STATE OF CONNECTICUT

PUBLIC UTILITIES REGULATORY AUTHORITY
TEN FRANKLIN SQUARE
NEW BRITAIN, CT 06051

DOCKET NO. 17-12-03RE04 **PURA INVESTIGATION INTO DISTRIBUTION SYSTEM PLANNING OF THE ELECTRIC DISTRIBUTION COMPANIES – ZERO EMISSION VEHICLES**

July 14, 2021

By the following Commissioners:

Marissa P. Gillett
John W. Betkoski, III
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DECISION

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DECISION

I. INTRODUCTION

A. SUMMARY

Pursuant to §§ 16-11 and 16-244i of the General Statutes of Connecticut (Conn. Gen. Stat.) and in accordance with the Interim Decision dated October 2, 2019, in Docket No. 17-12-03, PURA Investigation into Distribution System Planning of the Electric Distribution Companies, the Authority establishes a statewide zero emission electric vehicle program (EV Charging Program, or Program), defined herein, which shall be available to all customers and customer classes within the service territories of The Connecticut Light and Power Company d/b/a Eversource Energy (Eversource) and The United Illuminating Company (UI; collectively, the Companies). The electric distribution companies (EDCs, or Program Administrators) shall develop the appropriate program documents and additional program rules as directed in this Decision, and all associated documents necessary to effectively implement the final version of this program design. The EDCs shall not deviate from or modify in any way the final program design documents without first receiving express written approval from the Authority. A Program Summary is appended as Appendix A.

B. BACKGROUND OF THE PROCEEDING

In the Interim Decision dated October 2, 2019, in Docket No. 17-12-03, PURA Investigation into Distribution System Planning of the Electric Distribution Companies (Equitable Modern Grid Decision), the Authority specified a series of reopened proceedings to further investigate near-term topics integral to realizing the objectives outlined in its Framework for an Equitable Modern Grid. Equitable Modern Grid Decision, pp. 24 and 25. In accordance with the Equitable Modern Grid Decision, the Authority initiated the above-captioned proceeding on October 4, 2019, to investigate the topic of zero emission vehicles (ZEVs) in Connecticut and, where appropriate, the implementation of the Department of Energy and Environmental Protection's (DEEP) Electric Vehicle Roadmap's recommended policies, programs, and strategies to optimize the deployment of ZEVs and the associated distribution system infrastructure.

C. CONDUCT OF THE PROCEEDING

On October 8, 2019, the Authority issued a Notice of Proceeding conducting this uncontested proceeding pursuant to Conn. Gen. Stat. §§ 16-11, 16-19eee, 16-19fff, 16-19ggg, and 16-244i.

On November 18, 2019, the Authority issued a revised Notice of Request for Presentations and Information and Notice of Solutions Day. The Authority held a "Solutions Day" Technical Meeting on November 22, 2019, at its offices, Ten Franklin Square, New Britain, Connecticut. On November 27, 2019, the Authority issued a revised Notice of Request for Presentations and Information and second Notice of Solutions Day. The Authority held a second Solutions Day Technical Meeting on December 20, 2019, at its offices.

On, March 31, 2020, the Authority issued a *draft* Request for Program Design (RFPD) proposals as a Notice of Request for Written Comments. On May 6, 2020, the Authority issued a final RFPD, with a deadline for docket Participants and interested stakeholders to provide responsive proposals and to submit written comments by July 31, 2020. In response, the Authority received twelve (12) program design proposals.

On January 6, 2021, the Authority issued its Notice of Issuance of Straw Electric Vehicle Program Design (Straw Proposal) and Request for Written Comments. In response, the Authority received twenty (20) sets of written comments.

On January 26, 2021, the Authority issued a Notice of Technical Meeting, and on February 5, 2021, the Authority held a Technical Meeting, via Zoom teleconference, to discuss the Straw Proposal and the comments received, including presentations on suggested modifications and/or additions by stakeholders. Subsequently, the Authority issued interrogatories to various docket Participants on February 11, 2021. On February 19, 2021, the Authority issued a Notice of Hearing, and on March 5, 2021, the Authority held a hearing meeting via Zoom teleconference. On or before April 5, 2021, the Authority received twelve (12) sets of Briefs in this proceeding.

The Authority issued a Proposed Final Decision on June 9, 2021 and provided an opportunity for Participants to file Written Exceptions and to present Oral Argument. The Authority held Oral Arguments on July 6, 2021.

D. PARTICIPANTS

A list of all Participants to this proceeding is appended as Appendix B.

II. STATUTORY AUTHORITY

Electric distribution services are defined by statute as “the owning, leasing, maintaining, operating, managing or controlling of poles, wires, conduits or other fixtures along public highways or streets for the distribution of electricity, or electric distribution-related services[.]” Conn. Gen. Stat. § 16-1(a)(22). Thus, the EDCs are primarily engaged in the provision of distribution system infrastructure, and services collateral to providing that distribution system infrastructure. By the very nature of the EDCs role in the electric grid, the EDCs are a necessary party to the successful deployment of ZEVs and their associated infrastructure of charging stations.

Pursuant to Conn. Gen. Stat. § 16-11, the Authority has broad statutory power and an obligation to order reasonable improvements, repairs or alterations to a public service company’s plant or equipment (i.e., infrastructure), or such changes in the manner of operation, as may be reasonably necessary in the public interest. Further, pursuant to Conn. Gen. Stat. § 16-244i(a) and (b), the Authority regulates the EDCs in accordance with the provisions of section 16-19 and subsection (a) of section 16-19e, and each EDC is obliged to connect all customers to the company's distribution system, subject to the rates, terms and conditions as may be approved by the Authority in accordance with section 16-19 and the principles in subsection (a) of section 16-19e.

The Authority, in exercising its full powers under Title 16, examines and regulates the expansion of the plant and equipment of the EDCs, the operations and internal workings of the EDCs, and the establishment of the level and structure of rates consistent with the following principles:

> (1) That there is a clear public need for the service being proposed or provided; … (3) that the authority and all public service companies shall perform all of their respective public responsibilities with economy, efficiency and care for public safety and energy security, and so as to promote economic development within the state with consideration for energy and water conservation, energy efficiency and the development and utilization of renewable sources of energy and for the prudent management of the natural environment; (4) that the level and structure of rates be sufficient, but no more than sufficient, to allow public service companies to cover their operating costs … and yet provide appropriate protection to the relevant public interests, both existing and foreseeable….
>
> Conn. Gen. Stat. § 16-19e(a).

Further, in the context of restructuring the electric industry, the General Assembly explicitly recognized the important role of electricity in Connecticut and articulated additional principles that are broadly applicable and provide guidance in the Authority's oversight of the EDCs and the EDCs' obligations to the public:

> (1) The provision of affordable, safe and reliable electricity is key to the continuing growth of this state and to the health, safety and general welfare of its residents;…(4) It is in the best interest of the state to reduce rates for electricity to all customer classes [and] to prevent cross subsidization among customer classes…while retaining a regulated distribution system to ensure reliability;…(8) The assurance of safe, reliable and available electric service to all customers in a uniform and equitable manner is an essential governmental objective and a restructured electric market must provide adequate safeguards to assure universal service and customer service protections;…(12) It is in the best interest of the state for all customers to use electricity as efficiently as possible.
>
> Conn. Gen. Stat. § 16-244.

In summary, in providing electric distribution services, the EDCs are expected to provide safe, reliable, affordable, and available electric service to all customers in a uniform and equitable manner. Further, the services must be provided with economy, efficiency, and care for public safety and energy security; promote economic development; consider the need for energy conservation, energy efficiency, the prudent management of the environment; and, provide protection for relevant foreseeable public interests. Rates for those services must ultimately conform to the principles and guidelines set forth in section 16-19e, must not be unreasonably discriminatory or more or less than just, reasonable and adequate, and the service furnished in exchange for a rate must not be inadequate to or in excess of public necessity and convenience. Conn. Gen. Stat. § 16-19(a).

Applying the foregoing principles and guidelines, the Authority exercises its broad statutory powers and obligations under Conn. Gen. Stat. §§ 16-11 and 16-244i to establish the EV Charging Program. Moreover, the Authority finds that a proactive programmatic approach to facilitating the deployment and integration of ZEVs and associated infrastructure is necessary and in the public interest, pursuant to its statutory authority and the State's overarching public policy objectives (See, Section III.A.). The record in this proceeding, as further discussed herein, supports the Authority's determination that a long-term, statewide, comprehensive, and strategic program is required to deploy and integrate ZEVs and associated infrastructure in a way that maximizes electric system, ratepayer, and environmental benefits, while ensuring equitable access across the State to ZEVs and the benefits they provide.

III. PROGRAM OBJECTIVES

As identified in the May 6, 2020 RFPD, the objective of the instant proceeding is to enable Connecticut's commitment to the ten state Memorandum of Understanding (MOU) to collectively deploy 3.3 million ZEVs among the participating states by 2025. State Zero-Emission Vehicle Programs Memorandum of Understanding, dated October 24, 2013. A self-sustaining ZEV market is a critical component of meeting the State's greenhouse gas (GHG) targets pursuant to the Global Warming Solutions Act.[1] Thus, a proactive approach to facilitate the seamless integration of new and emerging ZEV-related technologies is required to realize the potential electric system benefits of ZEVs, along with the economic, health, and environmental benefits they provide.

Connecticut has several public policies in place that necessitate the rapid uptake of ZEV deployment through 2030. As noted above, Connecticut is an original signatory to the 2013 ZEV MOU. In order to meet Connecticut's ZEV MOU target, approximately 125,000 – 150,000 EVs must be deployed by 2025. Further, Public Act 18-82, An Act Concerning Climate Change Planning and Resiliency, establishes a mandatory economy-wide GHG emissions reduction target of 45% below 2001 levels by 2030. The Governor's Council on Climate Change (GC3) conducted a GHG pathways reduction analysis, which identified wide-scale EV deployment as a primary GHG reduction strategy to meet the 2030 and 2050 targets. Specifically, the GC3 pathways reduction analysis projected that the deployment of 500,000 EVs, or 20 percent of light-duty vehicles statewide, will be required to meet Connecticut's 2030 and 2050 statutorily required GHG reduction targets. EV Roadmap, p. 12. Thus, a proactive approach to facilitate the seamless integration of new and emerging EV-related technologies is required to realize the potential electric system benefits of EVs, along with the economic, health, and environmental benefits they provide.

The deployment and integration of ZEVs into Connecticut's electric grid (i.e., the distribution system infrastructure) is also a key component of meeting the objectives of the Authority's Framework for an Equitable Modern Grid, namely: (1) support (or remove barriers) to the growth of Connecticut's green economy; (2) enable a cost-effective, economy-wide transition to a decarbonized future; (3) enhance customer access to a

[1] Public Act No. 08-98, *An Act Concerning Global Warming Solutions*, sets forth the requirement that Connecticut reduce GHG emissions by January 2050 to at least 80% below the 2001 level.

more resilient, reliable, and secure commodity; and (4) advance the ongoing energy affordability dialogue in the State, particularly in underserved communities. Equitable Modern Grid Decision, pp. 3-4. While ZEVs are vital to achieving these objectives, the electrification of the transportation sector does present real technical, cost, and adoption challenges for the electric distribution system and its ratepayers. However, if implemented and managed properly, transportation sector electrification similarly offers tangible opportunities for local businesses, Connecticut EDCs, and all ratepayers. Id., p. 15. Specifically, increased ZEV deployment can provide direct benefits to the electric grid and spread fixed infrastructure costs over a greater volume of electricity sales, thereby reducing electric rates. Id., p. 4.

In its written comments, VEIC notes that while some program areas outlined in the Straw Proposal contain goals aligned with achieving an equitable transition to EVs, that an equitable transition should explicitly be included as an overall program objective. VEIC Written Comments, dated January 29, 2021, p. 1. The Authority agrees, and through the establishment of this EV Charging Program, endeavors to achieve an equitable transition to wide-scale EV deployment across all communities in Connecticut. Further, the Authority supports the work of the GC3's Equity & Environmental Justice Working Group, including its recommendation to develop "an environmental and climate justice mapping tool to provide a visual representation of the relative vulnerabilities of Connecticut's communities." See, Equity & Environmental Justice Working Group Report, Prepared for the Governor's Council on Climate Change, p. 36.

In addition, the Authority seeks to better understand the current mobility obstacles low- to moderate-income (LMI) residents face – as many EV drivers have limited to no access to charging solutions beyond public charging – and to determine electrified transportation strategies that are best suited to meet current and future LMI needs. Accordingly, the Authority selected RMI through an open-RFP process, pursuant to Conn. Gen. Stat. § 16-18a, to conduct a study examining potential transportation electrification mobility solutions for LMI communities in Connecticut. RMI's final report and recommendations, anticipated in the fourth quarter of 2021, will inform future program designs or modifications through the annual program review process.

The Authority formally adopts the above objectives, with the aim of fostering a self-sustaining ZEV market in Connecticut through the EV Charging Program in order to meet the State's GHG and ZEV MOU targets in a just and equitable manner. These objectives (Program Objectives) shall guide the EDCs in their administration of the EV Charging Program.

IV. OVERARCHING PROGRAM DESIGN

A. EV CHARGING PROGRAM SUMMARY

The Authority establishes the EV Charging Program outlined herein based on the responses provided to the Authority's RFPD, Request for Written Comments on the Straw Proposal, interrogatories, and other publicly available information. The key program elements consist of a combination of incentives for networked Level 2 electric vehicle supply equipment (EVSE) and direct current fast chargers (DCFC), as well as accompanying rate design offerings. Eversource and UI will administer the Program in their respective service territories, though the same program offerings will be made available to all EDC customers to ensure a streamlined, statewide approach to EV infrastructure investments and coordinated outreach. The program design for each of the program areas is detailed in Section V.

The EV Charging Program identifies five program areas, or market segments, to optimize EVSE deployment and associated distribution system infrastructure necessary to meet Connecticut's transportation electrification goals:

(1) Residential Single-Family Level 2 Charging;
(2) Residential Multi-Unit Dwellings (MUDs) Level 2 Charging;
(3) Direct Current Fast Charging (DCFC);
(4) Destination Level 2 Charging; and
(5) Workplace & Light-Duty Fleet Level 2 Charging.

Taken together, these program areas represent a comprehensive, portfolio approach to enabling ZEV deployment on the scale necessary to meet the State's EV policy goals and GHG reduction targets, as discussed herein.

B. PROGRAM LENGTH AND REVIEW PROCESS

Connecticut's commitment to the ZEV MOU and the State's 2030 and 2050 GHG emission reduction targets necessitate a long-term, comprehensive approach to building out EV charging infrastructure to support wide-scale EV deployment over the next decade. Eversource RFPD Response, Executive Summary, p. 2; Connecticut Electric Vehicle Coalition RFPD Response, p. 1; Greenlots RFPD Response, p. 3; see also, EV Roadmap, p. 20. As DEEP notes, the strategic deployment of residential, workplace, and publicly available Level 2 and DCFC EVSE will promote consumer confidence and encourage further EV adoption that maximizes electric grid benefits. DEEP Written Comments, dated January 29, 2021, pp. 3-4.

Accordingly, the Authority establishes a nine-year program to support EV charging infrastructure in Connecticut, starting on January 1, 2022[2], and continuing through at least December 31, 2030. The Program is structured around three-year program review cycles (Program Cycle). During the last year of every Program Cycle (e.g., 2024), the Authority

[2] The EV Charging Program will launch beginning on January 1, 2022, subject to the EDCs finalizing contract(s) with the selected EVSE vendor(s).

will conduct a full program review (Program Review) beginning on or around June 15, including an evaluation of the existing program design to ensure that the Program is: (1) delivering on the expected value to Connecticut's ratepayers; and (2) is meeting the Program Objectives. The Authority will also revisit EVSE deployment targets during the Program Review and evaluate whether the Program is delivering on the expected value to Connecticut ratepayers and is meeting the stated Program Objectives. The Program will also include an annual proceeding to review key program metrics and to make adjustments as necessary (Annual Review), as detailed in Section VI.F.

The EV Charging Program is designed to be adaptable to the evolving EV charging needs and technological advancements over the next decade. Notwithstanding, the Authority determines that the final budgets allocated to each program area (Program Budget), as determined by specific EVSE deployment targets below, will remain fixed for the duration of each Program Cycle (See, Table 3). In other words, funds from one program area shall not be applied to support investments in another program area without prior approval from the Authority. The establishment of a Program Budget specific to each program area will ensure an even and equitable distribution of program funding across the different market sectors. If the EDCs achieve charging infrastructure deployment targets in one or more program areas prior to the conclusion of the current Program Cycle, the EDCs may request a motion for approval of additional funds to be allocated to meet deployment targets specified in future Program Cycles, which the Authority will consider under the appropriate Annual Review proceeding (See, Section VI.F.).

C. STATEWIDE EVSE DEPLOYMENT TARGETS

1. Background on EVSE Deployment Targets

The Alternative Fuels Data Center, overseen by the U.S. Department of Energy's (DOE) Office of Energy Efficiency & Renewable Energy, tracks data on public and private DCFC and Level 2 charging station locations. As of June 2021, there are 275 ports across 60 DCFC stations and 893 ports across 398 Level 2 charging stations installed in Connecticut (see Table 1 for a breakdown by charger type).[3]

[3] See U.S. DOE Alternative Fuels Data Center, accessed June 9, 2021, https://afdc.energy.gov/stations#/analyze?region=US-CT&fuel=ELEC&ev_levels=dc_fast&ev_levels=3&ev_levels=2.

Table 1
Current Deployment of EV Charging Stations in Connecticut

	DCFC	Level 2
CCS and CHAdeMO	69 ports; 35 stations	N/A
J1772	N/A	771 ports; 369 stations
Tesla	206 ports; 25 stations	122 ports; 48 stations
Total	275 ports; 60 stations	893 ports; 398 stations

U.S. DOE Alternative Fuels Data Center

The National Renewable Energy Laboratory (NREL) developed an Electric Vehicle Infrastructure Projection Tool (EVI-Pro Lite Tool) to assist states, cities, and other stakeholders in projecting consumer demand for EV charging infrastructure. The EVI-Pro Lite Tool projects the number of DCFC and Level 2 charging stations required to support a specified level of light-duty EVs deployed within a jurisdiction.

In its Straw Proposal, the Authority utilized the EVI-Pro Lite Tool to determine EVSE deployment levels required to meet Connecticut's 2025 ZEV MOU and 2050 GC3 goals. The Authority applied the following assumptions, as outlined in DEEP's EV Roadmap, as inputs for the statewide electric vehicle mix: 20 percent plug-in hybrid vehicles with 20 mile range, 27 percent plug-in hybrid vehicles with 50 mile range, 12 percent battery electric vehicles with 100 mile range, and 41 percent battery electric vehicles with 250 mile range. In addition, 100 percent of EV drivers were assumed to have access to home charging. The high end of the deployment range assumed full support, or that most plug-in hybrid electric vehicles (PHEV) drivers would not use gasoline on a typical day, whereas the low end assumed partial support, applying half of the full support assumption and thereby reducing the total number of required EVSE installations.

Notably, the EVI-Pro Lite Tool does not model EVSE deployment beyond 10 percent of 2016 estimates of total in-state light duty vehicles. Accordingly, the EVI-Pro Lite Tool is limited in its estimate for EVSE needed to support up to 300,000 light-duty EVs in Connecticut.

2. Stakeholder Comments on Deployment Targets

Multiple docket Participants requested the Authority further consider the EVI-Pro Lite Tool input assumptions to develop appropriate EVSE deployment targets to support the State's EV deployment goals. Sierra Club stated the Authority should not let the limitations of the EVI-Pro Lite Tool constrain program targets, and proposed PURA perform calculations to scale up the EVSE deployment requirements for 300,000 EVs to 500,000. Sierra Club Written Comments, dated January 29, 2021, p. 2. UI also proposed the Authority perform calculations to determine EVSE deployment necessary to support the adoption of 500,000 light-duty EVs. UI specifically suggested the Authority calculate the ratio of plugs to EVs provided by the EVI-Pro Lite Tool for 300,000 EVs in each

program area, then use the resulting ratio to calculate the number of plugs required to support 500,000 light-duty EVs. UI Written Comments, dated January 29, 2021, p. 3.

UI noted that while the EVI-Pro Lite Tool is effective for assessing charging infrastructure requirements, the input assumptions should be based on current and expected trends. UI Written Comments, dated January 29, 2021. DEEP stated that new information about Connecticut's light-duty EV vehicle mix has become available since the release of the EV Roadmap that was utilized in the Straw Proposal. DEEP Response to Interrogatory CAE-10. DEEP provided a revised vehicle mix based on Connecticut Department of Motor Vehicles registration data collected from 2019 and 2020 to reflect more recent deployment trends of light-duty EVs. Tr. 3/5/21, p. 17. Since 11 percent of Connecticut residents live in apartments, DEEP also recommended assuming 89 percent of residents have access to home charging. DEEP Response to Interrogatory CAE-10. Additionally, DEEP recommended the partial PHEV support assumption in the EVI-Pro Lite Tool best represents the needs of Connecticut drivers. Id.

Eversource expressed concern that the Straw Proposal's EVSE deployment targets may be difficult to achieve in early program years, noting the experience of the Company's Massachusetts affiliate, and suggested the Authority reallocate program targets to later years. Eversource Brief, pp. 2-7. However, Eversource also acknowledged that the Company's program in Massachusetts does not offer upfront incentives, and the inclusion of upfront incentives, along with demand charge mitigation, would likely further support the deployment of EVSE in Connecticut. Tr. 2/5/21, p. 42. OCC also recommended lower Program deployment targets in early years to account for implementation challenges. OCC Written Comments, dated January 29, 2021, p. 11.

3. EVSE Program Deployment Targets

Recognizing that the EV mix in Connecticut continues to evolve, the Authority finds DEEP's revised 2025 electric vehicle mix projections as representative of the expected vehicle composition over the first three-year cycle of the Program. As such, the Authority adopts the following electric vehicle mix assumptions: 25 percent plug-in hybrid vehicles with 20 mile range, 4 percent plug-in hybrid vehicles with 50 mile range, 5 percent battery electric vehicles with 100 mile range, and 66 percent battery electric vehicles with 250 mile range. DEEP Response to Interrogatory CAE-10. The Authority also assumes 89 percent of drivers of light-duty EVs will have access to home charging during the initial three-year phase of the Program. Id. The Authority will also revisit EVSE deployment targets during the Program Review, as outlined in Section VI.F.

The Authority agrees that the current inability of the EVI-Pro Lite Tool to project EV charging station infrastructure necessary to support statewide deployment of more than 300,000 light-duty EVs should not artificially limit the calculation of EVSE deployment targets necessary to achieve a deployment of 500,000 light-duty EVs across the State by 2020. As such, the Authority finds UI's proposed calculation methodology is appropriate to extrapolate 2030 EVSE deployment levels to support the adoption of 500,000 light-duty EVs by 2030. Table 2 provides the outputs from the EVI-Pro Lite Tool scaled up to a 500,000 EV deployment scenario and a 150,000 EV scenario to determine statewide EVSE deployment targets for 2030 and 2025, respectively.

Table 2
EVI-Pro Lite Tool Results & Extrapolation

	NUMBER OF PORTS (STATEWIDE)		
	Public DCFC	Public Level 2	Workplace Level 2
2025 Estimate (to reach 150,000 EVs by 2025)	412	3,119	4,628
2030 Estimate (extrapolated to reach 500,000 EVs by 2030)	1,102	9,737	14,713

The EV Charging Program is designed to meet consumer demand for EVSE charging infrastructure as projected by the EVI-Pro Lite Tool using Connecticut-specific deployment targets. The EVSE deployment targets established in this Program are not intended to displace or otherwise discourage private market participation in building out a robust EV charger network across Connecticut to meet current and future consumer demand. To accommodate the role of private market participants, the Program targets are designed to support 50% of the EVSE required statewide to meet 2030 and 2050 GHG reduction targets. Further, the Authority maintains that the EDCs are instrumental in spurring early EVSE development in Connecticut, as rapid uptake will be required in the first years of program implementation to support Connecticut's 2025 ZEV MOU commitment. While the EV market penetration rate may steadily increase, EVSE deployment through the Program need not match that rate in future program years.

As such, the Authority adopts 50% of the EVI-Pro-Lite Tool projected EVSE deployment targets to support 150,000 EVs in 2025 and 50% of the scaled-up outputs to support 500,000 EVs in 2030, as discussed above. The programmatic statewide deployment targets for Destination Level 2 and DCFC ports account for current public DCFC and Level 2 EVSE deployment levels in Connecticut.

To promote home charging, the Authority recognizes the need to deploy Level 2 charging stations in the Residential Single-Family and Residential MUDs program areas. Notably, however, the EVI-Pro Lite Tool's projections are limited to estimating the number of workplace Level 2 and public DCFC and Level 2 charging stations required to support a specified level of light duty EVs deployed within a jurisdiction. The EVI-Pro Lite Tool considers charging at MUDs as part of its home charging category.[4] As a result, EVSE deployment targets for the Residential Single-Family and Residential MUDs program areas must be established separately.

UI recommended the Residential Single-Family Program engage ten percent of the number of EV drivers necessary to meet the State's EV deployment targets in order to ensure residential EV charging occurs during off-peak periods. UI Written Comments, dated January 29, 2021, p. 7. The Authority finds a ten percent deployment target appropriate for the first Program Cycle (i.e., 10% of 150,000 EVs deployed statewide by

[4] See U.S. DOE Alternative Fuels Data Center, Electric Vehicle Infrastructure Projection Tool (EVI-Pro) Lite Assumptions and Methodology, https://afdc.energy.gov/evi-pro-lite/load-profile/assumptions.

2025 = 15,000 Residential Single-Family Level 2 EVSE), but intends to re-examine the target based on market conditions (i.e., EV registration data), as appropriate, during future Annual Reviews (See, Section VI.F.).

In response to the Authority's Request for EV Program Design Proposals issued on May 6, 2020, the EDCs proposed deployment targets for EVSEs installed at MUDs. Eversource proposed to deploy 970 ports at approximately 97 locations over a three-year period. Eversource RFPD Response, Exhibit 2, p. 16. UI proposed to deploy 384 Level 2 EVSEs across public, workplace, and MUD locations through its proposed Level 2 leasing program. UI RFPD Response, p. 34. The Authority adopts Eversource's proposal of 970 ports for its service territory for the first Program Cycle of the Residential MUD Level 2 Charging Program. Applying an 80%/20% apportionment of the Eversource and UI service territories statewide, the Authority establishes a deployment target for UI's Residential MUD Level 2 Charging Program of 243 ports for the first three-year program, amounting to an overall statewide target of 1,213 ports. The Authority will establish appropriate deployment targets for the second and third Residential MUD Level 2 Charging Program Cycles through the 2023 Annual Review proceeding, as discussed further in Section V.B.2.

The Authority adopts the EVSE Deployment Targets shown in Table 3. The statewide EVSE deployment targets shall be apportioned 80%/20% between Eversource and UI, respectively. The Authority intends to re-examine the deployment targets for each program area during each three-year program review period, unless otherwise stated herein.

Table 3
EVSE Program Deployment Targets[5]

	NUMBER OF PORTS (STATEWIDE)				
PROGRAM AREA	Current Deployment	2022-2024	2025-2027	2028-2030	TOTAL
Residential Single-Family (Level 2)	-	15,000	17,500	17,500	50,000
Residential Multi-Unit Dwellings (Level 2)[6]	-	1,213	To be revisited	To be revisited	To be revisited
DCFC	69	137	172	172	550
Destination (Level 2)	771	789	1,654	1,654	4,868
Workplace (Level 2)	-	2,314	2,521	2,521	7,356

[5] The use of Level 2 and/or DCFC terminology is not explicitly intended to disqualify funding for wireless charging infrastructure or other emerging technologies; rather, emerging technologies must satisfy the other charging characteristics and capabilities as outlined the EDCs' EVSE vendor RFP.

[6] The EDCs shall propose MUD Level 2 EVSE deployment targets and a supporting calculation methodology for the second and third Program Cycles for Authority review and approval.

D. MAKE-READY OWNERSHIP MODEL

The EDCs are directed to administer a make-ready program for the Residential MUDs Level 2 EVSE, DCFCs, Destination Level 2 EVSE and Workplace & Light-Duty Fleet Level 2 Charging Programs, as discussed further in Section V. Section V also establishes maximum incentives available per site that are inclusive of both EVSE incentives and make-ready costs covered by the Program.

Under the make-ready ownership model, the EDCs invest in the infrastructure up to the charging station, from the distribution system up to the EVSE. Such charging stations will be owned, operated, and maintained by the site host. The EDC will own the infrastructure up to the utility meter, and the participating site host will own the infrastructure up to and including the EVSE connected behind the utility meter. The site host shall be the customer of record, which may be the property owner/manager, an Electric Vehicle Service Provider, or another third-party. The EDCs shall propose a definition of "site" for the purposes of the EV Charging Program in the final program design documents to be submitted for no later than October 15, 2021 for Authority review and approval.

The EDCs' make-ready infrastructure investments may include a primary lateral service feed from the circuit, transformer and transformer pad, installation of a revenue grade utility meter and service panel, and the conduit and conductor needed to connect the enabling equipment to the charging station.[7]

E. INCENTIVE STRUCTURE

The Straw Proposal contemplated a baseline incentive structure for each program area to be issued by the EDCs as a rebate after proof of purchase is submitted, with incentive adders available for eligible underserved communities and underutilized circuits for the relevant EV program areas (See, Section V. for a more robust discussion by program area). Several docket participants expressed support for incentive adders in order to spur charging infrastructure deployment. For example, DEEP supported higher upfront incentives for underserved communities, noting that "relatively low EV penetration rates make a challenging business case for private EV charging companies to deploy… charging stations, especially in underserved… communities." DEEP Brief, pp. 4-5. Save the Sound and VEIC also supported incentive adders to prioritize deployment in underserved communities. Save the Sound Written Comments, dated January 29, 2021, p. 3; VEIC Written Comments, dated January 29, 2021, p. 3. Additionally, UI stated additional incentives for EVSEs in LMI communities presents an opportunity to promote equitable access to charging. UI RFPD Response, p. 31. OCC supported cost-effective investments in underserved communities, but suggested EVSE utilization in such communities will likely be low, resulting in inefficient installations. OCC Written Comments, dated January 29, 2021, p. 15.

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[7] RMI found that make-ready costs typically comprise about 30% to 40% of the total capital costs. While Level 2 commercial chargers can range from $2,500 to $4,900 and 150 kW DCFCs range from $75,600 to $100,000, transformers may cost anywhere from $35,000 (for 150 to 300 kVA transformer) to $173,000 (for a 1,000+ kVA transformer). See RMI, Reducing EV Charging Infrastructure Costs, dated 2019, p. 7.

The Authority recognizes incentive adders as an important tool to advance the Program Objectives, including maximizing the electric system benefits of EVSE and ensuring an equitable program design.[8] Accordingly, the Authority adopts an incentive adder for underserved communities across all program areas.[9]

1. Incentive Adder for Underserved Communities

Multiple participants suggested the Authority prioritize equitable access to charging in underserved areas in Connecticut. The Authority agrees that a critical component of program implementation will be for the EDCs to identify and partner with site owners and operators in underserved communities. In accordance with the Program Objectives, the EDCs are directed to offer a higher upfront incentive to participating Level 2 EVSE at MUDs, Destination, Workplace, and DCFC site hosts located in underserved communities.

DEEP acknowledged the term "underserved community" must be properly defined for Program benefits to be equitably distributed. DEEP Brief, pp. 7-8. Save the Sound agreed with the definition of underserved community as outlined in the Straw Proposal, which includes "distressed municipalities," "environmental justice communities," and "public housing authorities" as defined in the Connecticut General Statutes. Save the Sound Written Comments, p. 2. Eversource suggested omitting distressed municipalities in the definition to ensure incentive recipients are truly in need. Eversource Response to Interrogatory CAE-3. UI stated a definition that includes distressed municipalities is appropriate. UI Response to Interrogatory CAE-3. The Authority agrees with DEEP that Program alignment with other State programs is important. Given the current lack of a consistent statewide definition, however, the Authority determines that a broad definition is appropriate for the first Program Cycle.

Accordingly, an underserved community as defined by the EV Charging Program shall include environmental justice communities pursuant to Conn. Gen. Stat. § 22a-20a, distressed municipalities pursuant to Conn. Gen. Stat. § 32-9p, and public housing authorities. Conn. Gen. Stat. § 22a-20a defines an environmental justice community as "(A) a United States census block group, as determined in accordance with the most recent United States census, for which thirty per cent or more of the population consists of low income persons who are not institutionalized and have an income below two hundred per cent of the federal poverty level, or (B) a distressed municipality, as defined in subsection (b) of section 32-9p." Pursuant to Conn. Gen. Stat. § 32-9p, the Department

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[8] In addition to the incentives offered through the EV Charging Program, the Authority recognizes that the Connecticut Green Bank (CGB) may consider whether any of its low-cost borrowing offerings could be utilized to finance any remaining costs associated with the initial purchase and installation of a networked Level 2 EVSE across one or multiple program areas outlined herein. Such financing options are separate and distinct from the incentives offered here, but may ultimately help to lower the program costs to ratepayers and developers.

[9] The Authority included an incentive adder for underutilized circuits in its Proposed Final Decision dated June 9, 2021 in the instant proceeding. Both OCC and Save the Sound expressed concern that such an incentive adder may not appropriately maximize the electric system benefits of the EV Charging Program. OCC Written Exceptions, p. 7; Save the Sound Written Exceptions, p. 2. The Authority may consider the adoption of an incentive adder for underutilized circuits at a later date.

of Economic and Community Development identifies municipalities based on its tax base, residents' personal income, and residents' need for public services, and publishes a list of distressed municipalities annually.[10] For the MUD EVSE program, public housing authorities, as defined by Conn. Gen. Stat. § 8-39, are included in the definition of an underserved community and are therefore eligible for additional EVSE incentives outlined in Table 7.

The Authority plans to monitor relevant discussions occurring in the state regarding the definitions of low- and moderate-income residents and underserved communities[11] and any relevant findings from the LMI customer transportation electrification study discussed in Section III. Accordingly, the Authority may reevaluate its definitions as necessary to appropriately meet the needs of LMI residents and communities.

2. Hosting Capacity Map for EVSE Installations

Hosting capacity maps may help to encourage EVSE deployment on underutilized circuits. DEEP noted that publicly available load serving capacity data can help remove barriers and accelerate EVSE deployment. Tr. 11/22/19, p. 237. VEIC stated "making this information only available 'upon request' creates an unnecessary barrier for site host identification and recruitment." VEIC Written Comments, dated January 29, 2021, p. 3. Eversource initially proposed to provide prospective site hosts with a tool that provides feeder capacity. Eversource Written Comments, dated January 29, 2021, p. 12. Several docket Participants provided input on the level of data presented in a hosting capacity map that would be valuable in determining EVSE site suitability. Enel X stated that substation and circuit-level demand capacity is useful. Enel X Response to Interrogatory CAE-17. EVgo indicated its preference for load capacity by circuit, and further suggested circuit voltage level, amp rating, and circuit phase. EVgo Response to Interrogatory CAE-17. ChargePoint, Greenlots, and Tesla recommend similar data, and all highlighted existing EV load hosting capacity maps provided by the New York State Department of Public Service as appropriate examples. ChargePoint Response to Interrogatory CAE-17, p. 2; Greenlots Response to Interrogatory CAE-17; Tesla Response to Interrogatory CAE-17. ChargePoint additionally proposed capacity data be accessible through a portal on the EDCs' website, as in New York. ChargePoint Response to Interrogatory CAE-17.

The EDCs currently maintain publicly accessible Distributed Energy Resource (DER) hosting capacity maps intended to support efficient DER deployment in Connecticut.[12] Eversource stated it "will be able to leverage some of the functionality of its existing DER hosting capacity maps to create a publicly available demand capacity map by three phase circuit for prospective EVSE installations." Eversource Late Filed Exhibit No. 5. Similarly, UI stated it intends to replicate hosting capacity maps for EVSE installations used by its affiliates in New York. UI Late Filed Exhibit No. 5.

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[10] See Department of Economic and Community Development, Distressed Municipalities, https://portal.ct.gov/DECD/Content/About_DECD/Research-and-Publications/02_Review_Publications/Distressed-Municipalities.

[11] Such discussions include those facilitated by the Equity Advisory Board in the context of the Transportation and Climate Program. See OCC Written Exceptions, p. 7.

[12] See Docket No. 17-06-03, Application for Review of The United Illuminating Company's Distributed Energy Resource Integration Plan, and Docket No. 17-06-02, PURA Review of The Connecticut Light and Power Company's dba Eversource Energy Distributed Energy Resources Proposal.

The Authority finds hosting capacity maps with EVSE-specific site suitability data are necessary to facilitate efficient EV charging infrastructure deployments. The Authority encourages all EVSE vendors and other potential site hosts to utilize the hosting capacity maps as an integral tool in their site selection process.

The Authority directs the EDCs to submit a proposed plan, including costs and implementation timeline, to develop a hosting capacity map specific to installing Level 2 and DCFC stations to be made public through an online portal for Authority review and approval no later than August 15, 2021. At a minimum, the capacity map shall include available load serving capacity at the substation and circuit level (accounting for queued capacity), feeder identification and characteristics, substation source, and voltage information. ChargePoint Response to CAE-17. Additionally, the hosting capacity map shall enable a site owner/operator to determine whether the location would be eligible for an incentive adder. The EDCs shall make the hosting capacity map available to the public via their respective websites on or before the January 1, 2022 Program launch. The EDCs are directed to provide at least quarterly updates to the resulting capacity maps.

F. MANAGED CHARGING

A robust managed charging program is critical to optimize the distribution system and maximize grid level benefits of transportation electrification for all customers. As stated herein and outlined in Section V.A., the Authority finds that it is appropriate to require participation in a managed charging program for residential single-family EV drivers receiving an incentive for a networked Level 2 charger, as well as owner/operators of light-duty fleets receiving an incentive for a networked Level 2 and/or DCFC for non-public use. Specifically, Section V.A.3.b. directs the EDCs to establish a two-tier managed charging program with incentives for participants in the Residential Single-Family Level 2 Charging Program. A demand response program shall be established as the “baseline” level of participation, and an optional “advanced” direct load control option to allow participants to more actively engage with their EDC to optimize at-home EV charging will be offered. In addition, Section V.E.3.d requires owner/operators of light-duty fleets participating in the Workplace & Light-Duty Level 2 Charging and/or DCFC Programs, whereby the EVSE is not made available to the public, to participate in a managed charging program to be offered by the EDCs.

1. Managed Charging Working Group

Despite broad support among docket Participants for the inclusion of managed charging in the EV Charging Program generally, the Authority recognizes implementation details introduce complex dynamics that have not been comprehensively addressed in this proceeding to date. Accordingly, the Authority directs the EDCs to establish a working group to consult with docket Participants and interested stakeholders on the development of managed charging program implementation for the Residential Single-Family and Workplace & Light-Duty Level 2 Charging Programs, including, but not limited to, establishing participation targets and program parameters for the two-tier managed charging program, developing appropriate price signals and other program parameters for administering a managed charging program for light-duty fleets utilizing non-public Level 2 EVSE and/or DCFCs, determining program rules for potential EDC participation

in the wholesale market, and other key implementation matters. No later than August 1, 2021, the EDCs shall initiate the working group to inform the development and launch of managed charging programs for the Residential Single-Family and Workplace & Light-Duty Charging Programs. The Authority encourages all docket Participants and other stakeholders to engage with the EDCs on the topic of managed charging through the working group process. In consultation with working group participants, the EDCs shall develop the appropriate program rules and submit such program rules and/or documents as outlined herein for the Residential Single-Family and Workplace & Light-Duty Charging Programs for the Authority's review and approval no later than October 15, 2021, for program launch no later than January 1, 2022.

V. EV PORTFOLIO PROGRAM DESIGN

In this Section, the Authority establishes program area requirements that will optimize the deployment of EVSE and associated distribution system infrastructure necessary to meet the program deployment targets described above. Program areas include Level 2 charging at residential single-family and MUDs, destination, and workplace locations, along with DCFC sites. EVSE incentives for the program areas are summarized below in Table 4. The EV Charging Program establishes maximum incentives available per site that are inclusive of both EVSE incentives and make-ready costs covered by the Program.[13]

The Authority intends to revisit both the EVSE and maximum per site incentive levels during the 2022 Annual Review proceeding to ensure each is sufficient to support the Program deployment targets. No later than 30 days after the conclusion of each quarter in 2022, the EDCs shall submit a compliance filing that includes the number of interested site hosts and the number of customers that (1) moved forward with the EVSE project and (2) are no longer actively pursuing incentives through the Program. Such compliance filing shall include the estimated make-ready cost for each customer and, where applicable, an explanation of why each customer did not ultimately pursue incentives through the Program. The Authority may consider modifications to the incentives based on such data, including changing to a per-port incentive structure.

[13] Any incremental infrastructure costs above the maximum per site incentive would typically be paid by the EVSE vendor or site host. Such incremental costs shall not be included in the regulatory asset associated with the Program.

Table 4
EV Charging Program EVSE and Make-Ready Incentives

	Residential Single-Family (Level 2)	Multi-Unit Dwellings (Level 2)	Public Destination (Level 2)	Workplace (Level 2)	DCFC
Incentive Structure					
EVSE and Make-Ready Incentives	Up to $500 EVSE rebate + a portion of necessary electrical upgrades[14]	Up to 50% of EVSE cost + Up to 100% make-ready installation (≥ 2 ports)		Up to 50% of EVSE cost + Up to 100% make-ready installation (≥ 4 ports)	Up to 50% of EVSE cost + Up to 100% make-ready installation (≥ 2 ports)
Max. Incentive per Site (including make-ready costs covered by the Program)					
Baseline	-	$20,000			$150,000
Underserved Communities	-	$40,000			$250,000

A. RESIDENTIAL SINGLE-FAMILY LEVEL 2 CHARGING

1. Objective

The Residential Single-family Level 2 Charging Program is designed to promote off-peak and managed charging for EV drivers living in single-family residences through an upfront incentive for networked Level 2 EVSE and participation in a two-tier managed charging program administered by the EDCs.

Given that over 80 percent of light-duty EV charging occurs at home, it is critical to establish a residential EV charging program that is mutually beneficial to EV drivers and the electric distribution system. Eversource RFPD Response, Exhibit 1, p. 2. At-home off-peak and managed charging for residents with EVs are central components to accelerating EV adoption statewide. EV Roadmap, p. 47.

2. Deployment Targets

The deployment targets are derived from current and projected future EV sales in Connecticut necessary to meet the 2025 ZEV MOU and 2050 GC3 goals (see Table 5). As discussed in Section IV.C., the Authority seeks to engage ten percent of the number of EV drivers necessary to meet the State's EV deployment targets in managed charging through the Residential Single-Family Level 2 Charging Program.

[14] The EDCs will propose a cap on electrical upgrade incentives, as directed in Section V.A.3.

Table 5
Residential Single-Family Level 2 EVSE Deployment Targets

	NUMBER OF PROGRAM PARTICIPANTS			
SERVICE TERRITORY	2022-2024	2025-2027	2028-2030	TOTAL
Eversource	12,000	14,000	14,000	40,000
UI	3,000	3,500	3,500	10,000
Total	15,000	17,500	17,500	50,000

The Authority reserves the right to consider additional program modifications during the Annual Review and Program Review.

3. Program Design

a. Level 2 Charger Incentives

In response to the Authority's RFPD, Eversource proposed a $300 rebate for residential single-family customers that install Level 2 EVSE and agree to participate in a managed charging program. Eversource RFPD Response, Exhibit 1, p. 18. UI, meanwhile, proposed a $500 incentive for residential single-family customers that install Level 2 EVSE and agree to participate in an advanced managed charging program, stating that such incentives are based on similar programs at other utilities. UI RFPD Response, p. 15. According to DEEP, the cost of a Level 2 charger can range from $200 to $900, with networked chargers requiring higher upfront costs. EV Roadmap, pp. 47-48.

Since the rebate is intended to partially offset the higher cost of a networked Level 2 charger compared to a non-networked charger without demand response capabilities, the Authority finds a $500 incentive appropriate. As such, the Authority directs the EDCs to offer a rebate of $500 to residential EV customers to install a networked Level 2 EVSE at a single-family residence from a list of pre-qualified EVSE vendors at a single-family residence (See, Section VI.A. for EVSE Procurement Guidelines). The rebate will be calculated based on the net cost of the EVSE, after deducting any other applicable rebates, grants, or other incentives the customer may receive.

In its response to the Authority's RFPD, Eversource recommended providing up to a $2,000 incentive, via a rebate, to cover up to 80% of any electric upgrade costs that may be required to support the Level 2 EVSE for residential single-family program participants. Eversource RFPD Response, Exhibit 1, p. 3. The Authority hereby directs each EDC to submit data on typical electrical upgrade costs for residential premises and propose a cap on the inclusion of a rebate for necessary electrical upgrade costs, that would be separate from the up to $500 rebate for the purchase of eligible EVSE under this program area, as part of its proposed Program Budget.

b. Two-Tier Managed Charging Program

Multiple docket Participants, including Eversource, UI, DEEP, ChargePoint, Greenlots, Sierra Club, and VEIC supported the development of a managed charging program for EV drivers living in single-family residences. Specifically, Eversource noted that managed charging incentivizes customers to charge their EVs at times beneficial for the electric grid. Eversource Written Comments, p. 6. Similarly, UI stated that simultaneous off-peak charging may eventually create distribution system problems, and proposed a managed charging program to encourage off-peak charging that optimizes charging load while maximizing distribution system benefits. UI RFPD Response, p. 6. Sierra Club also supported automatic enrollment of residential customers who receive upfront Level 2 EVSE incentives and suggested providing a choice between two managed charging options would simplify the program for customers. Sierra Club Written Comments, dated January 29, 2021, p. 2. UI initially proposed a three-tier managed charging program that enables customers to select their desired participation level. UI RFPD Response, pp. 13-14.

The Authority agrees that a robust managed charging program is critical to optimize the distribution system and maximize grid level benefits of transportation electrification for all customers. As such, the EDCs are directed to administer a two-tier managed charging program that enables residential customers to choose to participate in either the baseline demand response or advanced managed charging level. As a condition of receiving a networked Level 2 charger rebate, all program participants will be required to enroll in one of the managed charging program offerings, described below. In addition, all program participants must allow their EDC to access charger data. The EDCs shall aggregate and anonymize program participants' charger data for program implementation, including analyzing usage patterns and tracking program metrics.

As outlined in Section IV.F., no later than August 1, 2021, the EDCs are directed to initiate a working group to inform the development launch of a two-tier managed charging program. In consultation with working group participants, the EDCs shall develop the appropriate program rules and submit such program rules and/or documents as outlined herein for the Residential Single-Family for the Authority's review and approval no later than October 15, 2021, for program launch no later than January 1, 2022.

The EDCs shall develop a managed charging program that provides options to program participants to select based on their preferred level of engagement and charging behavior. Accordingly, the Authority directs the EDCs to establish program participation requirements for the baseline demand response (DR) and advanced direct load control option detailed below for PURA's review and approval.

i. Baseline (Demand Response)

Participants are automatically enrolled in a DR program, administered by their EDC, or by a third-party aggregator. The DR program administrator will provide advance notification of an upcoming DR event, through a phone application, web portal, email,

and/or text message that enables the participant to opt-out. Participants who do not opt out, or otherwise were not charging their EV during the DR event, will receive a performance incentive for each DR event they participate in. Such DR events may be as frequent as every weekday. The EDCs are directed to establish program participation requirements and propose whether it is necessary to offer an incentive level for each DR event for Authority review and approval. Any proposed incentive level shall not to exceed $200 annually per program participant and shall be disbursed as a direct payment.

ii. Advanced (Direct Load Control)

As an alternative to the DR program, participants can elect to more actively engage with their EDC to optimize at-home EV charging for the grid, while adhering to minimum EV charging parameters set by the participant. Participants will schedule charging sessions through a phone application, web portal, email, and/or text message. The EDCs, or a third-party aggregator, will have the ability to curtail the rate of charging scheduled to occur during predetermined time periods, which may include daily parameters for direct control by the EDCs. The EDCs are directed to establish program participation requirements and propose an appropriate incentive level to encourage participation for a period of at least twelve months for Authority review and approval. Any proposed incentive shall be disbursed as a direct payment.

iii. EV-only TOU rate

The Authority recognizes that an EV-only TOU rate for residential customers can be an effective tool for shifting customer charging behavior in order to minimize the grid-level impacts of transportation electrification. Additionally, the Authority understands that the increasing capabilities of EVSE technology represents an opportunity to lower participant costs and ratepayer impacts, namely with networked Level 2 chargers that meet minimum data accuracy requirements.

Notwithstanding, the Authority is not requiring the EDCs to develop an EV-only TOU rate for EV drivers living in single-family residences at this time. The Authority intends to further examine an EV-only TOU rate offering once the Authority reaches a final decision in Docket No. 17-12-03RE02, PURA Investigation into Distribution System Planning of the Electric Distribution Companies - Advanced Metering Infrastructure. However, the Authority reserves the right to require an EV-only TOU rate design solution during its Annual Review (See, Section VI.F.) should it become evident that the two-tier managed charging program is insufficient to incent off-peak charging behavior to optimize grid benefits of transportation electrification.

c. Residential EV Drivers with a Non-networked Level 2 Charger

Though robust data is not currently available, some percentage of the more than 13,800[15] registered EV drivers in the State currently have a non-networked Level 2

[15] See Connecticut Department of Motor Vehicles, Number of Electric Vehicles Registered in Connecticut, https://portal.ct.gov/DMV/News-and-Publications/News-and-Publications/Electric-vehicle-stats.

charger at home. Therefore, a key program design for any residential charging program component is to encourage EV drivers in single-family residences with a previously installed, non-networked Level 2 home charger to shift their usage patterns to charge during off-peak times, without the need to replace their existing infrastructure. Existing technologies offer programs to elicit the intended effect of an EV-only TOU rate by providing rewards or another incentive mechanism to program participants who successfully shift their charging patterns off-peak.

Accordingly, the EDCs are directed to develop a rebate program for EV drivers in single-family residences who purchase a device that connects directly to the EV's onboard diagnostic system to collect charging data, or otherwise utilizes onboard telematics without the need for a second meter or a networked Level 2 charger. This rebate offer will only be available to EV drivers with an existing charger (installed prior to January 1, 2022) that does not possess networked charging capabilities. As outlined in Section VI.A., the Authority directs the EDCs to issue an open RFP to select a technology vendor(s) for PURA approval. The EDCs are directed to submit the proposed level of the rebate and other program implementation details for residential EV drivers with an existing non-networked Level 2 charge for Authority review and approval no later than October 15, 2021.

Additionally, the Authority recognizes continued technological advancements in onboard telematics that enable managed charging program participation may obviate the need for separate networked Level 2 infrastructure for certain vehicles. Eversource Written Exceptions, dated June 24, 2021, p. 6; Eversource Response to OCC-15. Accordingly, as part of its proposed program design documents to be submitted for Authority review and approval no later than October 15, 2021, the EDCs shall outline the specific vehicle capabilities that would be necessary for a participating customer to participate in the managed charging programs and therefore be eligible to receive an electrical upgrade rebate.

B. RESIDENTIAL MULTI-UNIT DWELLINGS LEVEL 2 CHARGING

1. Objective

This program area directs the EDCs to adopt a make-ready utility investment model, combined with an upfront incentive, for the purchase and installation of networked Level 2 EVSEs, to enable at-home charging for EV drivers residing in MUDs.

Approximately ten percent of Connecticut residents live in MUDs, which includes multi-unit rental properties and condominiums, particularly concentrated in urban areas. EV Roadmap, p. 49. With more than 234,000 apartment units in 2019 (defined as a structure with five or more units), apartments represent approximately sixteen percent of the housing stock statewide.[16] The MUD EV charging program will address sites where off-street parking is available for residents, as well as curbside parking in close proximity to a MUD where on-site charging opportunities do not exist.

[16] See National Multifamily Housing Council, Geography of Apartment Stock, https://www.nmhc.org/research-insight/quick-facts-figures/quick-facts-apartment-stock/geography-of-apartment-stock/.

If sited effectively, EVSE installed at MUDs can encourage clustered EV adoption, thereby maximizing the value of ratepayer investments in EVSE by achieving higher charger utilization rates if charging infrastructure is shared among multiple EV drivers. Eversource RFPD Response, Exhibit 2, p. 5. Expanding networked Level 2 charging infrastructure at MUDs also presents unique challenges as the landlord/tenant arrangement can complicate program implementation efforts. UI RFPD Response, p. 16; EV Roadmap, p. 49.

2. Deployment Targets

The Authority adopts Eversource's proposal of 970 ports for its service territory for the first Program Cycle of the Residential MUD Level 2 Charging Program. Applying an 80%/20% apportionment of the Eversource and UI service territories statewide, the Authority establishes a deployment target for UI's Residential MUD Level 2 Charging Program of 243 ports for the first three-year program, amounting to an overall statewide target of 1,213 ports. The Authority recognizes that all docket Participants and interested stakeholders will benefit from utilizing program implementation data to further inform appropriate deployment targets for the Residential MUD Level 2 Charging remaining Program Cycles. Accordingly, no later than August 1, 2023, the EDCs shall propose MUD Level 2 EVSE deployment targets and a supporting calculation methodology for the second and third Program Cycles for Authority review and approval.

In addition to providing a higher incentive level for MUD site hosts located in qualifying communities as discussed below, the EDCs shall allocate a minimum of 10% of the targeted number of Level 2 ports to be installed at MUDs in underserved communities. Eversource RFPD Response, Exhibit 2, p. 16.

Table 6
Residential MUDs Level 2 EVSE Deployment Targets

	NUMBER OF PORTS
SERVICE TERRITORY	2022-2024
Eversource	970
UI	243
Total	1,213

The Authority reserves the right to consider additional program modifications during the Annual Review and Program Review.

3. Program Design

a. Ownership Model: Make-Ready

The EDCs shall administer a make-ready program for networked Level 2 EVSE installed at MUDs. Under the make-ready ownership model, the EDCs are directed to invest in the infrastructure required to enable Level 2 charging up to the charging station,

from the distribution system up to the EVSE. Level 2 charging stations installed at MUDs will be owned, operated, and maintained by the site host, unless the site host opts into the MUD Level 2 Lease Program (Lease Program), described below. The site host shall be the customer of record, which may be the property owner/manager, an Electric Vehicle Service Provider, or another third-party.

i. Level 2 Charger Incentives

In addition to the make-ready utility investment covering up to 100% of the cost of installing the infrastructure at the EVSE site, subject to the established maximum per site incentive, the EDCs shall provide an upfront incentive, via a rebate, to MUD site hosts to partially offset the costs of purchasing Level 2 EVSE. Eversource noted an incentive providing between 50% and 100% of the EVSE cost is appropriate to develop charging stations at MUDs. Eversource Response to OCC-27. The incentive level will vary depending on site host eligibility (see Table 7), and will be calculated based on the net installed cost of the EVSE, after deducting any other applicable rebates, grants, or other incentives the site host may receive.

ChargePoint recommended sites be required to host two EVSE ports at a minimum, with make-ready installation to support four ports in order to minimize capital costs. ChargePoint Written Comments, dated January 29. 2021, p. 4. Eversource proposes to work with site hosts to determine the number of chargers expected to be installed in the near-term to mitigate future work. Eversource RFPD Response, Exhibit 7, p. 2. The Authority finds requiring a two-port minimum is appropriate, while also allowing for the ability for the EDCs to install make-ready infrastructure to support additional EVSE anticipated to be installed in the near future. As such, the EDCs are directed to work with site hosts to determine the appropriate level of make-ready infrastructure investment at a given site within the maximum per site incentive caps established herein.

Table 7
Level 2 EVSE Incentive Structure: Residential MUDs (2022-2024)

	Incentive Level	Max. Incentive per Site
Baseline	Up to 50% of EVSE cost + Up to 100% make-ready installation (≥2 ports)	$20,000
Underserved communities		$40,000

b. Ownership Model: Leasing Option

In its RFPD response, UI proposed a Level 2 Lease Program, whereby commercial site hosts, including MUD owners/managers, would have an option to pay a monthly fee for the Company to provide Level 2 charging stations along with installation and maintenance services. UI RFPD, pp. 16-17. UI advocated such an arrangement would allow MUD site hosts to offer EV charging to residents without the requirement to supply up-front capital and coordinate construction. Id.

Additionally, multiple stakeholders expressed support for a utility-owned EVSE option at MUDs. Greenlots stated such an approach would ensure EVSE is deployed at MUDs by helping to overcome a building owner's time, capital, and awareness limitations. Greenlots Written Comments, dated January 29, 2021, pp. 1-3; 5. Greenlots recommended a utility-ownership option capped at 33 percent of ports for public, workplace and MUD program areas. Id. Sierra Club noted that make-ready programs in other jurisdictions without utility-ownership options have struggled to deploy EVSE at MUDs, and therefore suggested a limited utility-ownership model could help encourage such deployment in Connecticut. Sierra Club Written Comments, dated January 29, 2021, p. 3. Similarly, Enel X suggested enabling the EDCs to own and operate a portion of EVSE deployed at MUDs would help achieve program targets. Enel X Written Comments, dated January 29, 2021, p. 3. Additionally, DEEP stated that the current low EV penetration rates make EVSE less likely to be installed in underserved communities and MUDs, and noted that limited utility ownership of EVSE helps "deploy[s] EVSE infrastructure that may not otherwise be installed during the early stages of market development." DEEP Brief, pp. 4-6. DEEP recommended any program areas with utility ownership of EVSE be evaluated frequently in order to ensure market competitiveness. Id., pp. 6-7. Eversource, meanwhile, stated the Company has found that utility ownership has not been necessary to deploy EVSE at MUDs in its EV charging program in its Massachusetts affiliate. Eversource Response to Interrogatory CAE-8.

The Authority appreciates that achieving the deployment targets for MUDs may be confounded by unique challenges, as evidenced by similar programs in other jurisdictions. Given the importance of access to home charging, particularly for MUD residents that may be otherwise underserved by the private market, the Authority finds an EDC-owned Level 2 lease program appropriate to support EVSE deployment at MUDs during the first Program Cycle. As such, the Authority directs both EDCs to offer MUD site hosts the option of EDC-owned charging stations for a monthly fee. For this program, each EDC shall be the customer of record in their service territory, and will be responsible for installation, maintenance, operation, pricing, and payment. The EDC shall work with the site host to set pricing for users, while conforming with submetering provisions in Conn. Gen. Stat. § 16-19ff and Conn. Agencies Regs. § 16-11-100. The agreement shall be a five-year lease with an option for site hosts to buy-out at any time for the depreciated value of the assets. At the end of the lease term, the site host shall be able to execute a new EVSE lease at a reduced rate or take ownership of the existing assets. The Authority is cognizant of limiting the level of EDC ownership of EVSE overall so as not to negatively impact the private market; as a result, the Authority intends to reevaluate the Lease Program based on charging station data reported by the EDCs at the conclusion of the first three-year program review period.

Applying a cost of service methodology, the Authority directs the EDCs to establish pricing for a Level 2 EVSE Lease Program at MUDs to be submitted for Authority review and approval in this proceeding no later than May 1, 2022. The filing shall include a proposed tariff to collect the EDC's revenue requirement for capital, operation and maintenance, and carrying costs of the installation, less any incentives available through the program. The EDCs shall also propose a competitive process, as directed in Section VI.A, to qualify and procure Level 2 charger and networking options to be offered to MUD

site hosts under the Lease Program. The Level 2 EVSE Lease Program at MUDs shall be launched no later than July 1, 2022.

c. EV-only Tariff for MUDs

The EVSE program for MUDs seeks to address the "split incentive" often present between landlords and tenants by developing an EV-only tariff that incentivizes program participation from MUD owners and operators and tenants alike. In its RFPD response, Enel X proposed the EDCs offer site hosts a flat monthly subscription for unlimited off-peak charging, with on-peak use subject to the otherwise-applicable tariff. Enel X stated such a "subscription model" approach would act as a managed charging program by incentivizing off-peak charging without requiring back-end billing integration by the EDCs. Enel X RFPD, pp. 5-6, 8-9.

Greenlots proposed a MUD program design based on San Diego Gas & Electric's (SDG&E) Power Your Drive pilot program in California (SDG&E Program), which first launched in 2016. Greenlots RFPD Response, p. 8. Greenlots noted that as multiple drivers in SDG&E's program utilize the same charger, each driver can use an individual radio frequency identification card to connect charger activity to their individual bill. Tr. 3/5/21, p. 39. According to Greenlots, SDG&E's program has been highly successful, installing 40% of the program's 3,040 charging ports at MUDs. Greenlots RFPD Response, p. 8; Greenlots Written Comments, dated January 29, 2021, p. 5. Greenlots proposed the EDCs own charging infrastructure located at MUDs, with participating site hosts charged a small (e.g. $300) per-port fee for charger installation, and EV drivers charged a nominal fee to participate unless they reside in a disadvantaged community. Id. To incentivize efficient charging behavior, Greenlots proposed billing based on day-ahead hourly prices, giving site hosts the option to be billed under the site host account, or have EV drivers billed directly. Id. Greenlots offered that alternatives such as demand response and direct load management could be used instead of day-ahead pricing. Id. Greenlots also stated that integrating such a billing process would be complex, but experience in other jurisdictions shows it is a quicker and lower cost way to offer rates to customers, compared to deploying additional meters. Id., pp. 39-40.

DEEP stated that existing EVSE technology can facilitate direct billing to EV drivers, also citing SDG&E's Power Your Drive program that gives residents a unique site identification and enrollment instructions to access charging stations, with usage billed directly by the utility. DEEP Response to Interrogatory CAE-11, pp. 5-7. DEEP stated that requiring site hosts to allocate bills to tenants for shared usage may present submetering issues, and suggested the Authority consider an alternative approach to subscription payments. Id.

ChargePoint highlighted that the California Public Utilities Commission recently extended the SDG&E Program, which provides for a "Rate-to-Driver" option that allows site hosts to offer "customized pricing to EV drivers." ChargePoint Written Exceptions, p. 5.

UI stated that a business model whereby landlords opt to charge tenants is outside the company's control and should be left to the landlord or site host. UI Written

Comments, dated January 29, 2021, p. 8. UI also noted that MUD EV metering and tariff requirements do not fall into categories that allow submetering under Conn. Gen. Stat. § 16-19ff and Conn. Agencies Regs. § 16-11-100. Id.

Eversource proffered that MUD site hosts would be able to develop their own subscription-based fees for tenants based on the hosts' own tariff. Eversource Written Comments, dated January 29, 2021, p. 13. Eversource therefore suggested it propose such a tariff for hosts that could then be passed on to tenants. Id. Eversource stated the tariff could include a fixed monthly subscription fee for reserved off-peak capacity, with the site host responsible for on-peak charging under the otherwise-applicable rate. Id.

The Authority recognizes the complexities involved in reaching MUD residents due to the "split incentive" often present between landlords and tenants. The Authority also understands the EDCs' concerns regarding potential metering and tariff requirements that may be inconsistent with submetering regulations under Conn. Gen. Stat. § 16-19ff and Conn. Agencies Regs. § 16-11-100. However, the Authority is interested in understanding the feasibility of a tariff model that avoids the need for submetering and bills to EV drivers directly, as contemplated by DEEP and Greenlots. To further determine how such a model, or other similar approach, could be implemented in Connecticut, the Authority directs the EDCs to submit an analysis of the issues and concerns associated with implementing a model similar to SDG&E's Power Your Drive program for the MUD Level 2 Charging Program, including any relevant submetering issues pursuant to Conn. Gen. Stat. § 16-19ff and Conn. Agencies Regs. § 16-11-100 and a discussion of potential solutions. The EDCs shall submit their analysis, along with proposed solutions and cost estimates, for Authority review and approval no later than August 1, 2022. The Authority will consider the EDCs' proposal, and stakeholder feedback, as part of the 2022 Annual Review proceeding.

d. Participant Eligibility

Site selection will ultimately be driven by site host participation, though the EDCs and EVSE vendors will have a critical role in outreach and education efforts to potential program participants. In addition to the criteria outlined in Section VI.B., site hosts must meet certain eligibility criteria to participate in the Level 2 EVSE MUD program. Multiple stakeholders, including DEEP, Enel X, Save the Sound, UI, and VEIC, recommend the Authority include multifamily buildings with less than 10 units in the definition of MUDs. Specifically, DEEP and UI suggest that MUDs include a minimum of five housing units to be consistent with the National Multifamily Housing Council and the Energize CT Multifamily Initiative, respectively. DEEP Response to Interrogatory CAE-11; UI Written Comments, dated January 29, 2021, p. 9. DEEP also identified a potential program gap for MUDs with two to four units, and suggested program flexibility to allow MUD site hosts to participate in the most appropriate program area. DEEP Brief, pp. 8-9.

The Authority finds a five unit minimum aligns with objectives to optimize EVSE deployment across a range of MUDs statewide. For MUDs consisting of two to four residential housing units, the EDCs will be required to provide the option to the program participants to participate in either the residential single-family or MUD program offerings,

as appropriate. In addition, site hosts must provide dedicated parking spaces for the number of charging ports installed through the Program.

e. Managed Charging for MUDs

In addition, the Authority is interested in further examining the future integration of a managed charging program at MUDs. Accordingly, the Authority directs the EDCs to consult with docket Participants and interested stakeholders on this topic to propose key program parameters and a suggested timeline for implementation. The Authority reserves the right to consider additional program modifications during future Annual Review and Program Reviews.

C. DCFCs

1. Objective

The DCFC program directs the EDCs to adopt a make-ready utility investment model, combined with an upfront incentive for the purchase and installation of DCFCs, to increase access to the statewide DCFC network. The EDCs shall also offer a tariff for separately metered DCFCs designed to mitigate the impact of demand charges.

A robust DCFC network is a key component to achieving Connecticut's ZEV and GHG emissions reductions goals. As DCFC installations often require significant upfront investment, the EDCs shall aim to minimize the overall cost associated with DCFC deployment while promoting high utilization and a positive EV driver experience. The EV Corridor Analysis Tool, developed by The Georgetown Climate Center and M.J. Bradley & Associates through the regional Transportation Climate Initiative, ranks potential fast charging infrastructure locations along highway exits based on vehicle travel data, commercial activity, population, and proximity to existing EV charging station infrastructure. See, M.J. Bradley & Associates, Electric Vehicle Infrastructure Planning Tools (v3.4). The EDCs are directed to consult the EV Corridor Analysis Tool in working with potential site hosts. The EDCs shall also coordinate with stakeholders through the U.S. Department of Transportation Federal Highway Safety Administration's Alternative Fuel Corridor Designations program.[17] However, the scope of the DCFC program is not limited to potential infrastructure installations along corridors. For example, site hosts installing DCFCs at workplace locations and for light-duty fleets may seek incentives through the DCFC Program, as long as the charging infrastructure installed through the Program participates in the managed charging program described in Section V.E.3.d., below.

2. Deployment Targets

The deployment targets are derived from the EVI-Pro Lite Tool DCFC infrastructure projections necessary to meet the 2025 ZEV MOU and 2030 GHG emissions reduction targets (see Table 8). In addition to providing a higher incentive level

[17] See U.S. Department of Transportation's Federal Highway Administration, Alternative Fuel Corridors, https://www.fhwa.dot.gov/environment/alternative_fuel_corridors/; See also EVSE RFPD Response, p. 4.

for DCFC site hosts located in qualifying communities, the EDCs shall allocate a minimum of 10% of the targeted number of DCFC ports to be installed in underserved communities.

Table 8
DCFC Program Deployment Targets[18]

	NUMBER OF PORTS			
SERVICE TERRITORY	2022-2024	2025-2027	2028-2030	TOTAL
Eversource	110	138	138	386
UI	27	34	34	95
Total	137	172	172	481

The Authority will monitor the DCFC deployments throughout the first Program Cycle. If at the conclusion of the first three-year program the deployment targets are not yet fully realized, the Authority will evaluate whether a program modification to enable the EDCs to own and operate a percentage of DCFCs – especially if installed in LMI and other underserved communities – is necessary. See, EV Roadmap, p. 47; ChargePoint RFPD Response, pp. 8-9 (National Grid); Greenlots RFPD Response, pp. 11-12.

3. Program Design

a. Make-Ready Ownership Model

The EDCs shall administer a make-ready program for DCFCs installed along transportation corridors and other high-traffic locations. Under the make-ready ownership model, the EDCs shall invest in the infrastructure required to enable DCFC charging up to the charging station, from the distribution system up to the EVSE. DCFC stations installed will be owned, operated, and maintained by the site host. The site host shall be the customer of record, which may be the property owner/manager, an Electric Vehicle Service Provider, or another third-party.

b. DCFC Charger Incentives

In addition to the make-ready utility investment covering up to 100% of the cost of installing the infrastructure at the EVSE site, subject to the established maximum per site incentive, the EDCs shall provide an upfront incentive, via a rebate, to participating site hosts to offset up to 50% of the costs of purchasing DCFCs (see Table 9). The incentive level will be calculated based on the net installed cost of the EVSE, after deducting any other applicable rebates, grants, or other incentives the site host may receive.

[18] Public DCFC Deployment Targets account for 56 existing publicly accessible stations in the first Program Cycle. See Table 1.

Table 9
DCFC Incentive Structure (2022-2024)

	Incentive Level	Max. Incentive per Site
Baseline	Up to 50% of EVSE cost + Up to 100% of make-ready installation cost (≥2 ports)	$150,000
Underserved communities		$250,000

c. Demand Charges

Several stakeholders, including ChargePoint, DEEP, EVgo, and Sierra Club, supported the adoption of alternative rate design to address the current barrier of high demand charges, particularly for DCFCs with low utilization rates. For example, ChargePoint stated that the EDCs' existing commercial tariff demand charges can be cost prohibitive, particularly for DCFCs with low utilization rates overall but periods of high demand. ChargePoint Written Comments, dated January 29, 2021, p. 7. Further, ChargePoint states that "tariffs that scale demand charges as a function of utilization rates…will reduce barriers to increased deployment of low load factor charging stations." Id., p. 5. DEEP also expressed interest in mitigating the impact of demand charges to more adequately reflect cost causation. Tr. 12/20/19, p. 363.

The Authority conditionally approved an EV Rate Rider pilot in Eversource's service territory in its decision dated March 6, 2019 in Docket No. 17-10-46RE01, Application of The Connecticut Light and Power Company d/b/a Eversource Energy to Amend its Rate Schedules – EV Rate Rider (EV Rate Rider Decision). Eversource's EV Rate Rider rate calculation is based on a per-kilowatt hour equivalent to the demand charges applicable to Eversource's general service rate schedule that would otherwise apply to the load being served. EV Rate Rider Decision, p. 1. While EVgo indicated support for tariffs that scale demand charges as a function of utilization rates, it also supports both Eversource's existing EV Rate Rider and UI's proposal. EVgo Brief, p. 4.

In order to lower costs for EVSE with low load factors, UI proposed to remove restrictions on its non-demand rates (GS and GST) for separately metered DCFCs and Level 2 chargers with ten or more installations. UI Written Comments, dated January 29, 2021, pp. 9-10. UI stated that removing the availability exclusions applied to the non-demand GS and GST rates (i.e., that a customer's demand must not exceed 500 kW in two consecutive months), separately metered DCFCs and Level 2 chargers could choose to take service under one of four rates: the GS non-demand, GST non-demand, GST demand and LPT rates. Id.

Separately metered charging stations under the EDCs' existing commercial tariffs – namely, Eversource's Rate 30 and UI's demand GS and GST rates – include demand charges that can significantly impact the economics of DCFC installations, particularly in the early years of usage as DCFCs typically have lower utilization rates overall but periods of high demand. In an effort to establish a timely, albeit ultimately temporary, demand charge mitigation measure, the Authority determines that Eversource shall continue to

make available its EV Rate Rider for eligible charging stations until otherwise directed by PURA.

Additionally, the Authority hereby directs UI to submit no later than August 15, 2021 an EV Rate Rider for PURA review and approval for all separately metered EVSE that removes restrictions on its non-demand GS and GST rates, as proposed by the Company. UI's EV Rate Rider shall be made available to eligible customers as soon as possible, but not later than January 1, 2022. The Authority maintains it is critically important to provide consistent EV Charging Program offerings for participants to ensure a consistent experience for EV drivers statewide. Nevertheless, the Authority recognizes that each EDC's EV Rate Rider will apply its own demand charge mitigation approach as an interim solution, and is therefore appropriate at this time.

The Authority finds that a more robust and permanent demand charge mitigation solution that reflects an appropriate allocation of distribution system costs is necessary to support the sustained growth of the EVSE industry in the State. The Authority will further consider a more sustainable solution during the 2022 Annual Review. Accordingly, the Authority will require the EDCs to propose a tariff specifically for separately metered DCFCs and networked Level 2 EVSEs serving light-duty fleets, to be submitted to the Authority no later than August 1, 2022.[19] The tariff shall include a fixed monthly charge, on-peak and off-peak kWh distribution charges that are higher when a charging station's load factor is low (e.g., utilization of <5%) and decrease at established increments as charging station utilization increases, and kW distribution and transmission demand charges that are lower when a charging station's load factor is low and increase at established increments as charging station utilization increases.[20] To minimize program costs, any revenues from billed sales that exceed the established revenue requirements used to design the tariff over the useful life of the EVSE shall be tracked by the EDCs and credited back to ratepayers through a rider or other rate reconciliation mechanism. The tariff shall be offered to all electric utility customers with separately metered DCFCs and light-duty fleets with installations of four or more networked Level 2 chargers that are enrolled in a managed charging program.

d. Participant Eligibility

Site selection will ultimately be driven by site host participation, though the EDCs and EVSE vendors will each have a critical role in outreach, education, and site optimization. In addition to the criteria outlined in Section VI.B., site hosts must meet the following eligibility criteria to participate in the DCFC program:

- Site hosts must provide dedicated parking spaces for the number of charging ports installed;
- Site hosts must select an approved EVSE vendor; and
- Site hosts of light-duty fleets utilizing ports reserved for non-public light-duty fleet charging must participate in a managed charging program to be implemented by the EDCs no later than January 1, 2022.

[19] Light-duty fleets defined as four or more networked Level 2 chargers installed at a site (see Section V.E.).
[20] See RMI DCFC Rate Design Study, dated October 2019, pp. 10-12.

D. DESTINATION LEVEL 2 CHARGING

1. Objective

The Destination Level 2 Charging Program directs the EDCs to adopt a make-ready utility investment model, combined with an upfront incentive for the purchase and installation of networked Level 2 EVSEs, to supplement the State's existing publicly available charging infrastructure. The EDCs shall collaborate with site hosts to identify locations that support tourism and other economic development opportunities.

1. Deployment Targets

The deployment targets are derived from the EVI-Pro Lite Tool's Public Level 2 charging infrastructure projections necessary to meet the 2025 ZEV MOU and 2030 GHG emissions reduction targets, as discussed in Section IV.C (see Table 10). The deployment targets for the first Program Cycle account for the existing 771 publicly accessible Level 2 charging ports statewide, leaving a deployment gap of 789 ports statewide.

Table 10
Destination Level 2 EVSE Program Deployment Targets[21]

	NUMBER OF PORTS			
SERVICE TERRITORY	2022-2024	2025-2027	2028-2030	TOTAL
Eversource	631	1,324	1,324	3,279
UI	158	330	330	818
Total	789	1,654	1,654	4,097

The Authority reserves the right to consider additional program modifications during the Annual Review and Program Reviews.

2. Program Design

a. Make-Ready Ownership Model

The EDCs shall administer a make-ready program for networked EVSEs installed in high-traffic, public locations appropriate for Level 2 charging. Under the make-ready ownership model, the EDCs shall invest in the infrastructure required to enable Level 2 charging up to the charging station, from the distribution system up to the EVSE. The Level 2 charging stations installed will be owned, operated, and maintained by the site host. The site host shall be the customer of record, which may be the property owner/manager, an Electric Vehicle Service Provider, or another third-party.

[21] Public Level 2 Destination Charging Deployment Targets account for 723 existing publicly accessible stations in the first Program Cycle. See Table 1.

b. Level 2 Charger Incentives

In addition to the make-ready utility investment covering up to 100% of the cost of installing the infrastructure at the EVSE site, subject to the established maximum per site incentive, the EDCs shall provide an upfront incentive, via a rebate, to participating site hosts to offset the costs of purchasing Level 2 EVSEs. The incentive level will vary depending on site host eligibility (see Table 11) and will be calculated based on the net installed cost of the EVSE, after deducting any other applicable rebates, grants, or other incentives the site host may receive.

Table 11
Level 2 EVSE Incentive Structure: Destination Charging (2022-2024)

	Incentive Level	Max. Incentive per Site
Baseline	Up to 50% of EVSE cost + Up to 100% make-ready installation cost (≥2 ports)	$20,000
Underserved communities		$40,000

c. Participant Eligibility

Site selection will ultimately be driven by site host participation, though the EDCs and EVSE vendors will have a role in outreach, education, and site optimization. In addition to the criteria outlined in Section VI.B., site hosts must meet the following eligibility criteria to participate in the Destination Level 2 Charging Program:

- Site hosts must provide public access to the installed EVSEs; and
- Site hosts must provide dedicated parking spaces for the number of charging ports installed.

E. WORKPLACE & LIGHT-DUTY FLEET LEVEL 2 CHARGING

1. Objective

This program area requires the EDCs to adopt a make-ready utility investment model, combined with an upfront incentive for the purchase and installation of networked Level 2 EVSEs, to increase the deployment of light-duty fleets, which may include municipal and state government fleets, and employee workplace charging (together, Workplace & Light-Duty Level 2 Charging Program). Under the Workplace & Light-Duty Level 2 Charging Program, light-duty fleets shall be defined as installations of four or more networked Level 2 chargers that are enrolled in a managed charging program. The EDCs will be required to develop a managed charging program for light-duty fleets, for Authority review and approval, to be implemented by January 1, 2022. Separately metered light-duty fleets shall also be eligible for the tariffs designed to mitigate the impact of demand charges outlined in Section V.C.3.c.

After at-home charging, workplace charging is considered the second most prevalent charging use case.[22] The Workplace & Light-Duty Fleet Charging Program adopts similar program elements to the MUD and Destination Charger Programs; however, there are unique considerations for workplace charging installations, particularly for light-duty fleets. Several stakeholders advocated for addressing light-duty fleets through a separate program area, including ChargePoint, Greenlots, and Sierra Club. ChargePoint noted that light-duty fleet charging and workplace charging have different characteristics, as load profiles can vary significantly between the two use cases. ChargePoint Brief, p. 8. The Connecticut Department of Transportation (ConnDOT) also noted the different load profiles of light-duty fleets, specifically that fleet operators are more likely to use vehicles during the day and charge them at night during off-peak hours. ConnDOT RFPD Response, p. 1. ConnDOT suggested the Authority therefore include a separate program area for light-duty fleet vehicles to incentivize operators to electrify. Id. UI also noted that light-duty fleets have unique charging needs, and operators may need to restrict charger access to support their vehicles. UI Response to OCC-29. UI suggested light-duty fleets be eligible for the same incentive structure as the other Level 2 program areas, and that the minimum number of plugs required for participation be four. Id. Eversource, meanwhile, stated that while workplace charging load profiles are uniform, light-duty fleet load profiles depend on the specific use case. Eversource Response to OCC-29. Eversource stated that fleets may be an appropriate application for managed charging, but the Company does not have enough data to design a fleet-specific tariff at this time. Id.; Eversource Response to OCC-30.

To accommodate the unique characteristics of light-duty fleets, the Authority directs the EDCs to allocate up to 25 percent of the approved Level 2 workplace and fleet charging program area funds for EVSE installations for light-duty fleets. Additionally, the EDCs are directed to provide a Fleet Engagement Advisory Service as part of its education and outreach plan to assist site hosts in assessing opportunities to embrace light-duty fleet electrification. Eversource RFPD Response, Exhibit 5, p. 9; EV Roadmap, pp. 52-53. The Authority will reexamine the level of the Workplace & Light-Duty Fleet Charging Program budget to be allocated to light-duty fleets during its 2023 Annual Review.

The Authority notes that site hosts installing DCFCs at workplace locations may also participate in the DCFC program, as long as the charging infrastructure installed through the Program is made available to the public, or alternatively, participates in the managed charging established under the Workplace & Light-Duty Fleet Charging Program.

2. Deployment Targets

The deployment targets are calculated based on the scaled projection for workplace charging infrastructure necessary to meet the 2025 MOU and 2030 GHG emissions reduction targets, as discussed in Section IV.C. (see Table 12). The EVI-Pro Lite Tool does not separately track the number of workplace charging station installations

[22] See The International Council on Clean Transportation, Quantifying the Electric Vehicle Charging Infrastructure Gap Across U.S. Markets, dated January 2019, p. 10.

across the State, and there is no current utility or third-party database of existing workplace charging locations. UI RFPD Response, p. 20. As a result, the deployment targets assume zero current deployments.

Table 12
Level 2 EVSE Deployment Targets: Workplace & Light-Duty Fleet Charging

	NUMBER OF PORTS			
SERVICE TERRITORY	2022-2024	2025-2027	2028-2030	TOTAL
Eversource	1,851	2,017	2,017	5,885
UI	463	504	504	1,471
Total	2,314	2,521	2,521	7,356

3. Program Design

a. Make-Ready Ownership Model

The EDCs shall administer a make-ready program for networked Level 2 EVSEs installed at workplaces. Under the make-ready ownership model, the EDCs are directed to invest in the infrastructure required to enable Level 2 charging up to the charging station, from the distribution system up to the EVSE. The installed Level 2 charging stations will be owned, operated, and maintained by the site host. The site host shall be the customer of record, which may be the property owner/manager, an Electric Vehicle Service Provider, or another third-party.

b. Level 2 Charger Incentives

Eversource proposed a $12,000 EVSE rebate per site for light-duty fleets and $40,000 for EVSE located in "Low-Income Census Block Groups," with rebates covering 50% of the EVSE cost. Eversource RFPD Response, Exhibit 5, p. 21. Eversource stated that EVSE and make-ready incentives that cover up to 50% of EVSE cost and up to 100% make-ready installation cost, coupled with maximum per-site incentives of $40,000 for EVSE located in underserved communities and $12,000 for all other installations, are appropriate given the current lack of light-duty fleet EVSE demand data. Eversource Response to OCC-30. However, in their written exceptions, Greenlots noted that an incentive of $12,000 would not sufficiently incentivize fleet electrification. Greenlots Written Exceptions, dated June 25, 2021, pp. 2-3.

Based on the foregoing, the Authority directs the EDCs to provide incentives covering up to 100% of the make-ready utility investment at the EVSE site, subject to the established maximum per site incentive, and the an upfront incentive, via a rebate, to participating site hosts to offset the costs of purchasing Level 2 EVSEs. The incentive level will vary depending on site host eligibility (see Table 11) and will be calculated based on the net installed cost of the EVSE, after deducting any other applicable rebates, grants, or other incentives the site host may receive. The Authority finds Eversource's proposed rebates for underserved communities to be appropriate as a maximum per-site incentive. However, the Authority finds a baseline maximum incentive of $12,000 to be insufficient

to incentivize all EVSE market segments. Accordingly, the Authority adopts a baseline maximum site incentive of $20,000 and a maximum site incentive of $40,000 for underserved communities, as defined in Section IV.E. (see Table 13).

Table 13
Level 2 EVSE Incentive Structure: Workplace & Light-Duty Fleet Charging (2022-2024)

	Incentive Level	Max. Incentive per Site
Baseline	Up to 50% of EVSE cost + Up to 100% make-ready installation cost (≥4 ports)	$20,000
Underserved communities		$40,000

c. Demand Charges

As discussed in Section V.C., the Authority will require the EDCs to propose a tariff specifically for separately metered DCFCs and networked Level 2 EVSEs serving light-duty fleets, to be submitted the Authority no later than August 1, 2022. In the interim, Eversource shall modify its EV Rate Rider to allow light-duty fleets with separately metered Level 2 and/or DCFCs for non-public use. In addition, the Authority directs UI to submit an EV Rate Rider for all separately metered EVSE, for PURA review and approval, that removes restrictions on its non-demand GS and GST rates, as proposed by the Company. The tariff shall be offered to all electric utility customers with separately metered DCFCs and installations of four or more networked Level 2 EVSE that are enrolled in a managed charging program under the Workplace & Light-Duty Fleet Charging Program.

d. Managed Charging

As EVSE installations utilizing the fleet carve-out incentives will not be required to be publicly accessible, any non-public sites will be required to enroll in a managed charging program to maximize the grid-level benefits to all ratepayers. As such, the EDCs are directed to launch a managed charging program for workplace Level 2 light-duty fleets. As a condition of receiving networked Level 2 EVSE and make-ready incentives, all fleet program participants will be required to enroll in the managed charging program offering. In addition, all program participants must allow their EDC to access charger data. The EDCs shall aggregate program participants' charger data to implement the program, analyze usage patterns, and track program metrics.

As outlined in Section IV.F., no later than August 1, 2021, the EDCs are directed to initiate a working group to inform the development launch of a managed charging program for light-duty fleets. In consultation with working group participants, the EDCs shall develop the appropriate program rules and submit such program rules and/or documents as outlined herein for the Workplace & Light-Duty Fleet Charging Program for the Authority's review and approval no later than October 15, 2021, for program launch no later than January 1, 2022.

e. Participant Eligibility

Site selection will ultimately be driven by site host participation, though the EDCs and EVSE vendors will have a key role in outreach, education, and site optimization. In addition to the criteria outlined in this Section and in Section VI.B., site hosts must meet the following eligibility criteria to participate in Level 2 Workplace and Light-Duty Fleet Charging program:

- Site hosts must provide dedicated parking spaces for the number of charging ports installed;
- Site hosts must allow their EDC to access charger network data on each charging session, though the data shall not be attributed to an individual driver; and
- Site hosts of light-duty fleets (i.e., four or more ports reserved for non-public light-duty fleet charging) must participate in a managed charging program to be implemented by the EDCs no later than January 1, 2022.

VI. PROGRAM ADMINISTRATION

The EDCs shall develop the appropriate program documents and additional program rules as directed in this Decision, and all associated documents necessary to effectively implement the compressive program design.

A. EVSE PROCUREMENT GUIDELINES

Eversource proposed that all charging stations installed through this Program should be networked and able to communicate data to an EDC-managed platform. Eversource Written Comments, dated January 29, 2021, p. 9. Similarly, Greenlots supported a requirement that all program areas utilize networked chargers, as they allow for participation in a demand response or managed charging programs. Greenlots RFPD Response, p. 5. Greenlots also supported requiring third-party Open Charge Point Protocol (OCPP) certification to verify that EVSE installed through the program complies with open standards and will minimize the risk of stranded assets. Id., pp. 4-5. Enel X stated EVSE should be networked to enable communications, monitoring, scheduling, and control, with required OCPP compatibility. Enel X RFPD Response, pp. 8-12. ChargePoint noted that networked EVSE can collect interval data about usage patterns and can facilitate communication between the EV driver, the EDCs, and third-party systems. ChargePoint RFPD Response, p. 2.

Based on the foregoing, and in an effort to better understand EV charging behavior and anticipate technology advancements in charging infrastructure, all EVSE installed through this Program must have networked charging capabilities. The EDCs shall implement a coordinated procurement process to facilitate a consistent charging experience for EV drivers statewide. To do so, the EDCs shall jointly issue an open request for proposals (RFP) to develop a list of approved EVSE vendors, makes, and models, which shall be updated on an annual basis to account for technological advancements and to leverage the competitive market. The EDCs will be required to jointly submit to the Authority, for review and approval, an EVSE vendor RFP with a list

of minimum requirements to satisfy each program design outlined in the EV Charging Program portfolio.

The Authority recognizes that the statewide deployment of EV charging infrastructure poses numerous interoperability considerations that require further examination, including, but not limited to, multiple charging plug types, emerging technological advancements such as wireless charging technologies and onboard telematics capabilities to facilitate managed charging, charger and utility infrastructure communications systems and interfaces, and payment options. Accordingly, the Authority will hold a series of EVSE interoperability workshop sessions with docket Participants and interested stakeholders in August 2021, to be facilitated by an external consultant, to inform the EDCs' EVSE procurement processes and standards, including the development of an RFP and any other program guidance documents. The consultant will summarize its findings from stakeholder discussions in a report to be submitted to the Authority in the instant proceeding and the first Annual Review proceeding (Docket No. 21-08-06) no later than September 30, 2021. The EDCs shall incorporate the report's findings into their EVSE vendor RFP to be submitted jointly to the Authority for review and approval no later than October 15, 2021.

The EVSE interoperability workshop sessions will investigate interoperability as it relates to open access, payment methods, and charger to network, network to network, and vehicle to network communications to inform baseline standards and protocols for EV charging stations. The resulting EVSE procurement specifications shall contemplate the following criteria, at a minimum:

- Applicable standards for networked Level 2 EVSEs and DCFCs, including methods for collecting and providing charging network data to the EDCs;
- Adherence to the OCPP, Open Charge Point Interface (OCPI), ISO 15118, and/or the Open Automated Demand Response (OpenADR 2.0b);
- Applicable testing and certification processes;
- Demonstrated compliance with the Americans with Disabilities Act;
- Multiple payment mechanisms in compliance with Conn. Gen. Stat. § 16-19ggg and any other applicable statutes or regulations;
- Requirements and protocols to ensure consumer protection, pricing transparency, and customer service support; and
- Minimum charging capacity for eligible Level 2 chargers and DCFCs.

1. Data Privacy and Security Plan

Eversource and UI each proposed data privacy and cybersecurity plans as part of their responses to PURA's Request for EV Program Design. Eversource also provided a Grid Modernization Cyber Security Plan, which summarized the Company's overall cybersecurity program as it relates to grid modernization technologies. Eversource RFPD Response, Exhibit 12, p. 5. In the plan, Eversource stated it follows National Institute of Standards and Technology guidelines for cybersecurity along with the Data Guard Energy Data Privacy Program developed by the United States Department of Energy. Id. Further, Eversource asserted that its standards "ensure that security measures and risk management efforts align appropriately with the priority of Grid Modernization processes

and technologies for which Eversource if responsible." Id. Additionally, Eversource stated its data privacy measures include physical and access controls, encryption, monitoring, training, and third-party security reviews, among others. Id., p. 10.

UI stated that it maintains a cybersecurity policy for its procurement processes that is reviewed by the Company's cybersecurity team, which includes supplier ratings and cybersecurity riders for service agreements. UI RFPD Response, p. 27. UI also stated that its program design proposal left data ownership, control, and custodianship to the EVSE developer, site host, and/or individual customer. Id. Further, UI proposed to procure a network provider to communicate with EVSE network providers, and expects to have visibility of all installed EVSE through the secure network. Id.

The Authority appreciates the EDCs' consideration of data privacy and cybersecurity related to any EVSE program. For statewide consistency, the EDCs shall jointly develop one comprehensive Data Privacy and Security Plan for the Program, to be submitted for Authority review and approval on or before December 15, 2021. Such Plan shall: align with industry standards, best practices, and any state or federal regulations designed to protect customer data and prevent cybersecurity attacks; include data aggregation standards and the ability and methods to pseudo-anonymize or anonymize data, when applicable; address data ownership, data custodianship, and their roles and responsibilities and include data flows and system touch points that identify data ownership (customer/EDC), data custodianship, and aggregated or anonymized data ownership; and include provisions for access to the data by the Authority and other government agencies. Additionally, the EDCs shall include in its Data Privacy and Security Plan filing, a separate list of data sharing and security requirements for any device participating in the incentive programs, specifically highlighting the information that will be provided to customers and any data sharing agreements. Last, the Data Privacy and Security Plan submitted in compliance with this Decision shall be revised and resubmitted for the Authority's review and approval within 30 days of the submission of any similar plans filed in Docket No. 17-12-03RE02, PURA Investigation into Distribution System Planning of the Electric Distribution Companies - Advanced Metering Infrastructure, highlighting the areas specific to the Program not covered in the plans ordered in Docket No. 17-12-03RE02.

B. PARTICIPANT ELIGIBILITY

In addition to the participant eligibility requirements outlined for each program area in Section V., the following criteria must be met for all program participants:

- Eligible customers must be a residential or commercial and industrial (C&I) electric customer of Eversource or UI;
- The service address for a residential or C&I customer electric account must be for a physical address located within the State of Connecticut;
- Site hosts must provide an affidavit attesting to the following:
    i. Own the land of the EVSE installation;
    ii. Have a lease for the site (5 years or longer); or
    iii. Obtain written consent from the landowner for the EVSE installation on site and participation in the Program;

- Site hosts must agree to operate and maintain EVSEs installed through this Program for a minimum of 5 years; and
- Site hosts must grant permission for their EDC to receive all available data from the networked EVSE, though the data shall be aggregated and anonymized or otherwise encrypted if/when disclosed publicly.

C. PARTICIPANT ENROLLMENT AND REBATE DISBURSEMENT

The EDCs will serve as Program Administrators to manage participant enrollment in the Program and administer the incentive rebates. Program participants/site hosts shall only receive an incentive rebate to partially offset the cost of a Level 2 charger or DCFC after all participant eligibility requirements have been met and the site host has provided proof of EVSE purchase. Utility electric bill payments for the usage of installed EVSEs are the sole responsibility of the site hosts, unless otherwise stated herein; incentive payments received through this Program shall not be applied as credits toward electric bills.

As part of its program guidance filings, the EDCs will be required to submit a proposed process for Authority review and approval to determine on a site-by-site basis the level of make-ready infrastructure upgrades that would enable future charging infrastructure upgrades in the first Annual Review proceeding discussed in Section VI.F. Eversource RFPD Response, Exhibit 7, p. 2; UI RFPD Response, p. 26. Any future-proofing actions taken by the EDCs must be driven by site host commitments and balanced against equitable allocation of limited program funds.

D. STATEWIDE BENEFIT-COST ANALYSIS

The Authority directed the EDCs to provide a ratepayer impact analysis of EVSE infrastructure investments required to meet each Company's allocation of a set of EVSE program deployment targets based on the deployment of 500,000 EVs statewide by 2030. See, Eversource and UI Responses to Interrogatory CAE-1, dated March 1, 2021. The Authority did not prescribe a per site or per port maximum incentive level, nor were the EDCs directed to consider potential impacts of any EV rate designs; however, the analysis did include the estimated ratepayer impact of a managed charging program based on gross program costs incorporating demand response and direct load control.

In response to CAE-1, Eversource estimated the program would increase bills approximately 0.1% ($0.11 per month) in Year 1 to 1.3% ($2.04 per month) in Year 9 for a Residential Rate 1 customer, assuming average usage of 700 kilowatt-hours (kWh) per month. Eversource Response to Interrogatory CAE-1, Attachment 1, dated March 1, 2021. Similarly, UI provided two cost scenarios to meet the deployment targets contemplated in CAE-1. The resulting analysis estimates the program would increase bills 0.1% ($0.01 per month) in Year 1 to between 1.1% and 1.2% ($2.06 - $2.23 per month) in Year 9 for a residential customer with an average usage of 700 kWh; the higher estimate amortizes program costs over five years, while the lower amortizes make-ready incentives over fifteen years. Late Filed Exhibit No. 9, Attachment 1; UI Response to Interrogatory CAE-1, Attachment 1.

Notably, both Eversource and UI provided ratepayer impact analyses that did not attempt to estimate the impact of increased electric sales attributable to increased EV charging. Tr. 3/5/21, pp. 124-125, 146. Eversource stated that many assumptions are required to determine the increased kilowatt hour sales attributable to EV charging, but acknowledged a "favorable relationship between…sales growth and overall rate impacts." Tr. 3/5/21, p. 147. Sierra Club posited increased EV sales in Connecticut, supported through the Program, will increase electric kilowatt hour sales. Sierra Club Brief, p. 8. Sierra Club references data from Pacific Gas & Electric Company and Southern California Edison showing that increased EV deployment puts downward pressure on rates for all customers. Id. Additionally, Greenlots stated that EDC revenue increases from EV charging sales, when combined with managed charging strategies, can minimize or avoid grid infrastructure upgrades and are therefore potential sources of ratepayer savings. Greenlots Brief, p. 4. Indeed, if the target of 500,000 ZEVs deployed by 2030 is achieved, as is assumed in the EV Charging Program cost estimates provided by the EDCs, retail electricity sales would result in increased annual revenue upwards of $200 million.[23] This increase in retail sales would more than offset the approximate EV Charging Program cost for 2030 (Year 9) of $80 million dollars, based on the EDCs' response to CAE-01. Moreover, the benefits of increased retails sales would continue into 2021, whereas the EV Charging Program would not have incremental costs beyond 2030.

M.J. Bradley & Associates conducted a cost-benefit analysis (Study) to model the impacts of increased deployment levels of plug-in EVs (PEVs) in Connecticut. M.J. Bradley & Associates, Electric Vehicle Cost-Benefit Analysis, Plug-in Electric Vehicle Cost-Benefit Analysis: Connecticut. The Study compared a business as usual baseline of continued use of internal combustion engine vehicles to two scenarios of EV penetration levels achieved between 2030 and 2050. Scenario 1 modeled the deployment of 150,000 EVs by 2025 to meet Connecticut's ZEV MOU target, and assumed the same annual rate of deployment through 2050. Id., pp. 7-8. Scenario 2 of the Study modeled projected EV deployments that would be required to meet the State's GHG reduction target of 80 percent below 2001 levels by 2050. Id. Specifically, Scenario 2 assumed EV penetration levels of 25 percent of all registered vehicles in Connecticut by 2030, 52 percent by 2040, and 80 percent by 2050. Id.

The Study results concluded that cumulative net benefits under Scenario 1 would amount to more than $3.2 billion statewide by 2050, with $500 million in cumulative net benefits realized by utility customers, or ratepayers, with even greater net benefits calculated under Scenario 2. Id., p. 4. The Study also calculated the cumulative net benefits to utility customers (through reduced electric bills), PEV owners, and societal benefits as measured by GHG reductions on a per-PEV deployment (see Table 14).

[23] The Authority estimates the increased annual revenue from the incremental kWh retail sales associated with 500,000 electric vehicles as approximately $250 million. The Authority assumed all 500,000 vehicles were PHEVs using approximately 2,500 kWh annually (See Impacts of Electrification of Light-Duty Vehicles in the United States, 2010-2017, Argonne National Laboratory, dated January 2018, p. 4, https://publications.anl.gov/anlpubs/2018/01/141595.pdf) at a retail electric rate of $0.2/kWh.

Table 14
Summary of Statewide Net Present Value Annual Benefits of PEV Deployment, M.J. Bradly & Associates[24]

	Net Present Value Annual Benefits ($/PEV)	
	2030	2050
Utility Customer	$73	$62
PEV Owner	$45	$310
GHG Reduction	$90	$132
Total	$208	$504

The Authority finds the EDCs' ratepayer impact analyses, coupled with the broader BCA study conducted by M.J. Bradley, and the record evidence provided by a range of docket Participants and stakeholders noted above, supports the development of an EV Charging Program to meet the State's existing ZEV and GHG reduction targets. The Authority appreciates the necessity of ensuring ratepayer benefits materialize from successful Program implementation. As a result, the Authority has established clear deployment targets (Section IV.C.) with a rigorous evaluation, measurement, and verification requirements (Section VI.G), a comprehensive, yet flexible Program review process and associated reporting requirements (Section VI.F), and a statewide coordinated education and outreach plan requirement (Section VI.H). In addition, the Authority will rely on the program administration and evaluation processes, as outlined herein, to ensure ratepayer benefits are realized. Lastly, the Authority notes that both the CGB and OCC supported the development of a benefit-cost analysis (BCA) tracker. CGB Brief, pp. 11-12; see also, OCC Written Comments, dated January 29, 2021, p. 6. The Authority directs the EDCs to make a filing, as outlined in Section VI.G. below, that will provide detailed cost benefit analysis highlighting all program costs to date as well as all incremental retail sales due to transportation electrification and the associated additional retail revenue. The EDCs' analysis may be used to inform future Program modifications.

E. PROGRAM BUDGET

The Authority directs the EDCs to individually submit a proposed Program Budget for the first three-year Program Cycle (i.e., calendar years 2022 – 2024) for Authority review and approval no later than October 15, 2021. The Authority determines that the final Program budgets approved for each program area, as determined by the EVSE deployment targets, will remain fixed for the duration of each Program Cycle. In other words, funds from one program area shall not be applied to support investments in another program area without prior approval from the Authority. The establishment of a Program budget specific to each program area will ensure an even and equitable distribution of program funding across the different market sectors. If the EDCs achieve charging infrastructure deployment targets in one or more program areas prior to the conclusion of the current Program Cycle, the EDCs may request a motion for approval of additional funds to be allocated to meet deployment targets specified in future Program Cycles, which the Authority will consider under the appropriate Annual Review proceeding.

[24] See MJB&A Analyzes State-Wide Costs and Benefits of Plug-in Vehicles in Five Northeast and Mid-Atlantic States, dated February 14, 2017.

F. PURA PROGRAM REVIEW PROCESS

As outlined in Section IV.B., the Authority establishes a nine-year Program to support EV charging infrastructure in Connecticut, starting on January 1, 2022, and continuing through at least December 31, 2030. The Program is structured around three-year Program Cycles whereby the Authority will re-evaluate whether the Program is delivering on the expected value to Connecticut ratepayers and is meeting the stated Program Objectives. In order to ensure the successful implementation of the EV Charging Program by January 1, 2022, the Authority will initiate the first Annual Review proceeding in August 2021. The EDCs shall submit all Orders with a 2021 compliance filing date in the first Annual Review proceeding.

During the first two years of every Program Cycle (e.g., 2022 and 2023), the Authority will conduct an Annual Review beginning on or around August 1 of each year to review key metrics and to make strategic adjustments, as necessary, to ensure: (1) continued alignment with the Program Objectives; and (2) that the Program is on track to meet its Program Cycle deployment targets.[25] Key Annual Review filings shall be submitted by the EDCs on or before August 1, including an annual report summarizing Program results and recommendations for Program modifications as discussed in Section VI.G. The Authority intends to hold at least one public meeting during the Annual Review to solicit stakeholder input on any proposed Program modifications. The Authority will endeavor to conclude the proceeding within 90 days to provide the EDCs and the market time to implement and react to any changes for the next program year. The CGB, Greenlots, DEEP, and the OCC all expressed support for the Program Cycle and/or the Annual Review process. CGB Brief, p. 11; Greenlots Written Comments, dated January 29, 2021, p. 1; DEEP Brief, p. 3; and OCC Brief, p. 14.

During the last year of each Program Cycle (e.g., 2024), the Authority will conduct a full Program Review beginning on or around June 15, including an evaluation of the existing program design to ensure that the Program is: (1) delivering on the expected value to Connecticut's ratepayers; and (2) is meeting the Program Objectives. The Authority will also revisit EVSE deployment targets during the Program Review. The Authority will hold at least one public meeting during the course of the Program Review to solicit stakeholder input on any proposed Program modifications. The Authority will endeavor to conclude the Program Review within 120 days.

Since the Authority directs the EDCs to propose various program design elements to be informed by implementation data after the EV Charging Program launches on January 1, 2022, the 2022 Annual Review will consist of a more substantive review process. Specifically, no later than August 1, 2022, the EDCs will be required to submit the following for implementation beginning in year two (January 1, 2023):

- Proposed solution for offering an EV-only tariff within the Residential MUD Level 2 Charging Program that adopts a model similar to SDG&E's "Power

[25] The Authority anticipates designating this annual proceeding as Docket No. XX-08-06 (e.g., 21-08-06, 22-08-06, etc.).

Your Drive" program, for program implementation beginning January 1, 2023, as directed in Section V.B.3.c; and
- Proposed tariff specifically for separately metered DCFCs and networked Level 2 EVSEs serving light-duty fleets, as directed in Section V.C.3.c.

G. EVALUATION, MEASUREMENT, AND VERIFICATION (EM&V)

The EDCs shall retain a third party to evaluate, measure, and verify results of the Program (EM&V Consultant). The EM&V Consultant shall develop Program metrics, associated calculation methodologies, and data requirements for verifying Program performance based on the established metrics. All metrics and calculation methodologies shall be subject to review and approval by the Authority.

At a minimum, the EM&V Consultant shall work with the EDCs to collect and report every three years on the following metrics:

- Number of site agreements signed and ports installed overall, and broken down by the number of site agreements signed and ports installed in underserved communities;
- A methodology for tracking how EVSE installations statewide are reducing "range anxiety";
- A breakdown of distribution system costs, make-ready infrastructure costs, and incentive payments;
- Networked charger data from the site hosts:
  - Charger utilization data by site[26];
  - Charging load profiles for each program area, and an aggregate;
  - Pricing plan options available at public charging stations;
- Incremental kilowatt-hour sales from EVSE installed through the Program and the associated additional retail revenue;
- Program revenues (where applicable);
- Managed charging participation levels and other key performance metrics for the Residential Single-Family and Workplace & Light-Duty Fleet Charging Programs;
- Outreach and education metrics;
- A methodology for calculating estimated avoided GHG emissions due to the Program; and
- A cost benefit analysis using the above required information.

In addition, metrics specific to the MUD Program Area shall include, but not be limited to:

- Building data, including management type, age of building, and number of units;

[26] Charger utilization data shall incorporate the EVSE utilization data collection and reporting model language proposed by the Northeast States for Coordinated Air Use Management; See Collecting EV Charging Station Utilization Data: Model Language for State Grants and Procurement Contracts, April 16, 2021, https://www.nescaum.org/documents/evse-data-collection-model-contract-provision-for-public-evse-4-16-21.pdf/.

- Amount and source of external funds leveraged by MUDs; and
- Load profiles of Level 2 Lease Option participants and non-participants.

The cost of the EM&V Consultant shall not exceed five percent of the total EV Charging Program costs for any Program Cycle. The Authority directs the EDCs to submit a proposed RFP to retain a third-party EM&V Consultant for the first three-year program period for Authority review and approval no later than October 15, 2021.[27] At minimum, the proposed RFP scope of work shall specifically identify and describe within the metrics outlined above, expectations for meeting the annual reporting requirements, and the following additional time-sensitive work. The EDCs, in coordination with the EM&V Consultant, shall develop and submit for the Authority's review, modification, and approval Program metrics, associated calculation methodologies, and data requirements for verifying Program performance based on the established metrics. The proposed Program metrics, calculation methodologies, and data requirements shall be submitted for the Authority's review and approval on or before December 15, 2021.

1. Annual Reporting Requirements

The EDCs shall submit an annual report summarizing the Program results to date and recommendations for any Program modifications no later than August 1 through the relevant review proceeding. The Authority will review the EDCs' annual report through the Annual Review or Program Review processes, depending on the year. At a minimum, such annual report shall detail the progress on the Authority-approved Program metrics listed above.

The EM&V Consultant shall submit a full report on the established Program metrics into the relevant docket on or around June 15 of the last year of each Program Cycle (e.g., on or around June 15, 2024). The Authority will review the EM&V Consultant's report through the Program Review process.

H. EDUCATION AND OUTREACH PLAN

A coordinated and effective education and outreach plan is essential to achieving the EVSE deployment targets established across the Program portfolio. As Program Administrators, the EDCs will play a key role in site host recruitment and education on the benefits of EVSE charger installations. Tailored solutions for each program area will be required to engage with potential program participants, particularly with stakeholders in underserved communities. In addition, the EDCs are directed to identify and leverage existing state, regional, and national EV driver awareness campaigns and establish partnerships to promote in-state initiatives.

The Authority emphasizes the importance of establishing a consistent messaging campaign to raise awareness and solicit participation in the statewide EV Charging Program. Accordingly, the Authority directs the EDCs to jointly develop and submit a proposed education and outreach plan, including, but not limited to, a coordinated

[27] The EDCs shall notify the Authority, through the relevant docket, of the retention of and contact information for the EM&V Consultant. The EDCs shall use the same consultant.

messaging campaign, associated evaluation metrics, and an annual budget for each EDC, no later than October 15, 2021, for Authority review and approval. The emphasis of the proposed education and outreach plan must be on the messaging campaign; therefore, activities relating to evaluation of that campaign shall not exceed a pre-determined percent of the annual budget for each EDC's education and outreach plan, unless the EDC provides justification for and the Authority approves some higher allocation. The Authority recognizes each EDC's service territory may have instances where tailored messaging is appropriate; nevertheless, developing a cohesive, coordinated statewide approach is critical to successful program implementation that enables widescale EV adoption. Upon review of the EDCs' proposed joint education and outreach plan to implement the EV Charging Program, the Authority reserves the right to contract with a third-party to develop a statewide education and outreach plan if PURA finds the EDCs' proposed plan is inadequate.

UI advocated for the total program administration budget to be limited to 15 percent of the program incentive and make-ready budgets, with education and outreach limited to 10 percent of the total program budget. UI Brief, p. 5. Similarly, Eversource recommended an education and outreach budget of 10 percent of total program costs. Eversource Written Comments, dated January 29, 2021, p. 16. The Authority determines the budget for each EDC's education and outreach plan shall not exceed 10 percent of the EDC's total program costs of the first Program Cycle. The Authority will reexamine the 10 percent program budget allocation level at the conclusion of the first three-year program review period.

Eversource stated that additional training is necessary for electricians and installers to support Level 2 EVSE installation and recommended its inclusion in the Program budget. Eversource Written Comments, dated January 29, 2021, p. 6. The Authority will consider a proposed training program for electricians and installers as a component of the EDC's overall joint education and outreach plan, so long as the total education and outreach budget allocation does not exceed 10 percent of each EDC's total EV Charging Program budget.

I. COST RECOVERY

The EDCs will recover the revenue requirement associated with their respective EVSE portfolios through electric distribution rates following a normal base rate case proceeding, as ZEV-related expenditures shall be a core business function of the EDCs now and into the future. As such, distribution rates, through which the ratepayers will realize the benefits of lower rates as increased kWh sales are realized due to increased ZEV deployment, should reflect all ZEV-related costs.

The following description details the directed approach:

- EVSE program costs, including rebates, program administration, education and outreach (but excluding capital, or fixed assets, and associated costs such as depreciation), will be deferred to a regulatory asset;
- The carrying charges assessed to the regulatory asset shall be no more than the Company's last approved weighted average cost of capital;

- Once incorporated into base rates, the regulatory asset will be amortized over a five-year period;
- Any capital assets related to the EV Charging Program authorized herein shall be treated as any other capital asset, i.e., included in rate base and depreciated over their useful lives. EV charging assets shall assume a 15-year estimated useful life.
- Revenue requirements would be computed consistent with the applicable utility's most recent base rate case. The allocation of the revenue requirement to customer classes would utilize the percentage of base distribution revenue from the most recently authorized base rate case.
- Allocated revenue requirements would be applied based on forecasted billing determinants to derive rates.

VII. CONCLUSION AND ORDERS

A. CONCLUSION

In this Decision, the Authority establishes a nine-year statewide EV Charging Program in order to develop a self-sustaining ZEV market that provides ratepayer, electric system, economic, health, and environmental benefits, and achieves an equitable transition to EVs across all communities in Connecticut. The Decision establishes five program areas to optimize the deployment of EVSE, comprised of a combination of incentives for networked Level 2 and DCFCs and other program offerings. The EDCs shall invest in the make-ready infrastructure required to enable charging, with additional incentives available for sites hosting EVSE in underserved communities. The EDCs are directed to administer the Program in their respective service territories, providing the same program offerings available to all EDC customers through a coordinated outreach and education campaign. The EDCs will also develop the appropriate program documents necessary to effectively implement the Program, which will launch on January 1, 2022. The Authority will re-evaluate whether the Program is delivering the expected ratepayer benefits during three-year program review cycles.

B. ORDERS

For the following Orders, the Company shall file an electronic version through the Authority's website at www.ct.gov/pura. Submissions filed in compliance with the Authority's Orders must be identified by all three of the following: Docket Number, Title and Order Number. Compliance with orders shall commence and continue as indicated in each specific Order or until the Company requests and the Authority approves that the Company's compliance is no longer required after a certain date.

1. No later than August 1, 2021, the EDCs shall initiate a working group to inform the development and launch of managed charging programs for the Residential Single-Family and Workplace & Light-Duty Fleet Charging Programs, as discussed in Sections V.A.3.b and V.E.3.d., respectively.

2. No later than August 15, 2021, the EDCs shall submit a proposed plan, including costs and implementation timeline, to develop a hosting capacity map specific to

installing Level 2 and DCFC stations to be made public through an online portal for Authority review and approval, as discussed in Section IV.E.2.a. The EDCs shall make the hosting capacity map available to the public or before the January 1, 2022 Program launch.

3. No later than August 15, 2021, Eversource shall submit for Authority review and approval an updated EV Rate Rider tariff that extends eligibility to light-duty fleets with separately metered Level 2 EVSE and/or DCFCs for non-public use, as discussed in Section V.E.3.c.

4. No later than August 15, 2021, UI shall submit for Authority review and approval an EV Rate Rider for all separately metered EVSE that removes restrictions on its non-demand GS and GST rates, as discussed in Section V.C.3.c. UI's EV Rate Rider shall be made available to eligible customer accounts as soon as possible, but not later than January 1, 2022.

5. No later than October 15, 2021, the EDCs shall submit a proposed RFP to retain a third-party EM&V Consultant for the first three-year program period for Authority review and approval, as discussed in Section VI.G. The EDCs shall subsequently notify the Authority, through the relevant docket, of the retention of and contact information for the EM&V Consultant.

6. No later than October 15, 2021, the EDCs shall separately file, for Authority review and approval, proposed program design document(s) that shall include:
    a. Proposed program rules to implement a managed charging program for the Residential Single-Family and Workplace & Light-Duty Fleet Charging Programs as outlined in Sections V.A.3.b and V.E.3.d;
    b. A proposed level of the rebate and other program implementation details for residential EV drivers with an existing non-networked Level 2 charger, as outlined in Section V.A.3.c.;
    c. A proposed definition of "site" and a process to determine on a site-by-site basis the level of make-ready infrastructure upgrades that would enable future charging infrastructure upgrades, as discussed in Section VI.C; and
    d. Proposed Program Budget for the first three-year Program Cycle (i.e., calendar year 2022 – 2024), as discussed in Section VI.E; and
    e. Proposed joint education and outreach plan, including, but not limited to, a coordinated messaging campaign, associated evaluation metrics, and an annual budget for each EDC, as discussed in Section VI.H.

7. No later than October 15, 2021, the EDCs shall jointly submit to the Authority for review and approval their EVSE vendor RFP with a list of minimum requirements to satisfy each program design outlined in the EV Charging Program portfolio, as directed in Section VI.A.

8. No later than December 15, 2021, the EDCs, in coordination with the EM&V Consultant, shall develop and submit for the Authority's review, modification, and approval Program metrics, associated calculation methodologies, and data

requirements for verifying Program performance based on the established metrics, as discussed in Section VI.G.

9. No later than December 15, 2021, the EDCs shall jointly file a Data Privacy and Security Plan for the EV Charging Program for Authority review and approval, as directed in Section VI.A.1.

10. Beginning January 1, 2022, the EDCs shall offer rebate incentive levels as outlined in Table 4 of the Decision, unless and until otherwise directed by the Authority.

11. No later than 30 days after the conclusion of each quarter in 2022, the EDCs shall submit a compliance filing that includes the number of interested site hosts and the number of customers that (1) moved forward with the EVSE project and (2) are no longer actively pursuing incentives through the Program. Such compliance filing shall include the estimated make-ready cost for each customer and, where applicable, an explanation of why each customer did not ultimately pursue incentives through the Program.

12. No later than August 1, 2022, the EDCs shall separately file, for Authority review and approval, proposed design document(s) that shall include:

    a. Proposed solution for offering an EV-only tariff within the Residential MUD Level 2 Charging Program that adopts a model similar to SDG&E's "Power Your Drive" program, for program implementation beginning January 1, 2023, as directed in Section V.B.3.c;
    b. Proposed key program parameters and a suggested timeline for implementation of a managed charging program at participating MUDs as directed in Section V.B.3.e; and
    c. Proposed tariff specifically for separately metered DCFCs and networked Level 2 EVSEs serving light-duty fleets, as directed in Section V.C.3.c.

13. No later than May 1, 2022, the EDCs shall submit for Authority review and approval a proposed Level 2 EVSE Lease Program at MUDs, including pricing, as discussed in Section V.B.3.b.

14. No later than August 1, 2022, and annually thereafter, the EDCs shall submit an annual report summarizing the Program results to date and recommendations for any Program modifications in the relevant Annual Review proceeding.

15. No later than August 1, 2023, the EDCs shall propose MUD Level 2 EVSE deployment targets and a supporting calculation methodology for the second and third Program Cycles for Authority review and approval.

16. No later than June 15, 2024, and every three years thereafter, the EDCs shall submit the EM&V consultant's full report on the established Program metrics into the relevant Program Review proceeding.

DOCKET NO. 17-12-03RE04 PURA INVESTIGATION INTO DISTRIBUTION SYSTEM PLANNING OF THE ELECTRIC DISTRIBUTION COMPANIES – ZERO EMISSION VEHICLES

This Decision is adopted by the following Commissioners:

Marissa P. Gillett

John W. Betkoski, III

Michael A. Caron

CERTIFICATE OF SERVICE

The foregoing is a true and correct copy of the Decision issued by the Public Utilities Regulatory Authority, State of Connecticut, and was forwarded by Certified Mail to all parties of record in this proceeding on the date indicated.

Jeffrey R. Gaudiosi, Esq.
Executive Secretary
Public Utilities Regulatory Authority

July 14, 2021
Date

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