



**Connecticut
Light & Power**

The Northeast Utilities System

TESTIMONY OF Richard A. Soderman
THE CONNECTICUT LIGHT AND POWER COMPANY

Energy and Technology Committee
March 17 2011

Re: S.B. No. 1168 AN ACT CONCERNING ELECTRIC VEHICLE INFRASTRUCTURE

Good afternoon. My name is Richard Soderman, and I am Director of Legislative Policy and Strategy for Northeast Utilities Service Company, appearing on behalf of the Connecticut Light and Power Company and Yankee Gas Services Company

The proposed bill provides several adjustments to current law that support infrastructure for electric vehicles. We support this bill and thank the Energy and Technology Committee for raising this bill.

CL&P has been studying transportation electrification for several years and we believe it is an important tool to help reduce carbon emissions and petroleum consumption in our region. Through ongoing collaboration with policy leaders, automakers and technical experts, we are prepared for the arrival of new electric vehicles (EVs). EVs are clearly a good fit with New England's generation supply mix and CL&P is working to safely and reliably integrate EVs into the electric system.

Because of the pioneering work of Connecticut's Electric Vehicles Infrastructure Council (EVIC) and related efforts, Connecticut became one of seven states selected by General Motors as a launch market for the Chevrolet Volt. The first few Volts arrived in state in December 2010. During the past few months, dozens of EVs have been delivered to Connecticut residents who are enthusiastic about this new technology and its transformative potential. Other models will arrive during 2011, including BMW's Active E model for consumer field testing in collaboration with CL&P.



However, Connecticut must view this early success as just the beginning of a long-term commitment to creating a viable, sustainable market for consumers to purchase electrically powered vehicles. Continued policy-level support is critical in the development of the emerging EV market. While this policy support initially may affect only those consumers interested in purchasing electrically powered vehicles, such efforts will positively impact broader policy goals of job creation while simultaneously reducing carbon emissions and petroleum dependence.

Consumer demand can also be influenced by incentives, which in part explains the purchase levels of today's hybrid models. Incentives can be monetary (e.g., grants, rebates, tax credits, loans or registration fee exemptions); or non-monetary such as having access to High Occupancy Vehicle (HOV) / High Occupancy Toll (HOT) lanes, more convenient parking, or exemptions from vehicle inspections and testing. A recent study found that among the top fifth of states with greater hybrid adoption, there was an average of 32 percent more incentives than among states nationwide. Key among these incentives was rebates, tax exemptions and parking incentives.

Based on the growing body of supporting research, as well as our own experience with CL&P customers interested in EVs, we applaud the timely actions of this Committee. We support your efforts to ensure the availability of important incentives to Connecticut consumers as well as the appropriate infrastructure to support EVs.

While being very supportive of this bill but we do recommend considering an alternative to a state-run "electric vehicle infrastructure support account." We believe that providing tax credits or a similar mechanism can allow market dynamics to drive down the cost of infrastructure rather than artificially supporting it. In addition the administrative process and structure to handle an appropriate set of credits would be less than that of a state-run infrastructure account.

CL&P also notes that in Section 6 the concept of "Level III" charging is used incorrectly. We believe that the intended language of the legislation is "Level II DC charging." We request that the legislation be reviewed to ensure technical accuracy. The attached chart presents the differences between Level I, II and III charging and between AC and DC charging.



Additionally, CL&P recommends that the development of a plan for public charging infrastructure should be comprehensive and include all types of charging options. Plan development should encompass all relevant stakeholders including automakers, charging station equipment suppliers, charging station services providers, electric distribution companies, and consumer groups, among others.

Looking ahead, there are other technical and policy-related matters that Connecticut needs to address in order to successfully integrate EVs into the state's policies and goals. CL&P is currently studying a number of these issues, especially those concerning the existing utility infrastructure. We find it appropriate to present two ideas at this stage:

- Continue the work of the EV Infrastructure Council. This Council can: a) Coordinate state agency efforts, b) Continue to identify evolving policy needs to support the emerging EV market, c) Coordinate efforts to secure federal grants or incentives, d) Stay abreast of market developments from the automakers, equipment makers and utilities and e) Serve as a central point of contact as neighboring states and other entities participate in regional EV charging networks.
- Recommend and support electric distribution companies (EDCs) undertaking pilot programs to better understand consumer behaviors associated with this emerging technology. It is important to have real-world data around vehicle charging patterns, energy demand and usage patterns (time, capacity, volume, season), driver recharging patterns (topping off vs. deep recharging) and equipment utilization in different locations. Test data mechanisms are also important for EDCs to understand minimizing peak impacts from EV charging and consumer willingness to time-shift EV recharging through different types of potential time-of-use rates.

We look forward to continued collaboration on this topic in the future. Thank you for the opportunity to provide testimony on this matter.



Charging Station Options and Characteristics

	AC (on-board charger)			DC (off-board charger)		
	Voltage	Rated Power	Connector	Voltage	Rated Power	Connector
Level 1	120V, 1Ø	1.44 / 1.92 kW	C1*	200 – 450V DC	=19.2kW	C1*
Level 2	240V, 1Ø	=19.2 kW	C1*	200 – 450V DC	=90kW	C2 Hybrid or CHAdeMO
Level 3	TBD, 1Ø or 3Ø	TBD	TBD	200 – 600V DC (?)	=240kW (?)	TBD