

June 15, 2018

To Whom it May Concern,

Please find the enclosed answers to the questions the BC Utilities Commission has asked the Electrical Contractors Association of British Columbia (ECABC) in response to our submission regarding the Inquiry into the Regulation of Electric Vehicle Charging Service (Project No. 1598941):

1.1 In ECABC's view, please describe what the criteria would be for "service quality" of an EV charging station.

To install Electrical Vehicle Supply Equipment (EVSE) safely, the installer must have a greater understanding of the Canadian Electrical Code (CEC) and industry standards. EVSEs are relatively new technology, so there is currently significant misinformation regarding proper installation of the equipment.

It is important that the supply equipment is being installed by CEC standards and proper commissioning requirements. In BC, the Electrical Joint Training Committee (EJTC) and its subsidiary E2 Inc. offers the Electric Vehicle Infrastructure Training Program (EVITP) to ensure Red Seal electricians receive the training they need to ensure safe installation. The program provides information from the CEC that is needed to calculate load, feeder and service requirements in order to apply for an electrical permit. The EVITP also covers all that is required by industry standards to ensure that the unit is functioning as intended, helping to reduce the number of callbacks from customers.

The safe and appropriate installation of EVSEs is critical to ensure that people purchasing electric vehicles are able to easily and reliably use their supply equipment properly. Demonstrating the reliability of EV charging infrastructure will also help encourage faster adoption of low carbon or carbon-free vehicles in our transportation network.

1.2 In ECABC's view, please describe what the criteria would be for "reliability" of an EV charging station.

EVSE is designed to provide power to electrical vehicles to charge their batteries. Without proper installation and commissioning, the equipment may not function properly, preventing EV owners from being able to fully charge their vehicles. Access to a large network of reliable charging stations is a critical next step in supporting the transition of our transportation network to lower-emission vehicles.

Module 7 of the EVITP teaches the proper skills and tools required for a Red Seal electrician to troubleshoot EVSE properly. It also covers best practices for testing and troubleshooting the unit, as well as how to get it functioning as intended.



Electrical Contractors Association of British Columbia

Troubleshooting can be very time consuming, and potentially hazardous, for an untrained installer. The EVITP covers common issues that can go wrong with residential or commercial equipment. This module is designed to help the installer get the unit working as quickly as possible, and to test the equipment to its highest level before it is being used by the consumer.

1.3 In ECABC's view, please describe what the criteria would be for "safety" of an EV charging station.

Fundamentally, our organization wants to ensure that all charging station infrastructure can be safely used by members of the public. As a starting point, this requires that all infrastructure is installed by suitably certified electricians who are trained specifically on EV charging systems. The installation and maintenance of this critically important infrastructure is highly complex and requires very specific expertise and training.

EVSE comes in a variety of voltage and ampere ratings. They range from Level 1 12 amp 120 volts through Level 2 40 amp 240 volts and Level 3 600 volts DC. While under charge, this equipment may be providing power at the maximum current rating required by the vehicle. It is important that the installer understands how to test the charging handles to ensure that all safety systems are operating correctly. It is also important that the trained installer educates their customers about the dangers of EVSEs under full load.

EVITP trains installers about the safe work practices and standards such as CSA Z462 that are imperative when it comes to testing equipment under live conditions. Safety is of upmost importance to our electricians and the public, so a good understanding of the proper use of personal protective equipment (PPE) and CSA Z462 standards are needed in order to install and test EVSE.

For further information, please don't hesitate to contact me directly at dcahill@eca.bc.ca or (604) 294-4123.

Sincerely,

A handwritten signature in black ink that reads "Deborah Cahill". The signature is written in a cursive, flowing style.

Deborah Cahill
President, Electrical Contractors Association of British Columbia