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on EVITP

Additional submitted attachment is included below.



July 31, 2020

To the attention of: Commissioners David Hochschild, Chair; Patricia Monahan; Janea Scott; Karen Douglas, and Andrew McAllister

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In reference to California Energy Commission docket number 17-EVI-01

California Energy Commission Commissioners:

As a licensed California C-10 electrical contractor, our company would like to provide some perspective on the importance of requiring EVITP certification for installers of electric vehicle supply equipment (EVSE). The installation of EVSE equipment, which includes electric vehicle (EV) charging stations and associated electric infrastructure, is more complex and dangerous than a lot of conventional electrical work because it involves continuous load, high power systems that can put serious strain on the existing electrical systems of residential and commercial buildings. Adequately addressing these concerns requires specialized training to ensure proper and accurate inspection and assessment of existing conditions in order to identify and correct potential hazards.

As an experienced C-10 contractor that employs state-certified electricians, we did not initially think that the electricians who work for our company needed additional training on residential or commercial EVSE infrastructure projects. We assumed that this work was no different than installing a lot of mainstream electrical equipment and that our state-certified electricians already had the skills and knowledge to do this work safely, quickly, and correctly. But once our workers completed the EVITP training, we quickly realized that even our well-trained state-certified electricians needed more advanced knowledge and skills to do their best work on this new high-tech EVSE equipment and integrated infrastructure systems.

The lessons that we learned by having our employees obtain EVITP certification included the following:

- Our electricians found that they knew less than we assumed about the latest and best practices for the safe and effective installation of EVSE infrastructure. As a company, we

happen would be a very positive market development because it would put EVSE contractors on a more even playing field and drive a lot more workforce training across our state. Everyone contracting for or performing EVSE work would benefit.

EVITP recently reported that California currently has over 1,600 EVITP-certified electricians. Because only one EVITP certified electrician is needed in a crew of four, 1,600 EVITP-certified electricians can provide a qualified workforce of up to 6,400 electrical installers. If 1,600 crews of 4 installed 250,000 charging systems over a three year period, each crew of four would install 52 systems each year – only one per week. In reality, the number of EVITP-certified electricians keeps climbing every year. With an EVITP-certification requirement for incentive programs, we would expect the number of EVITP-certified electricians to increase substantially in a relatively short time.

One of our biggest concerns is that as California rapidly increases the number of EVSE installations, more and more of these systems will be installed by inadequately trained workers. The more experience our company has had installing EVSE, the more convinced we are that the safe and reliable installation of EVSE systems requires specialized knowledge and training. While certain electrical equipment can present risks of fire and electrocution, the hazards posed by EVSE charging systems can be considerably greater than electrical equipment that does not require dedicated circuits and does not involve continuous and powerful loads. Those characteristics – often combined with higher voltages and greater amperage – can generate unsafe levels of load stress on the electrical system of residential and commercial buildings.

Proper and safe installation of EVSE systems requires knowing, understanding and adhering to an extensive list of standards, electrical codes, and workmanship requirements. EVSE systems are complex and have specific installation requirements related to correct wire sizing, overvoltage and surge protection, shutoff, and load management, with specialized requirements for certain categories such as DC fast chargers, fleet EVSE systems, etc. Article 625 of the California Electrical Code specifies required methods for wiring, equipment construction, and safety protection systems, among other requirements. The age, condition, type, and capacity of the ancillary components that make up a building's electrical system must be thoroughly inspected and assessed. Improperly installed EVSE systems and related infrastructure can result in fire, explosions, electric shock, severe damage to chargers and cars, and other hazardous situations.

While circuit breakers help protect against load surges, there are a number of reasons they cannot fully mitigate these risks. According to the U.S. Fire Administration USFA, one reason is that outdated or improperly maintained breaker boxes often have worn connectors that do not work, which create the risk that a system will overload and start an electrical fire. Circuit breakers will also not consistently protect against inadequate wire capacity which is a common cause of electrical fire. A considerable number of other electrical components in buildings may not have the capacity to handle the increased load of EVSE. EVITP does not just focus on the

While some manufacturers sponsor training programs, they are not comprehensive in nature, vary widely in content, and are limited in scope to their specific equipment. EVITP is the only comprehensive, brand neutral, non-profit, low cost, EVSE infrastructure training and certification program in the U.S. and Canada. Only EVITP provides classroom and hands-on training that is verified with proctored tests and provides for continuing education as EVSE technology evolves. Because no other equivalent training is available, EVITP is the only training program featured in the U.S. DoE Guides on EV infrastructure for public charging station hosts, and for electrical contractors.

For all of the above reasons, we strongly recommend to the Commission that EVITP now be required as a condition of participating in CEC incentive programs. As California rapidly increases the number of EV charging stations being installed, it is more important than ever to act quickly to ensure that the workforce installing this equipment is properly trained. Moreover, the sooner the Commission imposes such a requirement, the more rapidly contractors that are not early adopters of specialty certifications will begin to also provide their workforce EVITP training. We sincerely believe that this is a matter of public safety and that the Commission should act without delay to protect the integrity and reputation of the whole EV industry, and California's clean transportation objectives.

Thank you for this opportunity to comment.

Sincerely,



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