



**ZERO EMISSION
TRANSPORTATION
ASSOCIATION**

The [National Electric Vehicle Infrastructure Standards and Requirements](#) are designed to facilitate the buildout of an accessible, convenient, equitable, and reliable national EV charging network using funding appropriated through the Infrastructure Investment and Jobs Act. The Zero Emission Transportation Association (ZETA) engaged with the Department of Transportation to influence these standards, and the Department implemented several of our recommendations as seen in the final rulemaking. Below, you will find a summary of the final rule as well highlighted changes from the proposed minimum standards.

680.106(a) Procurement Process Transparency for the Operation of EV Charging Stations

- States are required to ensure public transparency for how the price will be determined for EV charging and make available for public review:
 - A summary of the procurement process used
 - The number of bids received
 - Identification of the awardee
 - The proposed contract to be executed with the awardee
 - Financial summary of contract payments including price and cost data
 - Any information describing how prices for EV charging are to be set under the proposed contract

680.106(b) Number of Charging Ports and 680.106(d) Power Level

- **DCFC charging ports must support output voltages between 250 volts DC and 920 volts DC.**
- DCFCs along alternative fuel corridors must have a continuous power delivery of at least 150kW and supply power simultaneously up to 150kW from each of the four minimum required charging ports at each site.
- Corridor-serving DCFC charging stations may conduct power sharing so long as each charging port continues to meet an EV's request for power up to 150 kW.
- Each AC Level 2 charging port must have continuous power delivery of at least 6 kW and the charging station must be capable of providing at least 6 kW per port simultaneously across all AC ports.
- AC Level 2 chargers may conduct power sharing and/or participate in smart charge management programs so long as each charging port continues to meet an EV's demand for power up to 6 kW.

680.106(c) Connector Type

- Each DCFC charging port must be able to charge any CCS-compliant vehicle and each DCFC charging port must have at least one permanently attached CCS Type 1 connector.

- Permanently attached CHAdeMO connectors can be provided using only FY2022 NEVI Funds.
- Each AC Level 2 charging port must have a permanently attached J1772 connector and must charge any J1772-compliant vehicle.

680.106(e) Availability

- Charging stations located along and designed to serve users of designated Alternative Fuel Corridors must be available for use and sited at locations physically accessible to the public 24 hours per day, 7 days per week, year-round.
- Charging stations not located along designated Alternative Fuel Corridors must be available for use and accessible to the public at least as frequently as the business hours of the site host.

680.106(f) Payment Methods

- Charging stations must provide a contactless payment method that accepts major credit and debit cards and accept payment through either an automated toll-free phone number or SMS message.
- Payment methods must be accessible to persons with disabilities, not require a membership, not affect the power flow to vehicles, and provide access for those that are limited English proficiency.

680.106(g) Equipment Certification

- States must ensure that all chargers are certified by an OSHA Nationally Recognized Testing Laboratory and that all AC Level 2 chargers are ENERGY STAR certified.
- **DCFC and AC Level 2 chargers should be certified to the appropriate Underwriters Laboratories (UL) standards for EV charging system equipment.**

680.106(h) Safety and Security

- States or other direct recipients must implement physical and cybersecurity strategies consistent with their respective State EV Infrastructure Deployment Plans.
- Physical security strategies may include:
 - Lighting
 - Siting and station design to ensure visibility from onlookers
 - Driver and vehicle safety
 - Video surveillance
 - Emergency call boxes
 - Fire prevention
 - Charger locks
 - Strategies to prevent tampering and illegal surveillance of payment devices
- Cybersecurity strategies may include:
 - User identity and access management

- Cryptographic agility and support of multiple PKIs
- Monitoring and detection
- Incident prevention and handling
- Configuration, vulnerability, and software update management
- Third-party cybersecurity testing and certification
- Continuity of operation when communication between the charger and charging network is disrupted

680.106(i) Long-Term Stewardship

- States must ensure that EVSE is maintained in compliance with NEVI standards for a period of not less than five years from the date of **operation**.

680.106(j) Qualified Technician

- All electricians installing, operating, or maintaining ESVE must meet **one** of the following requirements:
 - Certification from EVITP, or
 - Graduation **or a continuing education certificate** from a registered apprenticeship program for electricians that includes charger-specific training and is developed as a part of a national guideline standard approved by the Department of Labor in consultation with the Department of Transportation.
- For projects requiring more than one electrician, at least one electrician must meet the requirements above, and at least one electrician must be enrolled in an electrical registered apprenticeship program.
- All other onsite, non-electrical workers directly involved in the installation, operation, and maintenance of chargers must have graduated from a registered apprenticeship program or have appropriate licenses, certifications, and training as required by the State

680.106(k) Customer Service

- States or other direct recipients must ensure that EV charging customers have mechanisms to report outages, malfunctions, and other issues with charging infrastructure.
- Charging station operators must enable access to accessible platforms that provide multilingual services.
- States must comply with the American with Disabilities Act of 1990 requirements and multilingual access when creating reporting mechanisms.

680.106(l) Customer Data Privacy

- Charging station operators must collect, process, and retain only the personal information necessary to provide the charging service to a consumer, including information to complete the charging transaction and to provide the location of charging stations to the consumer.

- Chargers and charging networks should be compliant with appropriate Payment Card Industry Data Security Standards (PCI DSS) for the processing, transmission, and storage of cardholder data.
- Charging Station Operators must also take reasonable measures to safeguard consumer data.

680.106(m) Use of Program Income

- Any net income from revenue from the sale, use, lease, or lease renewal of real property acquired shall be used for FHWA eligible projects.
- States should ensure that all revenues received from operation of the EV charging facility are used only for:
 - Debt service with respect to the EV charging station project, including funding of reasonable reserves and debt service on refinancing.
 - A reasonable return on investment of any private person financing the EV charging station project, as determined by the State.
 - Any costs necessary for the improvement and proper operation and maintenance of the EV charging station, including reconstruction, resurfacing, restoration, and rehabilitation.
 - If the EV charging station is subject to a public-private partnership agreement, payments that the party holding the right to the revenues owes to the other party under the public-private partnership agreement.

680.108 Interoperability and ISO 15118

- Chargers must conform to ISO 15118-3 and must have hardware capable of implementing both ISO 15118-2 and ISO 15118-20.
- After one year, charger software must conform to ISO 15118-2 and be capable of Plug and Charge.
- Conformance testing for charger software and hardware should follow ISO 15118-4 and ISO 15118-5, respectively.
- Chargers must conform to Open Charge Point Protocol (OCPP) 1.6J or higher.
- After one year, chargers must conform to OCPP 2.0.1.
- After one year, charging networks must be capable of communicating with other charging networks in accordance with Open Charge Point Interface (OCPI) 2.2.1.
- Chargers must be designed to securely switch charging network providers without any changes to hardware.

680.112 Data submittal

- Quarterly submissions by State DOTs:
 - Charging station identifier
 - Charging port identifier
 - Charging session start time, end time, and any error codes associated with an unsuccessful charging session, by each individual port

- Energy dispensed per charging session, by each individual port
 - Peak session power, by each individual port
 - Payment method associated with each charging session
 - Charging station port uptime for each of the previous three months
 - Duration of each outage
- Annual submission on or before March 1 of each year: (Beginning in 2024)
 - Maintenance and repair cost per charging station for the previous year
 - Identification of and participation in any State or local business opportunity certification programs including minority-owned businesses, Veteran-owned businesses, woman-owned businesses, and businesses owned by economically disadvantaged individuals
 - The name and address of the private entity(ies) involved in the operation and maintenance of chargers
 - Distributed energy resource installed capacity of asset by type (e.g., stationary battery, solar, etc.) per charging station
 - Charging station real property acquisition cost, charging equipment acquisition and installation cost, and distributed energy resource acquisition and installation cost
 - Aggregate grid connection and upgrade costs paid to the electric utility as part of the project, separated into two parts:
 - Total distribution and system costs, such as extensions to overhead/underground lines, and upgrades from single-phase to three-phase lines
 - Total service costs, such as the cost of including poles, transformers, meters, and on-service connection equipment
- Community Engagement Outcomes Report - States must include in the State EV Infrastructure Deployment Plan a description of the community engagement activities conducted as part of the development and approval of their most recently-submitted State EV Infrastructure Deployment Plan, including engagement with disadvantaged communities.

680.116(a) Communication of Price

- The price for charging must be displayed prior to initiating a charging transaction and be based on the price for electricity to charge in \$/kWh.
- The price for charging displayed and communicated via the charging network must be the real-time price. The price at the start of the session cannot change during the session.
- Price structure including any other fees in addition to the price for electricity to charge must be clearly displayed and explained.

680.116(b) Uptime Calculation

- Each charging port must have an average annual uptime of greater than 97%.

- A charging port is considered “up” when its hardware and software are both online and available for use, or in use, and the charging port successfully dispenses electricity in accordance with requirements for minimum power level.
- Charging port uptime must be calculated on a **monthly** basis for the previous twelve months.
- **Uptime is calculated based on outages in minutes.**
- The final rule revises uptime calculations to clarify exclusions for the uptime calculation including **additional exclusions for scheduled maintenance, vandalism, natural disasters, and limited hours of operation.**
- FHWA upheld the calculation in the final rule remaining at a per-port level.
- FHWA also modified the requirements for data reporting under § 680.112(b) to collect error code data to better understand the nature and frequency of charging session problems.

680.116(c) Third-Party Data Sharing

States must ensure that the following data fields are made available, free of charge, to 3rd-party software developers, via application programming interface:

- ~~Date when charging station first became available for use~~
- ~~Physical dimensions of the largest vehicle that can access a charging port at the charging station~~
- Unique charging station name or identifier
- Address of charging station
- Geographic coordinates in decimal degrees of exact charging station location
- Charging station operator name
- Charging network provider name
- Charging station status (operational, under construction, planned, or decommissioned)
- Charging station access information:
 - Charging station access type (public or limited to commercial vehicles)
 - Hours of operation
- Charging port information:
 - Number of charging ports
 - Unique port identifier
 - Connector types available by port
 - Charging level by port (DCFC, AC Level 2, etc.)
 - Power delivery rating in kilowatts by port
 - Accessibility by vehicle with trailer by port
 - Real-time status by port in terms defined by Open Charge Point Interface 2.2.1
- Pricing and payment information:
 - Pricing structure
 - Real-time price to charge at each charging port, in terms defined by Open Charge Point Interface 2.2.1
 - Payment methods accepted