

## **Regular Meeting, Electric Vehicle Charging Stations Infrastructure Commission**

January 25, 2019

Senator Watters opened the meeting at 9:03 a.m.

### **Introductions**

Commission members present: Senator David Watters, Representative George Sykes, Rebecca Ohler (NHDES), Peter King (BIA), Richard Bailey, Jr. (NHDOS), Carleton Simpson (Unitil), Gary Lemay (Drive Electric NH), Matthew Mailloux (OSI), David Rodrigue (NHDOT), Charlotte Ancel (Eversource), and Kevin Miller (ChargePoint).

Members absent: Rep. Steven Smith and Dan Bennett (NHADA)

Public present: Jack Ruderman (Revision Energy); James Penfold (EV LaunchPad); Tom Irwin (CLF); Erle Pierce (Unitil); Aiden Scanlon (Revision Energy); Barry Woods (Revision Energy); Chris Nihan (ChargePoint); Peter O'Connor (Plug-in America)

### **Review of priorities identified at December 2018 meeting**

Becky Ohler provided the following summary of the priorities identified at the January meeting:

1. Provide guidance to OSI on use of VW funds. Use of funds should maximize benefits. While longer term planning is needed, some immediate investment should be made, particularly in high-voltage DC fast charging on corridors. The State needs to avoid “analysis paralysis”. The Commission should provide guidance and support for the creation of a long-term statewide charging infrastructure plan, including identification of the resources needed to develop it.
2. Long-term infrastructure planning should include development of Level 2 charging at key locations destinations. Both DC Fast and Level 2 charging are needed to attract and support tourism travel to and around the state as well as to support adoption of EVs by NH residents. Many voices, including gas stations, realtors, BIA and others need to be heard during plan development.
3. State agencies should lead by example through the purchase of EVs for the state fleet. The State could also lead by example relative to workplace charging for employees.
4. Building codes and zoning ordinances could play an important role by requiring “make ready” in new building and reconstruction projects. There was some thought that doing some early projects could help inform code changes needed.

Approval of Minutes from December 7, 2018 - Kevin Miller moved to approve the minutes from December 7, 2018; seconded Dave Rodrigue. Motion passed with all in favor.

Senator Watters reviewed some proposed topics for future meetings, including input from utilities on their role in EVSE installation, and opened the topic for discussion.

Kevin Miller stated that barriers for installation and operation of EVSE should be a topic. Especially the costs of installation and operation compared to the revenue they may provide and how this may be a barrier for commercial entities at this time. It was agreed that this topic should be discussed at the February meeting.

Peter King stated that in light of all the building code bills being disused in legislation currently, perhaps a discussion of building codes would be prudent. Senator Watters suggested that topic be added to March so that the commission had time to see what comes about in legislation.

Senator Watters gave a brief discussion of a bill he is sponsoring (SB 275) that would require the State of New Hampshire fleet to consist of zero emissions vehicles by 2039.

#### **NHDES and DOT - proposed priority corridors for Direct Current Fast Charging (DCFC) and DOT EVSE signage policy**

Becky Ohler gave a presentation on the work completed by New Hampshire Department of Transportation and New Hampshire Department of Environmental Services to identify priority corridors for development of DCFC infrastructure in NH. The agencies evaluated corridors based on travel volume data, existing charging capacity and gaps analysis using the M J Bradley tool discussed at the October 2018 meeting, existing or planned EVSE in neighboring states, and current Federal Highway Administration (FHWA) EV “pending” and “signage ready” classifications.

Based on the information NHDES and DOT propose that the following corridors be considered near-term priority corridors for development of DCFC (see presentation for a map):

- Interstates I-89, I-93 and I-95
- Portions of State routes 2, 3, 4, 9, 11, 16, and 101

David Rodrigue described DOT’s proposed signage policy for DCFC on the limited access highway system. Exit signage would be available for DCFC that are: located within 1.5 miles of the exit (0.25 mi. in urban areas) with additional criteria as described in NHDOT’s NEW HAMPSHIRE INTERSTATE, TURNPIKE AND OTHER LIMITED ACCESS HIGHWAY GUIDELINES SIGNING FOR GENERIC MOTORIST SERVICES relative to operating hours and services. These requirements are only to determine if a sign could go up for a specific station on a limited access highway (i.e. highways with exits) in the state and has no bearing on whether a site would be chosen to host charging. Additionally, there would be way finding on the ramp to indicate which direction the driver would need to go. Signage would need to be requested by the owner of the EVSE and the owner is responsible for way finding signage after the ramp.

Discussion:

It was asked how Interstate 93 was designated as signage ready when the DCFC on the corridor are currently greater than 50 miles apart. NHDES explained that when the first round of corridor nominations went to FHWA it included Level 2 as sufficient locations. There was discussion on whether

it is prudent to put up EV Corridor signage without available charging. It as noted that based on the acceptance of the corridor by FHWA New Hampshire is allowed to put up the signs; however, it is for New Hampshire to decide if the signs should be put up.

There was a discussion of whether the restrictions for a bathroom, attendant, and hours of operation would prohibit many from being able to apply for the signage under the regulations presented. David Rodrigue indicated that these are the requirements for all of these types of signs and that it is unlikely to change.

There was discussion regarding prioritization assigned to the corridors on the map. It was noted that the corridors were not yet prioritized. More analysis would be needed to create priorities and that would need to be completed in order to create a framework for how the Volkswagen money would be spent. It was noted that although the traffic volumes are lower in the north, a large percent of the traffic volume in the south is made up of commuter miles which are likely charging at home and work and a large percent of the traffic volume in the north is likely tourists who are going to be looking for destination charging.

A question was asked regarding how much volume is necessary for a station to be profitable. It was decided that this should be discussed further at the February meeting as part of the barriers to installation and operation topic. It was suggested that the information be made public so that investors could refer to it. There was a discussion about how it isn't a one size fits all approach in New Hampshire since what works in Nashua may not work in Littleton.

The rest areas along the highways and turnpikes were brought up as a potential area for development with EVSE. DOT noted that the majority of the rest areas are part of the Federal Highway System and come with regulations for commercial use, making it difficult to include any commercial venture for EVSE. The turnpike rest areas have no federal funds and are able to, which is why they are considering universal DCFC at Hooksett in addition to the existing Tesla infrastructure. However, there may be a hold up due to not knowing whether there will be VW funding available for that.

There was discussion about EVSE at State Liquor Stores. NHDES has had discussions with the Commission about putting in EVSE when they are doing parking lot/building upgrades. It was noted that the Liquor Commission is under a heavy burden to produce revenue so they will need a model to show they can make it work. They were also concerned about tying up parking spaces. It was noted that increased dwell time is something that is discussed when determining the potential benefits of installing EVSE.

Senator Watters opened the discussion up to the public at this time.

Barry Woods asked for clarification on the RFP for an EV plan that was put out by the Dept. of Business and Economic Affairs with funding from OSI. Mathew Mailloux of OSI stated that the RFP is ongoing so he wasn't able to speak too much about that, but sees the plan as a way to make sure the spending plan

for the Volkswagen money is done in the right way to maximize the impact of the funds. Becky Ohler added that the RFP has a short turn around with a report due in June. The hope is that the report will highlight specific areas where early investment in EVSE is prudent.

Randy Bryant asked if there was any consideration to involving standards on the signage, such as charging speed.

Peter O'Connor stated that there are ski areas in between the corridors that should be considered as destination locations. Business plans for Level 2 and or DCFC at ski areas should be considered.

Gary Lemay asked if there was any opportunity for Volkswagen funding for EVSE in the next few months. Becky Ohler stated that research for best use of the funds is on-going and that funding in the next few months is unlikely. Gary indicated that he would like to see it move faster. Becky noted that although it seems like a lot of money, it really isn't and the State needs to make sure it is spent correctly. She added that OSI and NHDES are working diligently on it. Mathew added that other Volkswagen funding has moved forward.

#### **Eversource presentation on electric buses**

Charlotte Ancel from Eversource presented on heavy duty transit and school bus projects in surrounding states. Eversource worked with a transit fleet in CT to evaluate bus electrification. In summary, bus electrification is coming, but market is still nascent. Preliminary evaluation points to a positive cost/benefit and should provide significant fuel cost savings. Demand charges are a significant issue and strategies must be developed to minimize them. There are still many aspects of transit electrification that need to be studied.

There were questions regarding in-route charging and it was explained that it is typically an overhanging wireless charger that the bus sits under for a while to charge. It was noted that in Chicago they are using both depot and in-route charging and ultimately the route itself will dictate what kind of charging would be needed. Longer routes that cannot make it back to the depot in time may benefit from an in-route charging location.

Representative Sykes asked with the significant capital cost and a payback in nine years, what is the life of the vehicle? Charlotte indicated that the life of the vehicle is the same as a diesel, 12 years. Senator Watters noted that the payback takes into account the fuel costs, but does it include the savings in the maintenance costs associated with electric buses? Charlotte said that the savings in maintenance were not included in the payback calculations since that information is not as clear as the fuel savings and they wanted to be more conservative in their model and calculations.

Senator Watters asked if Charlotte was aware of anywhere in the country with an electric school bus fleet. Charlotte indicated that there were a few and could get additional numbers on those fleets. She also indicated that the upfront capital cost was a difficult burden for municipalities in New Hampshire to undertake.

Senator Watters wondered if there could be a business model in the future for a charging hub that transit and municipal school buses could use. Charlotte agreed, but that getting from theoretical to actual can be difficult.

Demand Charges were discussed further. Such charges can occur at any time the customer exceeds normal usage, but every utility demand charge structure is slightly different. For the CT pilot Eversource plans to forgive demand charges for the first five years. The difficulty is trying to be practical but also not have other customers basically subsidize these new technologies. When asked, Charlotte said that time of use is not being used for the pilot; however, she thinks in the long term it will be more about slowing down charge during peak time instead of time of use charges because changing people's habits even with a monetary incentive is difficult. There was further discussion about lowering demand charges with load management. Vehicle to grid interaction was also brought up. Charlotte said that they have looked at it, but the technology isn't there yet. Senator Watters indicated that SB 575 passed last session requires the PUC to consider several rate design standards including demand charges.

David Rodrigue asked if Eversource has looked into electrifying their fleet. Charlotte said yes they have and are targeting their New Hampshire fleet in the next decade. They have begun with a first step which includes electrifying the bucket arm so the trucks don't need to idle while the bucket is in use. David commented that this must be particularly challenging since the fleet is required to respond to emergencies in other states sometimes and that Eversource likely faces some of the same challenges that NHDOT does in this regard. Rick Baily included that law enforcement also has these same concerns. Charlotte agreed and added that was why they are choosing to target one state and learn from that.

Senator Watters indicated that there were a number of bills addressing electric storage in the legislation currently. He discussed a bill that he has sponsored that would get the State fleet to zero emission vehicles by 2039, with benchmarks for the heavy duty trucks to start transitioning in 2029. The bill also requires that New Hampshire (NHDES and DOT) participate in the Transportation Climate Initiative (TCI). Becky added that New Hampshire is a participant in TCI, and the difference is that the other states have made a commitment to develop a "cap and invest" plan to reduce transportation greenhouse gas emissions. Senator Watters said he wants it in legislation that New Hampshire is involved.

Barry Woods stated that the Electrify America Phase I spending didn't have much in New Hampshire and it is important to make our case for Phase II. He also suggested that we partner with other northern New England states to make the case. Senator Watters suggested that the commission write a letter to Electrify America as a sign that New Hampshire is getting involved in the planning for EVSE. Becky indicated that Electrify America has been very data driven and that Phase II investments are going to be announced very soon.

Senator Watters thanked the public and indicated that anyone can reach out with topics for future agendas. The meeting was then adjourned at 11:00.

The next meeting will be February 22, 2019 at starting at 11:00 a.m. Note that this is a time change.