

Attachment A

RFQ SECTION 2 EVSE PACKAGE REQUIREMENTS RESPONSE¹

For an EVSE Package to be successful under this RFQ, the Proposer shall provide “Yes” or “No” responses to all requirements listed below by completing the DCFC Network Program excel spreadsheet tab labelled “2_Requirements_DCFC” for fast chargers or “2_Requirements_L2” for co-located L2 chargers and providing supporting documentation as applicable. Failure to meet all pass/fail requirements may result in rejection of the Proposal.

2.1 Supplier Requirements for DCFC and L2

The EVSE Package(s) submitted may include bids from a single supplier or partnerships from multiple suppliers (i.e., different supplier for EVSE hardware & Software/Services). However, each submission must specify the EVSE management pairing, with a single entity listed as the primary vendor. In addition, an EVSE hardware vendor and a separate EVSE management vendor cannot both be approved as the primary vendor for the same pairing. Finally, the EVSE must be branded to align with the primary vendor’s brand to be approved for the program.

All suppliers in a joint bid EVSE Package, including prime and subcontractors, must satisfy these requirements:

1. Supplier(s) shall be an authorized distributor or reseller of the specified EVSE hardware and software and authorized to provide the required services.
2. Supplier(s) with EVSE guaranteed to function at temperatures as low as -22F for prolonged periods of time shall be able to service the entire area from Homer and Seward to Trapper Creek (see Figure 1).
3. Supplier(s) with EVSE guaranteed to function at temperatures as low as -40F for prolonged periods of time shall be able to service the entire area from Homer and Seward to Fairbanks (see Figure 1).

2.2 General EVSE Hardware Requirements for DCFC

1. **The DCFC EVSE(s) shall be 50kW or higher.**
2. The EVSE(s) shall include all hardware and parts necessary for the proper assembly and operation.
3. All EVSE parts shall be new and unused.
4. The EVSE(s) must be hard-wired, stationary, preassembled and network ready for management by a service provider.
5. The EVSE(s) shall have secure wireless or cellular communications integral to the unit.

2.2 General EVSE Hardware Requirements for L2

1. **The L2 EVSE(s) shall be 3.3kW or higher.**
2. The EVSE(s) shall include all hardware and parts necessary for the proper assembly and operation.

¹ EVSE Package Requirements was developed from PG&E’s EV Fast Charge Program RFQ for Vendors (May 2020).

3. All EVSE parts shall be new and unused.
4. The EVSE(s) must be hard-wired, stationary, preassembled and network ready for management by a service provider.
5. The EVSE(s) shall have secure wireless or cellular communications integral to the unit.

2.3 Applicable Laws and Standards Compliance for DCFC

1. EVSEs shall be listed and approved for the application by a Nationally Recognized Testing Laboratory (NRTL) (a list of OSHA approved NRTLs can be found at <https://www.osha.gov/dts/otpca/nrtl/>) and comply with all current EVSE standards for public use. **Proposer shall provide documentation as part of RFQ Submittal.**
2. The EVSE shall conform to all regulations and standards at the time of installation, including but not limited to:
 - a. **EVSEs shall comply with SAE CCS or IEEE 2030.1.1 (CHAdeMO) requirements.**
 - b. EVSEs shall meet the power quality and reliability parameters as defined in SAE J2894/1. These parameters are tested following procedures defined in SAE J2894/2. Complete charging system efficiency (with vehicle), Maintenance Mode, and Voltage Surge tests will not be evaluated for this qualification.
 - c. UL standards – applicable standards for safety and function – required for permitting by Authority Having Jurisdiction (AHJ).
 - d. Federal and state efficiency regulations.
 - e. Validated and certified by UL 2594 or equivalent – Outline for investigation for EV Supply Equipment.
 - f. Compliant with NFPA 70, National Electrical Code (NEC) Article 625.
 - g. Compliant with UL 2231 (Parts 1 and 2) – Standard for Personnel Protection Systems for EV supply circuits.
 - h. Compliant with SAE J2894, Power Quality Requirements for Plug-In Electric Vehicles.
 - i. NIST Handbook 44 - EVSE used to charge electric vehicles shall indicate the electrical energy, the unit price, and the total price of each transaction.

2.3 Applicable Laws and Standards Compliance for L2

1. EVSEs shall be listed and approved for the application by a Nationally Recognized Testing Laboratory (NRTL) (a list of OSHA approved NRTLs can be found at <https://www.osha.gov/dts/otpca/nrtl/>) and comply with all current EVSE standards for public use. Proposer shall provide documentation as part of RFQ Submittal.
2. The EVSE shall conform to all regulations and standards at the time of installation, including but not limited to:
 - a. **EVSEs shall comply with SAE J1772 requirements.**
 - b. EVSEs shall meet the power quality and reliability parameters as defined in SAE J2894/1. These parameters are tested following procedures defined in SAE J2894/2. Complete charging system efficiency (with vehicle), Maintenance Mode, and Voltage Surge tests will not be evaluated for this qualification.
 - c. UL standards – applicable standards for safety and function – required for permitting by Authority Having Jurisdiction (AHJ).
 - d. Federal and state efficiency regulations.

- e. Validated and certified by UL 2594 or equivalent – Outline for investigation for EV Supply Equipment.
- f. Compliant with NFPA 70, National Electrical Code (NEC) Article 625.
- g. Compliant with UL 2231 (Parts 1 and 2) – Standard for Personnel Protection Systems for EV supply circuits.
- h. Compliant with SAE J2894, Power Quality Requirements for Plug-In Electric Vehicles.
- i. NIST Handbook 44 - EVSE used to charge electric vehicles shall indicate the electrical energy, the unit price, and the total price of each transaction.

2.4 Design Requirements for DCFC

1. Infrastructure and its planned installation must comply with the Americans with Disabilities Act (ADA), 42 U.S.C. § 12101 et seq., and any applicable building codes, per the AHJ where the EVSE will be installed, unless the appropriate waiver is obtained from local authorities. Although most ADA requirements are specific to EVSE installation, general ADA requirements for the EVSE itself include the following:
 - a. The EVSE handle should not require undue strength to pull, lift, or operate the handle. Relying on similar federal guidelines, the required pulling or lifting strength should be less than 5-pound force.
 - b. The EVSE shall comply with ADA Accessibility Guidelines, Section 309 Operable Parts (note these guidelines apply to EVSE that have been approved for public use by UL, and approved by NEC, Section 625).
2. EVSEs shall be fixed in place per governing code (i.e., attached to the floor/ground, ceiling or a wall).
3. Electrical branch circuits will be provided to supply selected Chargers/EVSE which meet utilities' technical requirements of nominal peak charge current. **Respondents shall provide nameplate input and output figures and a representative power curve.**
4. Each charger/EVSE will be provided the following circuit characteristics:
 - a. 480 V, 3 phases, ground, neutral
 - b. Conductors and CB sized for the load
 - c. Peak allowable load to be assessed by the utility per site according to local system capacity.
5. EVSEs shall operate at a frequency of 60 Hertz.
6. EVSEs shall have metering capability through an internal device and shall be able to measure power and usage parameters to enable reporting of the metrics detailed in the Data Reporting Requirements table in Attachment B of this RFQ.
7. After loss of power, the EVSEs shall return to its post-configuration state (i.e., shall persist communication and registration configurations. This does not include continuing user sessions when authorization is required to start a session).
8. While not communicating, EVSEs shall have a “no-battery” (no load, not connected to vehicle, or standby) power draw of no more than the lesser of 0.15% of nominal load, or 75 W per simultaneously active capable charging port.
9. EVSEs shall provide a reset option, which returns the device to its pre-charge state (e.g., card or message- not user accessible).

10. Chargers/EVSE shall be capable of being installed on terminated electrical service on either a new concrete pad or a wall mounted box for garage structures or locations with the chargers placed adjacent to an existing wall.
11. EVSE shall have security design that is both tamper-resistant and vandalism resistant, such as tamper-resistant screws, anti-vandalism hardware, locked enclosures, and graffiti-resistant coating.
12. The EVSE shall have the ability to measure demand and energy delivered at an accuracy of +/- 2%.
13. The EVSE shall be capable of operating in an ambient temperature range of minus 22 Fahrenheit to 110 degrees Fahrenheit (to qualify for areas from Homer and Seward to Trapper Creek).
14. The EVSE shall be capable of operating in an ambient temperature range of minus 40 Fahrenheit to 110 degrees Fahrenheit (to qualify for areas from Homer and Seward to Fairbanks).
15. The EVSE shall be capable of operating at a relative humidity between 5 percent and 95 percent (non-condensing).
16. EVSE shall have outdoor-rated enclosure - NEMA 3R or greater.
17. EVSE shall have a retractable cord(s).

2.4 Design Requirements for L2

1. Infrastructure and its planned installation must comply with the Americans with Disabilities Act (ADA), 42 U.S.C. § 12101 et seq., and any applicable building codes, per the AHJ where the EVSE will be installed, unless the appropriate waiver is obtained from local authorities. Although most ADA requirements are specific to EVSE installation, general ADA requirements for the EVSE itself include the following:
 - c. The EVSE handle should not require undue strength to pull, lift, or operate the handle. Relying on similar federal guidelines, the required pulling or lifting strength should be less than 5-pound force.
 - d. The EVSE shall comply with ADA Accessibility Guidelines, Section 309 Operable Parts (note these guidelines apply to EVSE that have been approved for public use by UL, and approved by NEC, Section 625).
2. EVSEs shall be fixed in place per governing code (i.e., attached to the floor/ground, ceiling or a wall).
3. Electrical branch circuits will be provided to supply selected Chargers/EVSE which meet utilities' technical requirements of nominal peak charge current. **Respondents shall provide nameplate input and output figures and a representative power curve.**
4. Each charger/EVSE will be provided the following circuit characteristics:
 - d. 208-240 V, 40 amp circuit, ground, neutral
 - e. Conductors and CB sized for the load
 - f. Peak allowable load to be assessed by the utility per site according to local system capacity.
5. EVSEs shall operate at a frequency of 60 Hertz.
6. EVSEs shall have metering capability through an internal device and shall be able to measure power and usage parameters to enable reporting of the metrics detailed in the Data Reporting Requirements table in Attachment B of this RFQ.

7. After loss of power, the EVSEs shall return to its post-configuration state (i.e., shall persist communication and registration configurations. This does not include continuing user sessions when authorization is required to start a session).
8. While not communicating, EVSEs shall have a “no-battery” (no load, not connected to vehicle, or standby) power draw of no more than the lesser of 0.15% of nominal load.
9. EVSEs shall provide a reset option, which returns the device to its pre-charge state (e.g., card or message- not user accessible).
10. Chargers/EVSE shall be capable of being installed on terminated electrical service on either a new concrete pad or a wall mounted box for garage structures or locations with the chargers placed adjacent to an existing wall.
11. EVSE shall have security design that is both tamper-resistant and vandalism resistant, such as tamper- resistant screws, anti-vandalism hardware, locked enclosures, and graffiti-resistant coating.
12. The EVSE shall have the ability to measure demand and energy delivered at an accuracy of +/- 2%.
13. The EVSE shall be capable of operating in an ambient temperature range of minus 22 Fahrenheit to 110 degrees Fahrenheit (to qualify for areas from Homer and Seward to Trapper Creek).
14. The EVSE shall be capable of operating in an ambient temperature range of minus 40 Fahrenheit to 110 degrees Fahrenheit (to qualify for areas from Homer and Seward to Fairbanks).
15. The EVSE shall be capable of operating at a relative humidity between 5 percent and 95 percent (non-condensing).
16. EVSE shall have outdoor-rated enclosure - NEMA 3R or greater.
17. EVSE shall have a retractable cord(s).

2.5 Network Connectivity & Data Collection Requirements for DCFC and L2

1. EVSE shall be network-ready to allow for management of charging operations.
2. The EVSE shall use Open Charge Point Protocol (OCPP 1.5 or later) to communicate with a network.
3. Supplier shall have the ability to provide AEA daily reports of customer data via an AEA-defined application programming interface (API).
4. The network communications, controls, and back office support service shall, at a minimum, collect the data fields identified in Attachment B of this RFQ. The data fields are subject to change at AEA's discretion.
5. The network communications, controls, and back office support service shall, at a minimum, be collected at 15-minute intervals.
6. The full dataset shall be provided daily to AEA and be made available on ad-hoc request from AEA.
7. The dataset shall be available for AEA to access at any time.
8. Supplier will submit archived data to AEA upon request.
9. Supplier will follow an established and efficient error handling process in the event of data transfer issues.
10. Supplier will work with AEA to provide non-confidential sample data for purposes of data definition, identification and testing.

11. Supplier will notify AEA in the event of inaccurate or temporary data being sent to AEA. Supplier will flag such data so that the AEA is aware that any reports generated on such data will need to be revised.
12. Supplier will work with AEA to establish and follow a regular and defined cadence of data updates and revisions performed by the Supplier, if needed.
13. Supplier will provide data on charger uptime/outages.
14. If network services are interrupted, Supplier will provide mechanism to store data.
15. Any data stored or transmitted by EVSEs, gateways, and building management systems (BMS) shall be afforded an appropriate level of controls to protect its confidentiality and integrity. Supplier shall ensure the same level of controls wherever the data is subsequently stored and whenever it is transmitted. In particular, any personally identifiable information shall be encrypted using secure industry standard techniques to protect confidentiality.
16. Supplier shall have a secure product/software development lifecycle, incorporating secure development best practices.
17. The EVSE shall provide the same level of protection and controls as is commensurate with its security profile, as governed by standards from the following standards bodies/organizations:
 - a. NIST
 - b. SAE
 - c. UL Communications Standards
 - d. Relevant Communication Standards Organization if applicable (e.g., OpenADR Alliance, Zigbee Alliance, NEMA, ANSI).
18. EVSEs shall have health checking functionality, reporting, logging and bidirectional alerting capability.

2.6 Payment Acceptance Requirements for DCFC and L2

The following requirements are applicable to EVSE packages where fees will be collected to customers for charging.

1. The network infrastructure shall be Payment Card Industry (PCI) compliant in order to execute financial transactions with EV Drivers safely and securely. Network provider shall have PCI Data Secure Standard (PCIDSS) certification.
2. The fee collection system shall accept, at a minimum, two forms of payment, such as access codes, phone operation and/or contactless Radio Frequency Identification (RFID) cards.
3. The system shall comply with Handbook 44 for sale of electric fuel or connected time.
4. When selling customers fuel or services for charging, the system should be able to adapt customer fees based on users' decisions to comply with demand response events (e.g., opt out, reduce charging, etc.).
5. For customer choice, third party payment mechanisms should be flexible enough to bill the user by time charging, time connected, session, kWh used per session, time of use pricing (i.e., parking space rental), or a combination of several while remaining in compliance with regulations.
6. Customer invoicing should be monthly, transactional, or a combination of the two.
7. The system should be able to allow users to operate EVSEs free of charge with and without authorization at the station owner/operators request (within contract stipulations).

2.7 Operational Requirements for DCFC and L2

1. Supplier will be responsible for all EVSE management activities including day-to-day customer service, providing driver support, and monitoring station uptime.
2. Supplier will provide all software upgrades required to keep the network of EV stations operational.
3. Supplier will resolve issues (i.e. system, network, etc.) within 24 hours.
4. Supplier will provide User Manual(s) for Site Hosts and other administrators as well as EV Drivers.
5. Supplier will provide a toll-free number with a live operator 24/7 to assist customer (Site Host) with station issues (i.e. use guidance, screen errors, system errors, and various other problems and/or questions pertaining to but not limited to the use and functionality of the EV station).
6. Supplier has mechanism to enable EVSE Package to be used in case of communication interference.
7. EVSEs shall be labeled with Supplier contact information and EVSE identification.

2.8 Warranty Requirements for DCFC and L2

1. The Supplier warrants that all work and services furnished hereunder shall be guaranteed for a minimum period of five (5) years from the date of acceptance, or upon delivery of the EVSE to the participating Site Host. The warranty must include all material, equipment, tools, labor, software support, and incidentals necessary to complete repairs including replacements, as well as all supplier or manufacturer upgrades. **Proposer shall provide a copy of all relevant warranty plans for each EVSE Package with RFQ Submittal.**