

# ELECTRIC VEHICLE CHARGING SYSTEM SAFETY – STANDARDS AND PRACTICES

## Multiple Vehicle Charging System Installations

These **Electric Vehicle (EV) charging system safety practices** are for customers that have or are considering the installation of multiple vehicle charging stations on their property.

- **Make sure the contractor or installer is licensed and follows applicable codes and standards, including:**
  - Charging equipment listed to UL 2594, 2202, 2231, 2251, 1564
  - For installations involving reverse power flow (bidirectional charging), make sure the inverter is listed per UL 1741 SAA
    - For utility interconnection rules and standards involving bidirectional systems, see [SCE Grid Interconnections website](#)
  - Energy Management Systems (EMS) listed per UL 916; you have two options:
    - Type 1: Systems which manage energy costs
    - Type 2: Systems which manage demand within restricted capacity
  - Install per California Electrical Code Article 625
    - Hardwired, installed equipment is preferred over plug-in connections
    - Use of plug adapters is not recommended



*Please note that your local Authority Having Jurisdiction (AHJ) may have additional requirements or special interpretations of these standards.*

### **During Operation:**

- Note the location of circuit breakers and disconnect switches
  - Regularly inspect plugs and connections for visible signs of wear, damage, or overheating, such as black marks or deformed plastic
  - Pay attention to any unusual sounds or smells and cease operation until properly inspected by qualified personnel
- **Additional recommendations:**
    - A system with a Type 2 Energy Management System (EMS) must be properly installed and commissioned to ensure safe operation
    - Integrated energy storage systems used for EV charging should have reliable communications with EVs and charging systems, and should pay attention and follow all safety and control message alerts

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