National Electrical Code® TIA Log No.: 1767 Reference: 625.43 Comment Closing Date: January 22, 2024 Submitter: Casandra Robinson, US Department of Homeland Security/National Urban Security Technology Laboratory (NUSTL) www.nfpa.org/70

1. Revise paragraph 625.43 to read as follows:

NFPA 70[®]-2023 Edition

625.43 Disconnecting Means. EVSE and WPTE shall be provided with one or more disconnecting means in accordance with 625.43(A) and 625.43(B).

625.43(A) Equipment Disconnects. For <u>fixed-in-place</u> EVSE and WPTE rated more than 60 amperes or more than 150 volts to ground, the disconnecting means shall be provided and installed in a readily accessible location. If the disconnecting means is installed remote from the equipment, a plaque shall be installed on the equipment denoting the location of the disconnecting means. The disconnecting means shall be lockable open in accordance with 110.25. For portable and fastened-in-place equipment, the cord-and-plug-connection shall be permitted to serve as the disconnecting means.

625.43(B) Emergency Shutoff. For fixed-in-place equipment supplying dc power to the vehicle, one or more clearly identified emergency shutoff devices or electrical disconnects shall be provided and shall meet all of the following:

- (1) Be installed in a readily accessible location in sight from the equipment
- (2) <u>Disconnect power to all electric vehicle power transfer system equipment on the premises</u>
- (3) Be marked "ELECTRIC VEHICLE EMERGENCY DISCONNECT"
- (4) <u>Require manual intervention in order to reset from an emergency shutoff condition</u>
- (5) <u>Disconnect all ungrounded conductors of the circuits simultaneously from the source of supply</u>

The disconnecting means required in accordance with 625.43(A) shall be permitted to serve as the emergency disconnect if it complies with all the requirements of 625.43(B)

Exception: Emergency disconnects, other than that required in accordance with 230.85, shall not be required for EVSE and WPTE installed at one- and two-family dwelling units.

Substantiation: 625.43 is lacking an emergency disconnecting requirement similar to that required by NFPA 30A at fuel dispensing facilities. Charging stations supplying DC power to electric vehicles (EVs) are primarily available along major highways and are also becoming more available in public parking garages and workplace parking lots. When an emergency occurs at one of these EV charging stations, responders need a quick means to disconnect power in order to respond to the emergency safely.

Emergency Nature: The proposed TIA intends to correct a previously unknown existing hazard. The proposed TIA intends to offer to the public a benefit that would lessen a recognized (known) hazard or ameliorate a continuing dangerous condition or situation.

NFPA 30A requires at least one emergency shutoff device or electrical disconnect (i.e., e-stop device), but e-stops are not required for EV Charging stations per NFPA 70. Shutdown controls are required for both refueling stations and DC charging stations; however, access to these shutdowns is quite different and will create unnecessary and potentially lethal intervention hazards for first responders who are called to address emergencies at DC charging stations. Concerns are detailed below:

- (1) First responders who must operate at DC Charging stations do so in an electrical energy environment that exceeds normal household voltages. First responders are not trained nor equipped to operate in such extreme electrical hazard areas absent a shut off or lock out device.
- (2) First responders have no tools capable of ensuring that the DC energy hazard has been controlled. Unlike AC hazards, where tools have been made available to first responders that allow them to gather some information about the energy status of electrical equipment, there are very few tools available to first responders for ascertaining DC energy status.
- (3) Some e-Stops are being installed in hazardous locations. While not required at EV charging stations, some vendors are installing e-stops. Unfortunately, they are being installed at the charging device rather than at safe locations away from the hazard area. Installation of these e-stops, while well intended, requires that first responders move into the hazard area to operate them. NFPA 30A requires that the e-stop be located at least 20 feet away from the hazard.
- (4) EV Charging station electrical shut offs are not labelled and are not readily accessible. Energy disconnects (per code) are allowed to be in locked cabinets which are often not labeled. This creates confusion and frustration for first responders attempting to address the electrical hazards present. First responders will be looking for e-stops similar to what they have seen at refueling stations. E-stops have been present at refueling stations since 1984, so we have two generations of responders who are expecting them to be present.

Anyone may submit a comment by the closing date indicated above. Please identify the TIA number, state whether you SUPPORT or OPPOSE the TIA along with your comment, and forward to the Secretary, Standards Council. SUBMIT A COMMENT