00752-y>, Figure 7, page 110.

⁶⁶ “For access to level-2 charging from home compared to level-1, there are 52.8% lower odds of discontinuing [EV] ownership. ... This shows the importance of having higher speed level-2 charging at home over low speed level-

1 charging at home (95% of Tesla owners and 60% of non-Tesla BEV owners), whereas two-
2 thirds of PHEV drivers use L1 charging at home.⁶⁹

3 **Q. Are there barriers to residential at-home charging?**

4 A. Yes, there are still many barriers for customers to charge at-home, especially those who do
5 not live in single-family residences. These barriers include:

- 6 • having limited existing electric service or panel capacity to add EV charging;
- 7 • parking spots with no or limited existing electrical access;
- 8 • renting (e.g., landlords lacking incentives to invest their funds on EVSE, given the low
9 share of EVs on the road today; tenants not wanting to invest their own funds on
10 equipment and infrastructure for a property they do not own);⁷⁰
- 11 • having only on-street parking;
- 12 • determining fair EVSE management, access, and payment/pricing approaches for
13 EVSEs serving renters, multi-unit dwellings, or other shared parking, compounded by
14 a lack of familiarity with these concepts among decision makers (e.g., condo boards);
15 and
- 16 • other circumstances resulting in high installation or operating costs or lack of interest
17 among the decision-makers to enable at-home charging.

18 Further, residential EVSE purchase and installation costs can be high and variable,⁷¹
19 adding to the upfront cost barrier EVs still face relative to internal combustion engine

1 charging.” From Hardman, S., Tal, G. Understanding discontinuance among California’s electric vehicle owners. Nature Energy (2021) available at <https://doi.org/10.1038/s41560-021-00814-9>.

⁶⁷ 2020 Survey of Rhode Island EV owner from *Rhode Island Electric Transportation Initiative Evaluation Final Report – Rate Year 2* at 17.

⁶⁸ 80% figure from Department of Energy available at <https://www.energy.gov/eere/electricvehicles/charging-home>. 85% figure is the share of charging at home for those with home-charging, 2020 Bloomberg New Energy Finance EV Outlook, at 185.

⁶⁹ *Rhode Island Electric Transportation Initiative Evaluation Final Report – Rate Year 2*, Figure 4-2, page 18.

⁷⁰ “Homeowners are six times more likely than renters to own an electric vehicle.” from Lucas W. Davis (2019) Evidence of a homeowner-renter gap for electric vehicles, *Applied Economics Letters*, 26:11, 927-932, available at: <https://doi.org/10.1080/13504851.2018.1523611>

⁷¹ *Estimating EV charging infrastructure costs across major U.S. metropolitan areas*, International Council on Clean Transportation, August 2019, at 4. <https://theicct.org/publications/charging-cost-US>.

1 vehicles.⁷² These cost and access issues are significant especially to the Company’s
2 customers living in two-or-more-unit dwellings in EJsCs. And while there is a growing
3 amount of free or low-cost charging available at public and workplace locations, in the
4 long run customers without home charging are likely to face far greater fueling costs for
5 their EVs as they pay the more expensive retail charging rates.’⁷³

6 Of particular importance to multi-unit dwellings is the need to plan for future EVSE and
7 charging loads to help reduce cost and simplify EVSE installations. Many residential sites,
8 in the long run, will need to provide one L2 port per residential unit (a ratio that some new
9 construction building codes are adopting⁷⁴). For example, a 30-unit building will need at
10 least 30 L2 ports in the long run but will likely only use a few of them in the next couple
11 years. Given these long-term needs, it is imperative to plan for charging infrastructure
12 growth over time, as well as anticipate any cost efficiencies from consolidating the make-
13 ready and construction work. Without proper planning, MUDs may start down an
14 “incremental” path that does not scale well, only adding a few chargers at a time—resulting
15 in higher construction and infrastructure costs—and possibly struggling to match the few
16 EVSE locations with those of EV owner’s parking spots. The utility can play a unique and

⁷² The 2020 Bloomberg New Energy Finance EV Outlook, Figure 295 shows a purchase price gap for BEVs, relative to ICE vehicles, in 2020 of nearly \$4,000.

⁷³ “The United States Needs More Fast Chargers: China Can Show How,” Rocky Mountain Institute Blog (January 29, 2021), available at: <https://rmi.org/the-united-states-needs-more-fast-chargers-china-can-show-how/>.

⁷⁴ British Columbia has many examples of such codes at <https://pluginbc.ca/policy/>. E.g., The City of Nelson requires “One stall per dwelling unit is required to be EV ready in new single family and multi-unit residential.” Massachusetts only requires one EV Ready space for certain new construction with 15 or more parking spaces.

1 critical role in supporting site planning for long-term EVSE needs, helping sites anticipate
2 EV-related load growth and find cost-reduction strategies. Without utility support, such
3 forward-looking approaches are unlikely to occur.

4 ***One to Four Unit Offerings***

5 **Q. Please describe the financial and programmatic support the Company is proposing**
6 **to offer customers in 1-4-unit properties.**

7 A. The Company is proposing to offer two types of rebates to encourage residential charging:
8 1) a Residential Make-Ready Rebate towards the cost of necessary electrical upgrades
9 required to install at-home EVSE; and 2) a Charger Rebate for the purchase of a managed
10 charging capable L2 EVSE. These offerings enable at-home charging and solve unique
11 challenges for residents in 1-unit properties, 2-4-unit properties, and LI/EJC customers.
12 LI/EJC customers are defined as: 1) customers who are on the Company's low-income
13 discount rate or 2) customers who reside in a property that meets at least one of the EJC
14 criteria outlined by the Commonwealth.⁷⁵ If a customer meets one of these two criteria and
15 lives in a 1-unit property, they qualify for the LI/EJC Offering only if they own or lease a

⁷⁵ In Massachusetts a neighborhood is defined as an Environmental Justice population if any of the following are true: Block group whose annual median household income is equal to or less than 65 percent of the statewide median (\$62,072 in 2010); or 25% or more of the residents identify as a race other than white; or 25% or more of households have no one over the age of 14 who speaks English only or very well - English Isolation. <https://www.mass.gov/info-details/environmental-justice-populations-in-massachusetts>. In the Company's Phase I program, potential Make-Ready locations are required to meet two of these criteria in its Eastern Massachusetts service territory. In an effort to align the EDC programs, Eversource is proposing that only one criteria needs to be met for EJC incentive eligibility.

1 new or used EV with a purchase price of less than \$50,000, a purchase price requirement
2 reflective of the Commonwealth's MOR-EV rebate.⁷⁶

3 **Q. Please describe the Residential Make-Ready Rebate offering.**

4 A. The Company is proposing a Residential Make-Ready Rebate to enable at-home L2 EV
5 charging by reducing the costs associated with residential make-ready infrastructure. The
6 Residential Make-Ready Rebate would enable at-home charging for the property's current
7 inhabitant(s) and would "future proof" the Company's territory for at-home EV charging
8 by providing L2 EV charging capability to the property's future inhabitants. The
9 Residential Make-Ready Rebate provides a one-time rebate per residential account to offset
10 the high and variable costs to enabling L2 charging at home. The Company proposes to
11 provide customers in 1-unit properties with a rebate up to \$700 and customers in 2-4-unit
12 properties up to \$1,400, not to exceed actual costs.⁷⁷ Customers receiving this rebate would
13 be required to enroll in the Company's managed charging programs, ConnectedSolutions,
14 which incentivizes customers to limit charging on system peak days (typically in the
15 summer). The minimum enrollment period the program is expected to be at least 1 year,
16 with an option to opt out after the 1-year period.

⁷⁶ The State's MOR-EV rebate requires the purchase price of a new vehicle to be less than \$50,000. <https://mor-ev.org/eligible-vehicles>. (Accessed June 29, 2021).

⁷⁷ The rebate amounts are informed by International Council on Clean Transportation's findings that the average cost to install an L2 charger is \$680 in a detached house and \$2,000 in an attached house. Hardware and installation costs are included, and installation is composed of labor, materials, taxes, utility upgrades, and permits. Average costs do not include the L2 EVSE. Estimating EV charging infrastructure costs across major U.S. metropolitan areas, International Council on Clean Transportation, August 2019, at 6. Available at: <https://theicct.org/publications/charging-cost-US>.

1 The Company will consider good cause exceptions to the managed charging enrollment
2 requirement for a portion of customers in 2-4-unit properties because they have shared
3 parking or do not own or lease an EV. Because the Residential Make-Ready Rebate
4 requires enrollment in the Company's managed charging program, the Company will avoid
5 duplication by disallowing customers who obtain the Residential Make-Ready Rebate to
6 also obtain ConnectedSolutions enrollment incentives but would otherwise allow
7 participation incentives from the program.

8 **Q. Please describe the Residential Charger Rebate offering.**

9 A. The Company is proposing a Charger Rebate to support at-home charging by reducing the
10 costs of managed charging capable L2 EVSE. The rebate would be applied to the purchase
11 of a managed charging capable L2 EVSE from a Qualified Equipment List ("QEL") that
12 will be developed by the Company. If this offering is approved, the Company will conduct
13 a more comprehensive evaluation of EVSE available in the market and use those results to
14 establish the rebate level and participation requirements. For purposes of the cost estimate
15 developed for this filing, the Company has assumed a rebate amount of \$300 per residential
16 account. Rebates would be distributed on a first-come, first-served basis. Customers
17 receiving this rebate would be required to enroll in the Company's managed charging
18 programs, ConnectedSolutions for a minimum of 1 year, with an option to opt out after the
19 1-year period. Because the Charger rebate requires enrollment in the Company's managed
20 charging program, the Company will avoid duplication by disallowing customers who
21 obtain the Residential Make-Ready Rebate to also obtain ConnectedSolutions enrollment

1 incentives but would otherwise allow participation incentives from the program. The
2 Company expects that Customers would have the option to obtain the Charger Rebate
3 instantaneously at point of sale via the Mass Save Marketplace or downstream after
4 purchasing a charger on the QEL through a different retailer.

5 **Q. Are there unique benefits provided to LI/EJC customers?**

6 A. Yes, the Company expects LI/EJC customers to be eligible to receive no cost managed
7 charging capable L2 EVSE and residential make-ready infrastructure, up to \$1,700 for
8 customers in 1-unit properties, and up to \$2,700 for customers in 2-4-unit properties, not
9 to exceed actual costs. The EVSE and residential make-ready work that qualifies reflect
10 the same requirements outlined for the Residential Make-Ready Rebate and Charger
11 Rebate. Like the Residential Make-Ready Rebate, customers receiving the LI/EJC Offering
12 would be required to enroll in the Company's managed charging program,
13 ConnectedSolutions, for a minimum of 1 year. The Company will consider good cause
14 exceptions to the managed charging enrollment requirement for a portion of customers in
15 2-4-unit properties because they have shared parking or do not own or lease an EV. Because
16 the LI/EJC Offering requires enrollment in the Company's managed charging program, the
17 Company will avoid duplication by disallowing customers who obtain the Residential
18 Make-Ready Rebate to also obtain ConnectedSolutions enrollment incentives but would
19 otherwise allow participation incentives from the program.

20 **Q. How many customers does the Company expect to serve with the Residential Make-**
21 **Ready Rebate, Charger Rebate, and LI/EJC Offerings?**

1 A. The Company’s proposed Residential EV Charging Program targeted at 1-4-unit properties
2 seeks to enable approximately 16,000 ports at customers’ properties. The Residential
3 Make-Ready Rebate and the Charger Rebate can be “stacked,” meaning that customers
4 would be eligible to obtain both rebates.⁷⁸ If a customer receives the LI/EJC offering, they
5 are neither eligible to receive the Residential Make-Ready Rebate nor the Charger Rebate
6 (and vice versa). The offerings are estimated to address approximately 15% of the
7 customers needed to reach the ZEV MOU light-duty passenger vehicle goal by the end of
8 2025.

9 *Five or More Unit Offerings (MUDs)*

10 **Q. Please describe the MUD Make-Ready offering.**

11 A. The Company proposes a make-ready offering to serve MUDs with 5-or-more residential
12 units. The program will be a revised and significantly expanded version of the Phase I
13 Program for this segment. The program will provide support in line with the Public and
14 Workplace offering. As in the Phase I program, Eversource will install the “utility-side
15 Infrastructure,” and contract with third-party electrical contractors to install behind-the-
16 meter “customer-side Infrastructure.” Specifically, the EV infrastructure that Eversource
17 is installing includes the following: (1) distribution primary lateral service feed; (2)
18 necessary transformer and transformer pad; (3) new service meter; (4) new service panel;
19 and (5) associated conduit and conductor necessary to connect each piece of equipment.

⁷⁸ The Company estimates 100% of customers who obtain a Charger Rebate to also obtain a Charging Readiness Rebate. If a customer receives an Equity Group rebate, they are not eligible for neither the Charger Rebate nor the Charging Readiness Rebate.

1 While the process of installation will remain the same for all customers, in contrast to the
2 Phase I program, upon completion of installation, the customer will retain ownership of
3 the “customer side infrastructure”.

4 To enable larger port deployments per site, the Company will increase the standard use
5 case as described in the Public & Workplace program offering to support up to 20 L2 ports
6 at MUD customer locations.

7 The MUD offering will cover 100% of the costs for utility-side make-ready work with the
8 Company retaining the right to review and deny program support for high-cost projects.
9 The MUD offering will cover up to 100% of average costs per port for customer-side make-
10 ready work, but not more than actual costs, with the ability for the Company to approve up
11 to 150% of the average cost per port on a case-by-case basis.

12 The program will also provide financial support for qualified EVSE and EVSE installation
13 and activation costs, budgeted at \$4,000 per L2 port for MUDs located in EJC's and \$2,000
14 per L2 port for all other MUDs, but not more than actual costs. These financial support
15 levels reflect an \$8,000 dual-port station purchase and installation cost benchmark (\$4,000
16 per port) and the program funding 100% of the cost per port for sites in EJC's and 50% of
17 the cost per port for all other MUDs. Actual rebates offered may vary over time as the
18 station price benchmark changes and based upon the availability of third-party funding and
19 customer interest in program. The Company will offer these rebate levels on all qualified
20 EVSE installed at MUDs and does not propose any site-level caps on program funding at

1 this time. Customers choosing qualified networked EVSE may also request support for
2 networking costs. The Networking Stipend will cover up to \$120 per port per year for four
3 years. Combined, the program's financial support is estimated to cover 85% of average
4 infrastructure and EVSE installation costs and likely 100% for EJC sites.

5 **Q. Please describe the EV Ready Site Plan offering.**

6 A. To help larger MUDs gain comfort with installing EVSE, reduce costs, and plan for future
7 EVSE growth, the program will offer financial support for EV Ready Site Plans. EV Ready
8 Site plans will create a plan for the infrastructure, EVSE, and charging management
9 practices required to provide at least one EVSE per parking spot per housing unit located
10 on the property (or 100% of resident parking spaces if there are fewer parking spaces than
11 housing units). EV Ready Site Plans will be created by qualified charging station installers
12 or electricians and will adhere to a set of minimum requirements regarding their contents
13 and the cost-saving approaches considered, including a description of the property, number
14 of units, number parking spots, type of parking (e.g., shared or assigned), and existing
15 electric service type and remaining capacity; approaches to managing on-site EV loads to
16 minimize infrastructure costs, sometimes referred to as EV Energy Management Systems;
17 types of EVSE considered and why they are appropriate for that site, and recommendations
18 regarding phased implementation approaches (e.g., “install infrastructure for these 20
19 parking spaces first”). Interested MUD properties with twenty or more housing units are
20 eligible to do an EV Ready Site Plan. The Company expects to contribute up to \$6,000 per
21 EV Ready Site Plan and has budgeted for 200 plans over four years.

1 **Q. How will the EV Ready Site Plans support the MUD Make-Ready offering?**

2 A. The EV Ready Site Plans will have three primary benefits. First, they will generate interest
3 in the program for larger properties. By having a plan in place, decision makers can become
4 comfortable with the investments and changes required (i.e., parking management, costs
5 and pricing of station use, etc.) which will spur interest in the make-ready program.

6 Second, the site plans will allow the Company to authorize greater investments in make-
7 ready infrastructure. For MUDs with EV Ready Site Plans, the program will allow
8 infrastructure work to support additional EV ready parking spots (beyond any parking spots
9 installing EVSE) in accordance with their plan. In practice, this will typically mean
10 installing additional conduit, sizing the service or electric panel differently to anticipate
11 future load growth, and potentially supporting on-site EV-related energy management
12 systems, such as power-sharing EVSE. The Company estimates the make-ready costs for
13 these incremental ports enabled to be lower due to the economies of scale of larger make-
14 ready projects, offsetting the net costs of offering EV Ready Site Plans.⁷⁹

15 Third, the Company expects site plans to help potentially reduce utility-side infrastructure
16 costs through the use of EV energy management systems, such as power sharing between
17 EVSE or devices that support power sharing between EVSE and the rest of the property.

⁷⁹ *Estimating EV charging infrastructure costs across major U.S. metropolitan areas*, International Council on Clean Transportation, August 2019, Table 3, at 3. <https://theicct.org/publications/charging-cost-US>.

1 This is particularly important for MUDs as the long-term expectation for EVSE growth is
2 high and on-site load constraints will be prevalent.

3 **Q. How did the Company size the MUD offerings?**

4 A. The MUD offerings are sized to support up to 2,200 L2 ports enabled at approximately 110
5 sites over four years.

6 **Q. Is the Company applying any lessons learned to the MUD program design?**

7 A. Yes. MUDs are incredibly diverse across their size, density and layout, parking, tenure
8 (rent/own), resident demographics, and many other factors. In order to achieve these
9 ambitious targets, the program needs to be responsive to market and customer feedback.

10 Lessons learned for MUDs include:

- 11 • MUDs have been installing an average of 5 ports per site to date, but larger MUDs
12 will need far more than that in the long term. EV Ready Site Plans will help address
13 long-term EVSE planning and help decision makers get comfortable with an EV
14 future. The Company also will provide this segment with a 20-L2 port infrastructure
15 standard use case to support this learning, as described above.
- 16 • Different parking arrangements, such as shared versus assigned parking, may
17 warrant different EVSE approaches. EV Site Ready plans will guide site host and
18 utility approaches to serving this diverse segment.

19 **Q. What new approaches does the Company expect to use to achieve these ambitious
20 MUD targets?**

21 A. To achieve the ambitious targets of this offering, the Company expects to test new lead
22 generation and implementation approaches, including:

- 23 • EVSE rebates to increase demand
- 24 • A program manager dedicated to the MUD segment.
- 25 • More active marketing and outreach, including increased use of town and
26 community partnerships and targeted marketing to MUD property managers and

1 residents about the program. Partnerships may include Community Based
2 Organizations, and other organizations and programs.

- 3 • Leveraging EV Ready Site Plans to help larger MUDs plan for future EVSE
4 installation. For example, many condos need some assurances of the plans, costs,
5 and management practices for their EVSE. A site plan can give them an opportunity
6 to get comfortable with those before committing to a decision or investment.
- 7 • Bringing more data-driven approaches to identifying areas of high MUD
8 concentration to inform marketing, community partnerships, program goals, and
9 implementation approaches.

10 The path ahead will require rapid and continual growth in the pace of MUD installation
11 activity, supported by the appropriate resources and flexibility to respond to changing
12 market and customer needs. Overall, the MUD Make-Ready offering is budgeted at
13 \$29,300,000, as detailed in the table below.

14 **Q. What is the Company’s proposed budget for the Residential Program?**

15 A. The proposed Residential Program budget is \$50.6million over the program term, with
16 \$21.3 going to 1-4-unit properties and \$29.3 going to MUDs.

17 **Residential Segment Estimated Outcomes and Budget**

Offering	Budget (\$M)	Outcome
1-4-unit Properties		
Residential Make-Ready Rebate	\$11.2	16,000 ports enabled.
Charger Rebate	\$3.8	
LI/EJC Offering	\$6.2	
Vendor-Based Administration Costs	\$2.1	
5+ Unit Properties (MUDs)		

Utility-side Make-ready	\$15.2	2,170 ports enabled.
Customer-Side Make-ready	\$6.5	
EVSE Rebates	\$5.3	
Networking Incentive	\$1.0	
20+ Unit Properties		
EV Ready Site Plans	\$1.2	200 EV Ready Site Plans
Total Residential Program		
Total	\$52.7	

1 **Q. How do the Residential offerings meet the Department’s Standard of Review for**
2 **utility EV proposals?**

3 A. The Company has analyzed evidence on EV sales, charging and travel behaviors, and
4 trends for future EV technology to inform its Residential offerings. Given the importance
5 of at-home charging to enable greater levels of EV adoption, the difficult path to installing
6 and operating EVSE for many residential customers, and the long-term infrastructure cost
7 reductions possible via well-planned at-home charging, the Company has a unique and
8 important role to reduce station installation costs, directly enable a large number of
9 installations, and anticipate and manage the associated grid-impacts. This is a role that will
10 not otherwise be met by the private market. Failure to support customers in addressing
11 these barriers will result in far slower and less-equitable EV adoption than the
12 Commonwealth’s policy goals demand and will result in far more public EVSE required
13 to be built.

14 **C. Fleet Segment**

15 **Q. What are the Fleet Segment offerings and what outcomes do they achieve?**

16 A. The Fleet Segment is an introductory offering for the Company which provides make ready
17 and EVSE support for passenger vehicle fleets and introduces Fleet Assessment Services
18 for all fleet customer types. This segment accelerates climate goals, improves community
19 health with cleaner air, provides equitable access to clean transportation, creates insights
20 for long-term EV planning, and supplies crucial tools & services for fleets to accelerate
21 their clean transportation transition.

1 In addition to the passenger vehicle fleet offering, and the Fleets Assessment Services
2 offering, the Company proposes to use the learnings from the Fleet Assessment Services
3 effort to inform the development of a Medium-Heavy Duty make-ready offering which
4 will be proposed in 2023 for intended start in 2024. A separate pilot offering for Medium-
5 Heavy Duty fleets that are located in or serve EJCs will be addressed in the Equity Pilots
6 description below.

7 **Q. What are the main components of the Fleet Segment?**

8 A. The Fleet Segment consists of three main components:

- 9 1. **Fleet Make-Ready Offering (Fleet Make-Ready):** Support for light duty passenger
10 vehicle fleets in the Company's service territory.
- 11 2. **EVSE Rebate Offering:** Support for 50% of EVSE costs for all passenger vehicle fleet
12 customers (upon customer purchase of the first four ports), and 100% of EVSE costs
13 for EJC-eligible fleet customers.
- 14 3. **Fleet Assessment Services Offering:** Provide Fleet Assessment Services for up to 100
15 private & non-profit fleet customers. In addition, the program will develop online self-
16 assessment tools for customers to conduct fleet electrification planning and estimate
17 TCO savings.

18 **Q. Please describe the Fleet Make Ready offering**

19 A. The Company proposes a make-ready offering to serve passenger vehicle fleets within the
20 Company's service territory. The program will provide support in line with the Public and
21 Workplace offering, and is budgeted within that component.⁸⁰ The Fleet offering will cover
22 100% of the costs for utility-side make-ready work with the Company retaining the right
23 to review and deny program support for high-cost projects. The Fleet offering will cover

⁸⁰ The passenger fleet Make-Ready offering is identical to and budgeted within the Public and Workplace offering. It is described in this section separately for continuity of presentation among the EDC programs.

1 up to 100% of average costs per port for customer-side make-ready work, but not more
2 than actual costs, with the ability for the Company to approve up to 150% of the average
3 cost per port on a case-by-case basis.

4 The program will also provide financial support for qualified EVSE and EVSE installation
5 and activation costs, budgeted at \$4,000 per L2 port for MUDs located in EJC's and \$2,000
6 per L2 port (after the first four ports) for all other fleets, but not more than actual costs.

7 These financial support levels reflect an \$8,000 dual-port station purchase and installation
8 cost benchmark (\$4,000 per port) and the program funding 100% of the cost per port for
9 sites in EJC's and 50% of the cost per port (after the first four ports) for all other fleets.

10 Actual rebates offered may vary over time as the station price benchmark changes and
11 based upon the availability of third-party funding and customer interest in program.

12 **Q. Are private and public fleets eligible for the Fleet Make-Ready offering?**

13 A. Yes. In order to accelerate fleet EV deployments as rapidly as possible, the Fleet Make-
14 Ready offering is designed to support the needs for both private and public fleets. As part
15 of its interactions with stakeholders, and to ensure equitable distribution of the Fleet
16 Segment supports, the Company will monitor and adjust the allocation of funds to projects
17 in order to maintain an equitable distribution to a diverse set of customers and projects
18 (e.g., limiting support for a specific private fleet project if that customer segment has
19 received an unbalanced portion of the Fleet Make-Ready offering funds).

20 For fleets to be eligible for the EJC level of support, fleet operators must either be registered
21 in or operate more than 50% of the time within census block groups that meet any of the

1 Commonwealth's EJC definitions. This expands on the Commonwealth's eligibility for the
2 MOR-EV Trucks program, which includes census block groups within the income
3 eligibility component of EJC definition.

4 **Q. Please describe the Fleet Assessment Services offering**

5 A. The Company is proposing fleet assessment services for up to 100 private and non-profit
6 fleet customers. The services would be targeted to customer segments, including but not
7 limited to: corporate, delivery, private transport, refuse, and general services.

8 In addition, the Company proposes to develop online fleet planning and TCO tools for fleet
9 customers. Standardized reports and scalable educational tools are key factors in a fleet
10 operator's decision-making process, and these tools help fleet customers of all sizes
11 transition to clean transportation, providing services including (but not limited to): Fleet
12 Make-Ready offering eligibility, vehicle availability, funding options, infrastructure and
13 EVSE choices, fuel savings calculator, TCO estimates, and electric rate summaries. This
14 offering is built in response to the company's engagement with fleet customers, industry
15 stakeholder events, and experience with current fleet assessment services programs in
16 Massachusetts and Rhode Island. The Company has conducted exploratory discussions
17 with several potential vendors to provide these services and expect the tools to be easily
18 scaled to all fleet customers in its service territory and completed within one year of the
19 start of the offering. In order to maintain a consistent customer experience for fleet
20 operators across the state, the Company will collaborate with National Grid to procure
21 these online fleet planning and TCO tools for fleet customers. The companies will conduct

1 a joint RFP to select a single vendor, share development costs, and coordinate on an
2 ongoing basis to ensure the capabilities and user experience are consistent for fleet
3 customers in both territories.

4 **Q. Why is the Company not proposing a Make-Ready offering for Medium-Heavy Duty**
5 **fleets at this time?**

6 A. The Company believes that the learnings from a Fleet Assessment Services offering will
7 be critical to developing a Make-Ready offering that serves the needs of fleets that is
8 specific to our service territory. To date, the Company has not yet proposed or implemented
9 a Fleet Assessment Services offering, and as such, our information about the potential
10 electrification needs and costs for fleets in our service territory is not comprehensive
11 enough to propose an efficient Make-Ready offering at this time.

12 **Q. Does the Company plan to address the needs of Medium-Heavy Duty fleets?**

13 A. The Company proposes to take learnings from the first two years of initial Fleet
14 Assessments to propose a Make Ready program at that time.

15 **Q. What is the proposed budget of the Fleet Segment?**

16 A. The Fleet Segment represents a total budget of approximately \$2 million in the years 2022-
17 2025. The budget for this program offering is presented in the table below. The budget for
18 the fleet Make-Ready offering is included in the Public and Workplace offering.

<i>Estimated Fleet Segment Outcomes and Budget</i>		
Offering	Budget (\$M)	Outcomes
Fleet Assessment Services	\$2.0	<ul style="list-style-type: none">• 100 private & non-profit fleet assessments

		<ul style="list-style-type: none"> • Online fleet electrification planning and TCO savings tools
Segment Total	\$2.0	

1 **Q. How does the Fleet Segment meet the Department’s standard of review for EV**
 2 **proposals?**

3 A. The Company has used its experience in providing make-ready infrastructure, in its
 4 territory to inform this introductory Fleet Segment design. Fleet LDVs and MHDVs
 5 represent more than 30% of the commonwealth’s CO₂ emissions, and therefore represent
 6 a significant portion of the public’s interest in clean transportation solutions. In addition,
 7 the current needs of fleet operators in the commonwealth are not being met entirely by the
 8 private market, and this proposed Fleet Segment provides the holistic infrastructure
 9 support, assessment services, and EVSE rebates necessary to effectively scale the fleet
 10 vehicles to meet ZEV goals. Finally, these fleet offerings are designed to be complementary
 11 to existing services from the private market, as the infrastructure support, incentives, and
 12 rebates will complement and accelerate the rapidly evolving technology solutions and
 13 business models of the private market.

1 **VIII. Pilots to Increase Access to Electric Mobility in EJCs (“Equity Pilots”)**

2 **Q. Why is the Company introducing Equity Pilots offerings?**

3 A. Every community member deserves clean air and access to clean transportation vehicles,
4 for both their own transportation needs and from the goods and services operated in their
5 community. The offerings are designed to augment the standard make-ready and EVSE
6 incentives that incentivize deployment of charging stations in EJC's to ensure new and
7 innovative models can be explored and implemented to achieve the clean air and energy
8 goals of these communities.

9 The Commonwealth's EJC communities suffer disproportionate pollution impacts: Black,
10 Asian, and Latinx residents are exposed to approximately 30% more vehicle pollution than
11 white residents, while almost 70% of all white residents live in areas with concentrations
12 below the state average.

13 **Q. Please provide an overview of the Company's proposed Equity Pilots offerings.**

14 A. The Equity pilots offerings include two components: a car sharing program for EJC
15 residents, and make-ready support for MD-HD fleets that serve EJC communities.

16 **Q. Please describe the Company's EJC Car sharing offering.**

17 A. The Company proposes to participate as a partner in an equity focused electric car sharing
18 program that serves as a complement to public transportation. Carsharing programs reduce
19 emissions by removing internal combustion vehicles from the roadways, relieve traffic
20 congestion, and reduce parking needs.

1 Other partners that the Company intends to work with to develop and implement this car
2 sharing program may include vehicle providers, community-based organizations,
3 carsharing platform operators, municipalities, and other environmental justice community
4 stakeholders.

5 The Company intends to provide Make-Ready support for charging infrastructure in line
6 with the EJC Public & Workplace offering but may also provide additional operational and
7 financial support to ensure program success.

8 Similar carsharing pilot programs have been successfully launched in Sacramento, CA⁸¹
9 and Portland, OR⁸².

10 The Company estimates that its role in the car sharing program will cost approximately
11 \$2,000,000 to develop and implement. Actual costs may be higher or lower depending on
12 final program structure.

13 **Q. Please describe the Company's EJC MD-HD Fleet offering.**

14 A. The Company proposes to provide make-ready and EVSE incentives for MD-HD fleets
15 that serve EJC communities. These fleets may include but are not limited to: school bus,
16 community transport services, and last mile delivery fleets. While the Company has not
17 proposed a MD-HD make-ready program at scale, the Company recognizes that a segment

⁸¹ See http://www.cityofsacramento.org/-/media/Corporate/Files/Public-Works/Electric-Vehicles/EV-Strategy_Progress-Report_Final_July-2020.pdf?la=en

⁸² See https://learn.sharedusemobilitycenter.org/wp-content/uploads/2018.06_cev_casestudy_FINAL.pdf

1 of its customer base has reached a more advanced stage of its electrification journey.
2 Because of the importance of access to electric mobility to EJCs noted above, to the extent
3 that those customers are located in or serve EJCs, the Company proposes to dedicate
4 \$3,000,000 to accelerate these deployments through support for charging infrastructure and
5 EVSE. The Company expects that this proposed budget will support the electrification of
6 approximately 120 MD-HD vehicles.

7 **Q. What is the proposed budget of the Equity Pilots?**

8 A. The total budget is \$5.0 million, as noted below.

<u>Offering</u>	<u>Budget (\$M)</u>
EJC Car Sharing	\$2.0
EJC MD-HD Fleet Electrification	\$3.0
Total Equity Pilots	\$5.0

9
10 **VIII. Workforce Development and Electrician Training**

11 **Q. Please provide an overview of the Company's proposed Workforce Development and**
12 **Electrician Training Program offerings.**

13 A. The EDCs are proposing to co-sponsor two statewide offerings to invest in the EV
14 workforce of the future. These offerings are 1) a Workforce Development initiative to
15 support underrepresented entrants to the electric vehicle workforce and 2) an Electrician
16 Training initiative to upskill incumbent electricians.

1 **Q. Why is Workforce Development and Electrician Training needed?**

2 A. The rapid growth of the EV market emphasizes the importance of understanding its current
3 workforce and opportunities for continued growth and development. Developing a skilled
4 workforce is an investment, not a cost.⁸³ The transition to EVs presents a strong opportunity
5 to support inclusive, quality jobs for all Massachusetts residents. The Company's proposed
6 Workforce Development and Electrician Training program helps ensure incumbent
7 electricians and future EV workforce entrants have access to developing the needed
8 skillsets and technical knowledge to be included in the EV transition.

9 To reach the ambitious port targets proposed in the Phase II Program, as well as provide a
10 positive customer experience, the Company views workforce development and electrician
11 training as necessary. The EV workforce needs to grow over the next four years to meet
12 the demand created by this proposal. Ensuring a seamless customer experience is
13 imperative to the Company. It is critical that the workforce is knowledgeable about
14 charging infrastructure and can provide expert advice to customers on the topic.

15 To ensure equity in the EV transition, investments need to be made in both people and in
16 capital. Charging infrastructure can be viewed by some as a symbol of displacement and

⁸³ California Workforce Development Board, A Jobs and Climate Action Plan for 2030 at ii, available at: <https://laborcenter.berkeley.edu/wpcontent/uploads/2020/09/Putting-California-on-the-High-Road.pdf>

1 gentrification. Workforce development initiatives targeted at low-income residents and
2 residents in EJCs can foster acceptance of equitable infrastructure deployment.⁸⁴

3 **Q. Please describe the Company’s proposed Workforce Development initiative.**

4 A. The Workforce Development initiative aims to collectively (among the EDCs) support
5 approximately 75 participants, prioritizing populations underrepresented in the EV
6 workforce. The proposed initiative has the following targets:

- 7 ○ Create a sustained increase in the supply of qualified electric vehicle workers;
- 8 ○ Increase the diversity of the workforce; and
- 9 ○ Foster participation from low-income residents and residents in EJCs to increase
10 their awareness of EVs, EV infrastructure, and the EDCs’ EV offerings, ultimately
11 driving EV program participation in hard-to-reach communities.

12 The EDCs propose to partner with a vendor that has expertise in workforce development
13 to identify market needs, develop curriculum, outline a structure to the initiative, and
14 execute it. Workforce development needs currently under consideration include, but are
15 not limited to, the design, development, manufacture, repair and installation of EVs and
16 charging infrastructure.

17 **Q. Please describe the Company’s proposed Electrician Training initiative.**

18 A. In addition to promoting the development of new entrants to the electric vehicle workforce,
19 the EDCs are also proposing to sponsor a state-wide Electrician Training initiative to
20 upskill incumbent electricians. Achieving the Company’s ambitious port targets outlined
21 in the Phase II Program will require a strong pipeline of electricians. The initiative aims to

⁸⁴ Slowik, P. “*Expanding Zero-Emission Mobility Equity and Access*,” ZEV Alliance and ICCT 2019 at 9.
http://www.zevalliance.org/wp-content/uploads/2019/12/ZEV_access_workshop_report-fv.pdf

1 collectively (among the EDCs) train more than 1,000 electricians. The initiative has the
2 following goals:

- 3 • Educate existing electricians on electrical work related to electric vehicle charging
4 infrastructure across segments (Public and Workplace, Residential, and Fleet);
- 5 • Educate existing electricians on the EDCs' EV-related offerings; and
- 6 • Develop a list of qualified electricians that the co-sponsors can share with
7 customers;
- 8 • Ensure electricians can provide a seamless and well-informed customer
9 experience.

10 To achieve these goals, the co-sponsors will facilitate training by partnering with
11 organizations such as the Electric Vehicle Infrastructure Training Program and the
12 charging station providers.

13 **Q. Do comparable workforce development and electrician training initiatives exist?**

14 A. The Company is not currently aware of existing local, state, or federal workforce
15 development or electrician training initiatives to support the electric vehicle workforce of
16 the future. The co-sponsors will coordinate with key partners (i.e. IBEW, MassCEC, the
17 MA Clean Cities Coalition, MassHire, etc.) to develop the proposed initiatives, avoid
18 duplication, and ensure consistency. Furthermore, the co-sponsors will explore
19 opportunities to recruit additional sponsors that are aligned with the goals of the workforce
20 development initiative, such as automakers and charging station providers, in order to
21 expand the initiative's reach and/or decrease each sponsor's costs.

1 **Q. What is the proposed budget for the Electrician Training and Workforce**
2 **Development initiatives?**

3 A. As outlined in the table below, the total budget for the Workforce Development and
4 Electrician Training initiatives is approximately \$2.3M and will be split between the EDCs.
5 Collectively between the EDCs, the Workforce Development initiative aims to reach
6 approximately 75 participants, and the Electrician Training initiative aims to reach
7 approximately 1,000 trainees. The Company proposes that the offering be examined after
8 2 years to determine if this segment warrants increased support.

Program	Total Budget (Split between the EDCs)	Eversource Budget	Outcome
Workforce Development	\$2,000,000	\$1,000,000	Approximately 60 participants statewide
Electrician Training	\$300,000	\$150,000	Approximately 1,000 trainees statewide

9

10 **IX. Performance Incentive Mechanisms (“PIMs”)**

11 **Q. What is the purpose of a PIM?**

12 A. The purpose of a PIM is to better align the utility’s regulatory and financial interests with
13 the interests of the public. A PIM provides a regulated utility with a financial incentive to
14 pursue an outcome aligned with a public policy objective, shared by regulators and key
15 stakeholders, which typically falls outside of the utility’s core service obligations and may
16 be uneconomic or impractical for the utility to pursue otherwise. A PIM may also provide
17 a utility with an incentive to drive outperformance in areas that are related to its core
18 business.

1 The Company is proposing a PIM with the goal of controlling the cost of EVSE
 2 deployment.

3 **Q. What PIM is the Company proposing?**

4 A. The Company proposes one Cost Containment PIM. The Cost Containment PIM is
 5 comprised of two independent metrics: (1) L2 EVSE Cost Containment; and (2) DCFC
 6 Cost Containment.

7 **Q. Please provide an overview of the Company’s PIM proposal.**

8 A. The Company proposes one PIM consisting of a total of two metrics.

9 **Table _ : Summary of PIM**

PIM	Description	Metric
Cost Containment	<ul style="list-style-type: none"> • Minimize ratepayer cost per port • Maximize EVSE enabled • Share savings with customers 	L2 Cost Containment: $[(\text{Cost Target per L2 Port} - \text{Actual Cost Per L2 Port}) * (\text{Ports Enabled}) \times 30\%]$
		DCFC Cost Containment: $[(\text{Cost Target per DCFC kW} - \text{Actual Cost Per DCFC kW}) * (\text{kW enabled}) \times 30\%]$

1 **Q. What are the Department's criteria for evaluating PIMs?**

2 A. The Department set forth its standard for evaluating a proposed incentive mechanism in
3 D.P.U. 18-150. The Department uses a two-prong test to evaluate whether an incentive
4 mechanism is appropriate: (1) whether the PIM satisfies certain threshold principles; and
5 (2) whether the PIM meets the design guidelines. D.P.U. 18-150, at 120. For the first
6 prong, the PIM must first be found to meet the threshold principles that: (1) it advances
7 specific public policy goals; and (2) the affected activity is clearly outside a distribution
8 company's public service obligations. If the PIM meets the threshold principles, the
9 Department will evaluate whether the proposed incentive mechanism meets the second
10 prong design guidelines, where the incentive mechanism must: (1) be designed to
11 encourage program performance that best achieves the Commonwealth's energy goals; (2)
12 be designed to enable a comparison of (i) clearly defined goals and activities that can be
13 monitored, quantified, and verified after the fact to (ii) the cost of achieving the target to the
14 potential quantifiable benefits; (3) be available only for activities where the distribution
15 company plays a distinct and clear role in bringing about the desired outcome; (4) be
16 consistent across all electric and gas distribution companies, where possible, with
17 deviations across companies clearly justified; (5) be created to avoid perverse incentives;
18 and (6) ensure the distribution company is not rewarded for the same action through
19 another mechanism. D.P.U. 18-150, at 121.

20

21

1 **Q. Please describe the proposed Cost Containment PIM.**

2 A. The Cost Containment PIM will establish cost targets for the Public and Workplace, MUD,
3 and Fleet charging station offerings within the Phase II Program to identify the expected
4 cost to achieve a given outcome. In the case of L2, a cost per port, and in the case of DCFC,
5 a cost per kW enabled are proposed. Based upon the Company's actual port and kW
6 deployments, the PIM will calculate any savings against the cost targets and allow the
7 Company to retain a 30% share of those savings as an incentive while the other 70% of the
8 savings will be benefits for customers. Finally, the Company is proposing limits regarding
9 minimum and maximum earnings potential. The Company proposes that it must reach at
10 least 75% of the total L2 port enabled target for the Public and Workplace, MUD, and Fleet
11 offerings, or roughly 6,200 L2 ports, and for DCFC approximately 20,000 kW installed
12 (roughly 114 175kW stations). In addition, the Company proposes to cap the total cost
13 containment incentive at \$7 million over the term, or roughly 3.6% of the proposed Phase
14 II Program budget.

15 **Q. What are the benefits of the Cost Containment PIM?**

16 A. The Cost Containment PIM will encourage in a more cost-efficient program with lower
17 costs and bill impacts for a given level of charging deployments. Given the still early stage
18 of the EV market, there are likely areas of cost reduction potential the Company will be
19 able to find if it is highly motivated to discover and pursue them. A cost containment
20 incentive has been proposed and reviewed previously in D.P.U. 18-150.⁸⁵

⁸⁵ D.P.U. 18-150 at 126.

1 **Q. Please describe the method for measuring the two Cost Containment metrics.**

2 A. The Company is currently required to perform annual cost recovery filings for the Phase I
3 Program. In future cost recovery filings, the Company will use the program costs and
4 outcomes for L2 ports and DCFC kW enabled to determine program savings. Any project
5 level utility-side make-ready, or customer-side make-ready for L2 or DCFC projects will
6 be applied to their respective outcomes. Any projects installing both L2 and DCFC will
7 use appropriate methods of allocating costs, if needed. The Company proposes the PIM as
8 a one-time measurement done at the end of the Phase II Program.

9 **Q. Please describe the proposed cost targets and how they were established.**

10 A. The Company is proposing a method to determine the cost per L2 port and cost per kW
11 target that reflects the total of utility-side make-ready, and customer-side make-ready. For
12 L2 ports, the Company proposes to use the average cost of Company support per L2 port
13 from the Phase I program for utility-side and customer-side make-ready work. For DCFC,
14 the Company proposes to use vendor quotes and support from the Phase I program per kW
15 installed for utility-side make-ready, customer-side make-ready. The Company expects
16 final historical cost targets to be calculated after the Phase I program is complete.

17 **Q. Please describe the actions the Company may take to achieve Cost Containment PIM**
18 **goals.**

19 A. While the Company always works to be judicious with costs, an incentive allows additional
20 dedication of resources to drive novel or effort-intensive opportunities to create customer
21 value. The Cost Containment PIM will incentivize the Company to manage each type of
22 cost. To minimize utility-side make ready, the Company will restrict program support to

1 overly expensive service upgrades, and work with site hosts to find locations for EVSE
2 that minimize costs while retaining locational value for EV drivers. For customer-side
3 make-ready costs, the Company will be judicious in approving above average financial
4 support levels and will strive to reduce costs per port installed. Finally, because the
5 incentive scales with the number of installations and amount of cost savings, the Company
6 will strive to be maximally efficient in program administration, supporting as many
7 projects as possible within the program budget.

8 **Q. Does the proposed Cost Containment PIM meet the Department’s criteria for PIM**
9 **proposals?**

10 A. Yes. The Phase II Program advances the specific public policy goal of electrifying
11 transportation to improve societal and environmental outcomes. In its D.P.U. 18-150
12 Order, the Department found that a charging station cost containment PIM generally meets
13 the threshold principles but noted the need to use actual costs in determining cost targets.⁸⁶
14 The Company has now filed three years’ worth of cost recovery information and has used
15 that data to develop the proposed cost targets.

16 The proposed Cost Containment PIM also meets all the Department’s design principles for
17 evaluating PIM proposals, as it supports the Commonwealth’s clean energy goals by
18 supporting access to clean transportation ownership and operation; can be clearly
19 monitored, quantified, and verified; demonstrates the Company’s clear and distinct role to
20 facilitate, interconnect, and plan for EV charging; and does not lead to double collecting of

⁸⁶ D.P.U. 18-150, at 85-87, 125-127.

1 incentives (i.e., the Company is not otherwise rewarded or incentivized to reduce such
2 costs.

3 **Q. Did the Company perform a net benefit analysis for the Cost Containment PIM?**

4 A. No, the two metrics are designed to allow the Company to earn an incentive for maximizing
5 budget efficiency and EVSE deployment, the incentives are based on actual savings
6 delivered to customers rather than an estimate of net benefits.

7 **Q. How does the Company propose to report on PIM performance results and what
8 process is proposed for Department review and confirmation of these PIM targets
9 being achieved?**

10 A. The Company proposes to report on PIM performance results in the cost recovery filings.
11 Once the cost and performance targets are finalized, the Company can include an
12 assessment in each Phase II Program cost recovery of the calculated savings against the
13 cost targets.

14 **X. Resources Needed for Program Implementation**

15 **Q. What resources did the Company include to implement the Phase II Program?**

16 A. In order to successfully implement the Phase II Program, the Company is proposing to
17 include the following necessary resources: Company Staffing, Information Technology,
18 Marketing and Outreach, Program Management, and Evaluation. The Company is filing
19 Exhibits ES-KB-2, ES-KB-3 and ES-KB-5 that describe the program implementation
20 budget estimates, including marketing, Company staffing, IT investments, and program
21 evaluation.

22

1 ***Company staffing (“FTEs”⁸⁷)***

2 **Q. What are the Company’s proposed staffing needs?**

3 A. The Phase II Program expands the Company’s existing EV offerings, requiring additional
4 staffing resources. The Company is proposing 12.0 incremental FTEs, as outlined in
5 Exhibit ES-KB-5. The estimated cost of all incremental FTEs for the duration of the Phase
6 II Program is ~\$10M in labor cost.

7 ***Information Technology (IT)***

8 **Q. What IT resources has the Company included in the budget for the Phase II**
9 **Program?**

10 A. The Company is filing Exhibit ES-KB-2 that includes the budget for Information
11 Technology (IT) for the following purposes:

- 12 1. Investment in a workflow management platform to manage customer applications
13 to the Public and Workplace, MUD, and Fleet segment offerings and track and
14 document program deployment progress. The Company estimates \$220,000 over
15 the term of the program.
- 16 2. The Company is requesting \$60,000 for IT staff time required to help evaluate RFPs
17 and support administration of the residential 1-4-unit offerings, as those offerings
18 expect to use customer data to help administer rebates.

19 **Q. Why are the investments in IT resources necessary for the Phase II Program?**

20 A. The Phase II Program has ambitious targets for the number of EVSE ports installed. In
21 addition, the number of Company staff required to administer the program will increase.
22 Investment in the software will allow the Company to efficiently scale its administration
23 of the program, improve customer experience, improve data management, and enable
24 workflows that better support the larger project management team required for such an

⁸⁷ Full time equivalent.

1 effort. While the Company may continue to leverage Excel-based tracking for some
2 elements of the Phase II Program, there is a need for a more robust, secure system to
3 improve administration efficiency and effectiveness and the customer experience.

4 XI. **Marketing and Outreach**

5 **Q. Please describe the Company's proposed approach to Marketing and Outreach.**

6 A. The Company is proposing a Marketing and Outreach Plan to drive awareness of and
7 participation in the proposed EV offerings, including new customer offerings among
8 residential, commercial, and fleet customers through targeted outreach and
9 communications. Consumer education pertaining to electric vehicle charging continues to
10 be a barrier, making a dedicated Marketing and Outreach Plan a vital component of the
11 proposal and the success of each program to meet participation targets.

12 The Company's communication channels have a reach throughout its service territory, and
13 the Company communicates with customers regularly through a variety of channels
14 including bills, home energy reports, email, social media, billboards, digital, print and radio
15 media serving as a trusted advisor for their energy needs. The Company proposes that it
16 leverage these capabilities to execute a Marketing and Outreach Plan that will: empower
17 residential and commercial customers to make informed decisions about the benefits of
18 installing EV charging stations for home, business or public charging; highlight
19 opportunities to accelerate fleet electrification; and increase access to charging among
20 LI/EJC customers.

1 In addition to traditional marketing and outreach techniques, the Company intends to
2 leverage existing and future community and stakeholder relationships to target hard to
3 reach customers, underserved and overburdened populations, as well as other customer
4 segments. Working with municipalities, state agencies, CAP agencies/local non-profit
5 organizations, the Chambers of Commerce, the EVSE installer network, car dealerships,
6 etc., the Company will be able to expand its reach and ensure customers are aware of the
7 resources available to them. The Company also plans to utilize existing points of contact
8 with customers, such as those through the Energy Efficiency programs, to co-market
9 programs, maximize reach and customer experience, and lower costs.

10 **Q. Why is a Marketing and Outreach Plan necessary?**

11 A. The Marketing and Outreach Plan will enable the Company to meet the ambitious port and
12 fleet vehicle targets of the Phase II Program. Phase II introduces EV offerings for new
13 customer segments, including 1-4 unit Residential customers, and fleet customers, and
14 expanded offerings for EJC/LI customers, and new program elements including EVSE and
15 networking rebates, and rebates for primary metered customers.

16 Lessons learned from the Phase I Program Evaluation have helped inform the Marketing
17 and Outreach Plan. These lessons include:

- 18 • Marketing and outreach should be targeted and customized to specific customer
19 segments, especially traditionally hard to reach segments like large MUDs
- 20 • Site host and EVSE visibility can increase customer awareness of the availability
21 of EVSE
- 22 • Awareness of EVSE incentives can be primary driver of site host recruitment
23 success

1 These lessons learned support the importance of Marketing and Outreach in driving the
2 success of the Phase II Program.

3 **Q. How will the Company develop the Marketing and Outreach Plan?**

4 A. The Company will work with an advertising agency, informed by findings from currently
5 offered programs, communication to internal EV/Energy Efficiency teams, and external
6 partnerships to develop a Marketing and Outreach Plan that will:

- 7 • identify and prioritize residential customers who are likely to install
8 charging infrastructure in their homes;
- 9 • perform dedicated outreach to targeted environmental organizations, non-
10 profits, state agencies, and consumer advocacy groups to ensure the
11 Company is reaching LI/EJC customers and appropriate stakeholders across
12 the jurisdiction;
- 13 • identify and prioritize consumer and site host benefits for EV charging
14 accessibility and increase site hosts' familiarity with EV charging as an
15 amenity for employees, customers, tenants, or visitors;
- 16 • identify corporate parties and commercial customers that may benefit from
17 fleet electrification and on-premises charging;
- 18 • develop messages that highlight the Company's charging infrastructure and
19 fleet offerings and deliver them through multiple channels, listed below, and
20 direct communication to internal teams and external partners:
 - 21 ○ Company channels (website, social media, bill inserts, call centers,
22 sales team)
 - 23 ○ Partner channels (EVSE vendors, local auto dealers and automakers,
24 and trade groups)
 - 25 ○ Press coverage
 - 26 ○ Purchased media
 - 27 ○ EV advocacy groups
 - 28 ○ Site host communication and engagement.

29 The Company will leverage existing marketing and outreach efforts (such as within EE,
30 municipal programs, etc.) to increase uptake, lower costs, and provide a streamlined

1 customer experience. The Company proposes the above-mentioned foundational tactics
2 will be refined with the advertising agency using data derived from research with input
3 from the partners prior to any campaign launch.

4 **Q. What are the estimated costs of the Marketing and Outreach Plan?**

5 A. The Company estimates the cost of the Marketing and Outreach Plan to be approximately
6 \$10,132,000 (or approximately 5.0% of the total proposed Phase II Program budget). The
7 Company identified similarly themed awareness and participation campaigns to establish
8 costs for the Marketing and Outreach Plan.

9 **XII. Program Management**

10 **Q. Is flexibility important in managing the Phase II Program?**

11 A. Yes, to meet the needs of our customers and to be positioned to respond to the evolving
12 transportation market, the Company is requesting flexibility to adjust our spending and the
13 details of our offerings over the four-year term of the Program. To meet the ambitious goals
14 of the Commonwealth through a market and customer-driven program, the Company is
15 requesting the ability to move funds within and between program segments. This will
16 enable the Company to optimize its strategy in real time. Specifically, we are proposing
17 the flexibility to move funding, without prior approval, between offerings within the
18 program segments and move up to 20 percent of the Phase III Program funds from one
19 program segment to another. To ensure the needs of customers are being met given the
20 quickly evolving market and to enable the Company to effectively support the
21 Commonwealth's transportation electrification goals in an agile manner, the Company also

1 proposes to have the flexibility to adjust components within the offerings, including
2 incentives and rebate levels, customer eligibility requirements, and the distribution of port
3 types.

4 **Q. Is the Company considering any mid-term review of the four-year Phase II Program?**

5 A. Yes, to address more substantive changes, the Company is interested in having the
6 flexibility to initiate a mid-term review at the end of the second year of the Program. During
7 this review, substantial modifications could be proposed with supportive justification and
8 evidence. Program modifications that could be considered include, but are not limited to,
9 EVSE ownership models, pilot program scale and scope, and program administration costs
10 and considerations.

11 **XIII. Program Evaluation**

12 **Q. How will the Company evaluate the Phase II Program?**

13 A. The Company proposes to implement a comprehensive evaluation of the Phase II Program,
14 assessing its impacts and, where possible, drawing conclusions on their effects on EV
15 adoption. The Company will hire an independent, third-party evaluation expert to complete
16 this work. Upon selection of the vendor, a detailed evaluation workplan will be completed
17 to clarify the researchable questions and the evaluation methods to be utilized.

18 **Q. What will be the objective of the evaluation?**

19 A. The overall goal of the evaluation will be to characterize the Phase II Program
20 implementation and to assess the effectiveness of its offerings. The evaluation will be

1 conducted over a four-year program period. The evaluation will be focused on, but not
2 limited to:

- 3 • tracking, documenting, and assessing program performance, and participation;
- 4 • understanding the experiences of participating customers in each of the program
5 components;
- 6 • assessing barriers to non-participants, and identify opportunities to engage them;
- 7 • characterizing the experiences of low-income customers and other disadvantaged
8 groups within each program (see additional details below);
- 9 • evaluating accessibility of charging stations for customers across the Company's
10 territory;
- 11 • studying how program incentives, rebates and funding sources affect the adoption
12 of EV charging stations and fleet vehicle conversion;
- 13 • identifying program barriers and barriers to electric fleet vehicle adoption; and,
- 14 • determining how program elements affect customers' charging behaviors at home,
15 in public, and at workplaces.

1 **Q. How will the Program impact on LI/EJC customers be evaluated?**

2 A. The research will evaluate equity considerations with respect to the Phase II Programs by
3 characterizing the efforts to reach and serve low-income and other disadvantaged
4 customers. The study will assess program performance and participation and identify
5 barriers to deploying charging stations for electric vehicles and electric fleet vehicles in
6 EJCs, as well as the experiences of LI/EJC customers served by the Residential Program.
7 The evaluators will conduct special outreach efforts for EJCs and low-income customers
8 as needed to ensure diverse voices are heard; these efforts may include mixed-mode
9 surveys, in-depth interviews with CAP agencies and municipal partners, and interviews or
10 surveys with income-eligible owners and property managers.

11 **Q. What type of tasks will be performed in the evaluation of the Phase II Program?**

12 A. Evaluation activities may include : (1) periodic surveys of a broad or targeted sample of
13 Eversource customers, both residential and non-residential; (2) pre- and post-surveys of
14 residential and commercial customers who frequent residential charging stations and site
15 host facilities; (3) surveys or interviews of participating and non-participating site hosts;
16 (4) the collection and analysis of program and charging data; and (5) in-depth interviews
17 with program and support staff, external stakeholders, market actors, and industry experts
18 as needed.

19 **Q. What type of reporting will occur?**

20 A. Evaluation results will be shared with the program team as they are completed in order to
21 inform ongoing program improvement. The evaluation will cover the four-year term of the

1 programs. After each year, an annual report will be produced summarizing evaluation
2 results. After the conclusion of Year 4, a final evaluation report will be completed in the
3 months following the programs' completion.

4 **Q. What is the proposed budget for evaluation?**

5 A. The Company has budgeted approximately \$2,000,000 of program costs to fund evaluation
6 efforts. Actual evaluation expenses may be higher or lower.

7 **Q. Will the Company remain flexible during the evaluation?**

8 A. Yes, as needed over the course of the four-year program, the Company will coordinate with
9 the independent evaluator to develop or modify research tasks to characterize the effects
10 of the program and identify areas of continued process improvement.

11 **XIV. Cost Recovery**

12 **Q. What is the Company's proposal regarding cost recovery of the proposed Phase II**
13 **Program?**

14 A. Please see the testimony of Robert W. Frank for the Company's proposal regarding cost
15 recovery.

16 **XV. Conclusion**

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

18 A. Yes, it does.