

**Electric Service Requirements Manual (ESR) White Paper**  
for **INTERNAL** and **EXTERNAL** use  
May 2015

**Subject: Electric Vehicle Charging Stations**  
**Section 10**

Section 10.7 of the “ESR” manual briefly details the installation of electric vehicle (EV) charging stations. This supplemental white paper elaborates on those installations.

**Single-Family and Duplex Dwellings**

**Requirements:**

1. The customer must determine if they have adequate electrical service for the number of planned EV charging stations. A service panel upgrade may be required. Contact the Power Company for additional information.
2. The customer shall follow applicable NEC codes, in addition to state and local requirements.
3. Non-Residential Services and Multi-Family Residential Buildings.

**Requirements: Charging Stations Inside Customer Facilities**

- For existing facilities, the customer shall provide the Power Company with the expected new load and charging frequency for the number of planned charging stations to determine if existing feeder lines and equipment can provide the service, or if they must be upgraded.
- For new facilities, the customer shall provide the Power Company with expected load and charging frequency of the charging station along with load information during initial service agreement.
- The customer shall be responsible for the electric vehicle supply equipment (EVSE), metering and maintenance associated with this equipment inside their facilities. The customer shall follow all NEC codes, in addition to state and local requirements.

**Requirements: Charging Stations Served by Separate Circuits (Including Public Access Charging Stations)**

- The customer shall provide the Power Company with the expected new load and charging frequency for the number of planned charging stations. Charging stations served by a separate circuit and public access charging stations require an isolation transformer. Contact the Power Company for additional information and requirements.
- The EVSE must be equipped with leakage and ground current monitors and protection with interruption capabilities and comply with NEC Article 625.
- Refer to chapter 10 for non-residential services and information for direct-connect meter sockets. The meter sockets can be mounted on pedestals.
- The customer is responsible for obtaining electrical permitting for on-street spaces treated as street features from local authorities.
- The customer is responsible for the EVSE, metering, and maintenance associated with this equipment.
- The EVSE enclosure and internal components shall be constructed for use outdoors in accordance with UL 50, Standard for Enclosures for Electrical Equipment.