Austin Energy Electric Vehicle Service Equipment (EVSE) and EV360 Installation Checklist

General EVSE Installation

- ☐ All electrical materials, devices, fittings, and associated equipment should be listed
- ☐ All electrical components have voltage and current ratings necessary for application and installed per manufactured specifications.
- ☐ All equipment is electrically certified by OSHA such as UL, CSA, ETL listed
- ☐ Label and ID as stand-alone or interactive power supply
- ☐ All EVSE equipment should be marked with “FOR USE WITH ELECTRIC VEHICLES”
- ☐ Ensure the EVSE is securely fastened to the structure
- ☐ Equipment is protected from physical damage
- ☐ Dissimilar metals that have galvanic action are isolated
- ☐ Has an appropriate NEMA rated enclosure (NEC 110.28) based on environmental factors and possible deterioration through water or elements.
- ☐ Ensure sufficient space exists around electrical equipment for safe operation and maintenance (NEC 110.26)
- ☐ Building penetrations are sealed and fire resistance is maintained.
- ☐ Cable management apparatus is used to control and organize cable
- ☐ Electric vehicle coupler is polarized(unless part of listed EVSE), noninterchangeable, guarded, and prevents unintentional disconnection
- ☐ Grounding pole in EV coupler is first and last to break connection
- ☐ Cord length should be less than 25’ in length (NEC 625.17) does not have excessive slack
- ☐ Height of outlet should have easily accessible disconnect meeting ADA standards section 4.2.5/4.2.6 (48in.)
- ☐ EV power outlet terminated in a normal NEMA-type receptacle

☐ Bubble cover to prevent contact on outlet

☐ Make sure the outlet is installed with ground pin on top

☐ Circuit over 60A requires lockable safety switch next to EVSE

☐ Ensure that no backfeeding is possible through the EV and the EVSE unless permitted by 625.48 (interactive systems)

☐ Interlock is not required for portable cord-and-plug connected EVSE or 125 volt, single phase, 15 and 20 amps rated

☐ Ensure that during strain or possible cable rupture or cable separation from live parts, there is a mechanism in place to automatic de-energization per NEC 625.19

Load Calculation

☐ Load calculations must be done to prevent INSUFFICIENT LOAD SUPPLY

☐ Record the wattage of load calculation

☐ Check if circuit breaker is compatible with existing panel and make upgrades as necessary

☐ Power supply has an ampacity for 8 AWG and larger

Protection

☐ Interconnection at panel requires OCPD sized main panel busbars according to articles 690 and 705

☐ Overcurrent protection for feeders and branch circuits supply EVSE shall be sized for continuous duty and have a rating of higher than 125% of maximum load of the EVSE.

☐ A listed system of protection against personal electric shock is present

☐ Circuit breakers for (a) level 1 requires a single pole breaker or (b) level 2 requires two pole breaker with dedicated circuitry

Conductors

☐ Conductor is sized to 125% of the rated value

☐ Grounding conductor is 6 AWG or sized according to code and continuous or irreversibly spliced

☐ Color code all conductors

☐ Check electrical connection of circuit conductors and equipment grounding conductors

☐ Neutral should be full-size per AE Design Criteria Manual

☐ EVSE should de-energize the cable conductors and electric vehicle connector upon exposure to strain that may lead to cable rupture or exposure of live parts. Not required for portable cord-and-plug connected EVSE for 125V, single-phase,15 and 20A

Raceways

☐ Individual branch circuit for EVSE should be installed

☐ Branch and feeder should be sized to 125% of rated current

☐ Check all conduit is properly connected(wrench tight), no loose fittings, no cross threadings

☐ Check fished and surface wiring

☐ Size bonding jumpers meets NEC 250.102(C) and 250.66

☐ Securely fasten the conduit at least every 10’ and within 3’ of each outlet box, junction box, device box, cabinet, conduit body or other termination

Service & Disconnects

☐ Check service grounding and bonding

☐ Manual disconnect switch should be mounted in proximity to the metering equipment, as well as other switches per NEC article 690 and connected per NEC article 404.6

☐ Check the service disconnects as appropriate for system

Metering (EV360)

□ 2'' clearance around the meter and follow AE design criteria for metering

□ Maintain at least 4 foot clearance from the gas meter (measured horizontally)

□ Label the meter with the address of location

□ Use rigid conduit for meter installation (Section 1.9)

□ Install jumper plate on meter socket

□ Meters and disconnects should be grouped with billing meter

Workmanship

☐ Referred to AE Design Criteria, Interconnect Guide, COA Electrical Code, & NFPA 70 2017 for install

☐ All work was done in a neat and workmanlike manner

☐ All electrical work done by a licensed electrician

☐ System works as intended