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STAFF REPORT

Tracking and Improving Reliability of California's Electric Vehicle Chargers

Regulations for Improved Electric Vehicle Charging Port Recordkeeping and Reporting, Reliability, and Data Sharing

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California Energy Commission

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ABSTRACT

Widespread adoption of zero-emission electric vehicles will require robust charging infrastructure that is easy for drivers to use and functions reliably when drivers need to charge.

This California Energy Commission staff report *Tracking and Improving Reliability of California's Electric Vehicle Chargers* proposes new regulations for tracking the number and location of electric vehicle charging ports installed in California. The proposed regulations will also set requirements to track direct current fast charging port reliability and set new direct current fast charging port reliability standards and other data sharing requirements.

Staff proposes these regulations pursuant to several statutes that grant the CEC a broad range of data collection authority, such as Public Resources Code sections 25301 through 25305, including over electric vehicle charging infrastructure. Public Resources Code 25229 assigns the California Energy Commission the responsibility for evaluating the electric vehicle charging infrastructure to meet the state's adoption objectives. This evaluation requires a detailed understanding of operational charging ports. Furthermore, Public Resources Code 25231.5 directs the CEC to:

1. Develop charging port uptime recordkeeping standards and deliver biennial infrastructure reliability assessments starting in 2025.
2. Adopt tools to increase charging port uptime, including uptime and operation and maintenance requirements.
3. Establish standards for sharing information regarding the availability and accessibility of public charging infrastructure.

These regulations apply equally to charging ports that serve light-, medium-, and heavy-duty electric vehicles.

These regulations are designed to improve state insight into progress in meeting California's electric vehicle charging infrastructure goals and to help ensure drivers have access to reliable and accessible charging.

Keywords: Charging, infrastructure, transportation electrification, electric vehicle, electric charging station reliability

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EXECUTIVE SUMMARY

Widespread adoption of zero-emission electric vehicles (EVs) will require robust charging infrastructure that is easy for drivers to use and functions reliably when drivers need to charge. This California Energy Commission (CEC) staff report proposes new regulations for electric vehicle charging ports installed in California. These proposed regulations are attached to this report as Appendix A.

Staff proposes these regulations pursuant to several statutes that grant the CEC a broad range of data collection authority, such as Public Resources Code Sections 25301 through 25305, including over EV charging infrastructure. Public Resources Code 25229 assigns the CEC the responsibility for evaluating the EV charging infrastructure to meet the state's adoption objectives. This evaluation requires a detailed understanding of operational charging ports. Furthermore, Public Resources Code 25231.5 directs the CEC to:

1. Develop charging port uptime recordkeeping standards and deliver biennial infrastructure reliability assessments starting in 2025.
2. Adopt tools to increase charging station uptime, including uptime and operation and maintenance requirements.
3. Establish standards for sharing information regarding the availability and accessibility of public charging infrastructure.

Under these and other statutes, this staff report proposes new regulations for:

1. Inventory reporting to track the number and location of EV charging ports installed in California.
2. Reliability recordkeeping and reporting to track the reliability of publicly or ratepayer funded direct current fast charging ports.
3. A 97 percent uptime standard for publicly or ratepayer funded direct current fast charging ports.
4. Data sharing on the real-time availability and accessibility of publicly available charging ports for publicly or ratepayer funded charging ports.

These regulations apply equally to charging ports that serve light-, medium-, and heavy-duty EVs.

Generally, the requirements of these regulations apply at the charging port level. Although certain aspects may technically apply at the charging port or charging station level and existing statute uses varied terminology, this report will refer to the requirements on a per charging port basis for the sake of simplicity. An exception to this terminology is references to specific statutes or definitions used in Section 3121 of Appendix A of this staff report.

The applicability of these regulations varies based on a variety of factors, including without limitation, the following:

- Whether the charging port received an incentive from a state agency or through a charge on ratepayers.

- Whether the charging port is solely for private non-commercial use.
- Whether the charging port is networked or non-networked, as shown in Table ES-1.

Table ES-1: Applicability and Exclusions

Inventory reporting	Applies to: All charging ports in California, except those excluded below Excludes all: Level 1 chargers Off-grid, research, and temporary charging ports[1] Private residential charging ports [1,2] Authority cited: Integrated Energy Policy Report statutes (Public Resources Code sections 25300 through 25305.) Public Resources Code sections 25400–25401, 25601–25602, 25618
Reliability recordkeeping and reporting	Applies to: All publicly or ratepayer funded direct current fast charging ports installed Jan 1, 2024 and later, except those excluded below Excludes all: Fleet charging ports[1] Off-grid, research, and temporary charging ports[1] Private residential charging ports[1,2] Authority cited: Public Resources Code 25231.5(a)
Reliability performance standard 97% uptime	Applies to: All publicly or ratepayer funded direct current fast charging ports installed January 1, 2024, and later, for a period of 6 years from the date of recording of the required data, except those excluded below Excludes all: Fleet charging ports[1] Off-grid, research, and temporary charging ports[1] Private residential charging ports[1,2] Authority cited: Public Resources Code 25231.5(d)(1)
Data sharing on real-time availability and accessibility	Applies to: All publicly available, publicly or ratepayer funded charging ports installed January 1, 2024, and later, except those excluded below

	Excludes all: Level 1 chargers Fleet charging ports[1] Nonnetworked charging ports Off-grid, research, and temporary charging ports[1] Private residential charging ports[1,2] Authority cited: Public Resources Code 25231.5(d)(2)

Source: CEC staff

1. See section 3121(b) of Appendix A of this report and Table ES-2, immediately below, for definitions.
2. Charging ports must be solely for private, noncommercial use.

Terms used in this report are defined in section 3121 of Appendix A of this report. They are also reproduced here in Table ES-2 for convenience, however, in the event of a discrepancy between Appendix A and Table ES-2, the definitions in Appendix A control.

Table ES-2: Definitions

Charging network provider	The entity that operates the digital communication network that remotely manages the chargers including, but not limited to, authorizing customer transactions and monitoring charger operative status. Charging network providers can be charging station operators or manufacture chargers.
Charging port	The system within a charger that charges one EV. A charging port can have multiple connectors, but it can provide power to charge only one EV through one connector at a time.
Charging station operator	The entity that owns the charger and supporting equipment at one or more charging stations. Although this entity can delegate responsibility for certain aspects of charging station operation and maintenance to subcontractors, this entity retains responsibility for operation and maintenance of chargers and supporting equipment. The charging station operator and the charging network provider can be the same entity.
Direct current fast charger	A charger that enables rapid charging by delivering direct current electricity to an EV's battery.
Fleet charger	A charger that is not publicly available, is not installed at a single-family residence or a multifamily dwelling, and is solely used to charge electric vehicles registered to the charging station operator.
Multifamily dwelling	Real property that is improved with, or consisting of, one or more buildings containing more than one dwelling unit that is intended for human habitation, excluding single-family residences.

Off-grid charger	A charger that does not draw power from an electric utility as defined in Public Resources Code section 25108, at any time.
Private residential chargers	A charger used solely for private use by residents of a residential real property containing four or fewer dwelling units, or any charger used solely for private use by residents of a single unit of a residential real property containing more than four dwelling units for which one or more of the residents of that unit would be the exclusive charging station operator(s) or site host(s) of the charger.
Publicly available	A charger and associated parking space or spaces designated, such as by a property owner or lessee, to be available to, and accessible by, the public for any period of time. A charger designated, such as by a lessee or a property owner, to be available only to customers or visitors of the business is a publicly available charger for purposes of this chapter. Chargers and associated parking spaces located in parking garages or gated facilities are considered publicly available for purposes of this chapter if any member of the public can obtain vehicular access to the facility for free or through payment of a fee. If a charger and associated parking space is made available to the public for only limited time periods, that charger and associated parking space is considered a publicly available charger. A publicly available charger does not include any of the following: (A) A workplace charging station if it is clearly marked and operated as available exclusively to the organization's employees or independent contractors. (B) A charger and associated parking spaces reserved exclusively to residents, tenants, visitors, or employees of: a private residence or common interest development; or a residential building adjacent to a private residence. (C) A charger provided by a manufacturer of electric vehicles for the exclusive use by vehicles it manufactures. (D) A research charger.
Publicly or ratepayer funded charger	A charger or charging station installed on or after January 1, 2024, except at a residential real property containing four or fewer dwelling units, for which an incentive was received from a state agency or a charge on ratepayers, or both, to install or operate the charger or charging station. An incentive from a state agency includes, without limitation, any incentive funded in whole or in part from the Greenhouse Gas Reduction Fund as defined in section 16428.8 of the Government Code. A charge on

	ratepayers includes, without limitation, charges on the customer of an investor-owned utilities, local publicly owned electric utility as defined in section 224.3 of the Public Utilities Code, or community choice aggregator as defined in section 331.1 of the Public Utilities Code. For purposes of these regulations, an incentive from a state agency includes, without limitation, pass-through funds for a federal grant administered by a state agency, for which the state agency is reimbursed, including but not limited to, the CEC's National Electric Vehicle Infrastructure Formula Program. A charger remains a "publicly or ratepayer funded charger" for six years from the date the charger is installed, and thereafter it is no longer a "publicly or ratepayer funded charger." If a "publicly or ratepayer funded charger" is replaced, its replacement charger is also a "publicly or ratepayer funded charger" for at least the remainder of the six years from the date the replaced charger was previously installed. If an incentive is received from a state agency or a charge on ratepayers, or both, to replace a charger, then the replacement charger is a "publicly or ratepayer funded charger" for six years from the date the replacement charger replaced the prior charger.
Research charger	A charger that is attached or placed solely to dispense electricity for testing or research; it is neither a fleet charger nor publicly available charger; and it is not used for workplace charging.
Residential real property containing four or fewer dwelling units	A single-family residence or a multifamily dwelling containing four or fewer dwelling units.
Single-family residence	A detached or semi-detached (semi-attached, side-by-side) residence, duplex, triplex, quadruplex, row house such that each row house shares at least one wall with another of the row houses even if not in a row, townhouse, or manufactured home, including mobilehome, unless the residence is part of a condominium as defined in Civil Code section 4125 or is located in a mobilehome park.
Site host	The electric utility customer of record for electric service to the charger and can also be the charging network provider or the charging station operator of the charger.
Temporary charger	A charger that is designed to be portable and available for use intermittently, is not attached at a location, and is not available for use at a single lot or parcel, or an adjacent lot or parcel, for

	more than 30 days in a calendar year. For the purposes of this definition, a charger that is made available for use for any portion of a day, is considered available for use for that full day.

Source: CEC staff

These proposed regulations will affect entities that own, operate, or host EV charging ports in different ways. The categories of entities affected by these regulations are not mutually exclusive and many entities that operate charging ports may simultaneously fulfill more than one role. For these regulations, a business entity may be considered a charging network provider at one charging location operated by the entity and a charging station operator or site host at another.

These regulations assign the duty of recordkeeping and reporting to a "recordkeeping and reporting agent." The identify of the "recordkeeping and reporting agent" will vary depending on whether the charging port is networked or nonnetworked and whether the charging port is regulated under Public Resources Code 25231.5(a).

Some data reported to the CEC under these regulations will be held confidential.

Table ES-3: Confidentiality

"Automatically" Confidential[1]	Not "Automatically" Confidential
• Charging port address (only for private and shared private charging ports) • Open Charge Point Protocol messages that contain utilization data • Charger and port unique identification • Personally identifiable information	• All other data • Data that would otherwise be confidential if it has been sufficiently aggregated • Confidentiality may be requested for any data under section 2505 of Title 20 of California Code of Regulations

Source: CEC staff

[1] Automatically confidential refers to confidentiality as provided in section 2505(a)(5) of Title 20 of the California Code of Regulations.

These proposed regulations are technically feasible and not expected to result in adverse environmental impacts or significant economic or fiscal impacts for regulated entities or state agencies.

The costs to the industry necessary to comply with the proposed regulations comprise the most immediate, first-order costs of the regulation. Complying with the proposed uptime regulations is expected to result in a first-order cost to industry of $11,226,024 (2026$) in 2026, the first year the regulations are anticipated to take effect. Staff and third-party calculations of these costs are documented in Chapter 8 and the accompanying initial statement of reasons.

Setting reliability standards and requiring the sharing of availability and accessibility data for charging ports in California are expected to support consumer equity by increasing access to reliable charging ports. This may enable more Californians to adopt EVs, including those unable to charge at their own residences.

The CEC will incorporate data collected through these regulations into future assessments of California's EV charging needs, the equity of charging port deployment, and reliability of charging ports. As required by Public Resources Code 25231.5(c), the CEC will release biennial reports on the reliability of California's EV charging infrastructure and equitable access to reliable charging ports. To create greater transparency and driver confidence, the CEC intends to publish the reliability of EV charging networks in these assessments and on its website.

CHAPTER 1: Introduction

More than 2.2 million EVs have been sold in California.[1] Publicly or ratepayer funded programs are installing tens of thousands of EV charging ports across California to support clean air and decarbonization goals.

To effectively assess the adequacy of EV charging infrastructure necessitates a detailed understanding of how many charging ports are installed today and the distribution of these charging ports geographically. Assembly Bill (AB) 2127 (Ting, Chapter 345, Statutes of 2022) requires the CEC to prepare regular assessments of the number of EV charging ports required to meet California EV adoption goals.[2] Detailed mapping of charging infrastructure is also needed to comply with Senate Bill (SB) 1000 (Lara, Chapter 368, Statutes of 2018), which directs the CEC to regularly evaluate the equity of access to EV charging and determine whether charging infrastructure is disproportionately deployed.[3] These assessments will benefit infrastructure planning by providing a more precise understanding of the number and location of EV charging ports in California.

The CEC currently lacks sufficient information on the number of EV charging ports in California. This is caused, in part, because not all charging infrastructure is reported. Only public charging port operators are required to report the number of EV charging ports they operate to the U.S. Department of Energy Alternative Fuels Data Center. This creates an incomplete picture of the total charging ports in the state which impacts infrastructure planning efforts.[4]

The CEC's zero-emission vehicle (ZEV) dashboard includes public charging ports reported to the Alternative Fuels Data Center plus shared-private charging ports such as those at workplaces and multifamily dwellings reported through a voluntary survey administered by the

1 Sales through 2024. *See* California Energy Commission, "New ZEV Sales in California."

2 Codified at Pub. Resources Code, § 25229.

3 Codified at Pub. Resources Code, § 25231.

4 Compare U.S. Department of Energy "Alternative Fuels Data Center Alternative Fueling Station Locator" with CEC "Electric Vehicle Chargers in California." Accessed August 31, 2023.

CEC.[5] This voluntary survey has inconsistent and limited responses and likely undercounts the number of shared private charging ports operating in California.

Taken together, the current data reporting practices are lacking to support informed infrastructure planning as California enters mainstream consumer EV adoption and scaling up of EV charging infrastructure.

For California to meet its EV adoption goals, charging ports must also be reliable. Public Resources Code 25231.5 finds that increasing consumer confidence in EVs depends on access to reliable EV charging stations and that the state must understand whether publicly or ratepayer funded EV charging stations (or both) are reliable. Unfortunately, there is a lack of robust data regarding whether public and shared-private EV charging ports are reliable. Despite efforts by the public and private sectors to improve charging port reliability, there persists a perception that existing charging ports are unreliable. Survey data indicate that EV drivers see public charging port reliability as a major difficulty, and a survey by J.D. Power found that malfunctioning or out-of-service charging ports can prevent drivers from successfully charging their vehicles.[6]

The CEC lacks sufficient data on EV charging port reliability to assess the reliability of the state's charging network or whether reliability is lower in low and moderate-income communities, as directed by Public Resources Code 25231.5(c)(1). Current studies are limited in geographic scope, rely on a limited set of EV models, and do not require testers to document error codes or other indicators of specific failure modes. It will be imperative to understand failure points and determine which charging ports are experiencing reliability issues.

Despite the current lack of quantitative reliability data and standards, CEC staff recognizes that poor reliability, and the perception thereof, of public and shared-private EV charging ports is a barrier to EV adoption. The CEC is working to improve charging port reliability and vehicle-charging port interoperability through several avenues:

- CEC staff has hosted four workshops on EV charging reliability. Staff held a general workshop to solicit stakeholder input on EV charging port reliability March 7, 2022.

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5 *See* California Energy Commission, "Electric Vehicle Chargers in California, https://www.energy.ca.gov/data-reports/energy-almanac/zero-emission-vehicle-and-infrastructure-statistics-collection/electric."

6 Plug In America. February 2022. *The Expanding EV Market: Observations in a Year of Growth,* https://pluginamerica.org/wp-content/uploads/2022/03/2022-PIA-Survey-Report.pdf; J.D Powers. Press release, August 17, 2022. "Growing Electric Vehicle Market Threatens to Short-Circuit Public Charging Experience, J.D. Power Finds," https://www.jdpower.com/business/press-releases/2022-us-electric-vehicle-experience-evx-public-charging-study.

Subsequently, staff held a workshop to propose reliability standards within grant funding opportunities October 21, 2022. Staff held workshops to present the first and second draft of the proposed reliability regulations on October 9, 2023, and April 30, 2024, respectively, and a final workshop to present a revised utilization reporting proposal on December 18, 2024. Numerous industry participants and advocates attended each of these workshops and submitted comments.[7]

- The CEC provided funding for the Vehicle-Grid Innovation Lab (ViGIL), which provides charging port conformance and certification testing services in Concord (Contra Costa County). The CEC also funded the Vehicle Interoperability Testing Symposium (VOLTS), which convened stakeholders for charging port-vehicle interoperability testing and an industry conference in May 2023. Additionally, in March 2025, CEC staff released a solicitation to fund a charging interoperability and collaboration center, or "Charge Yard."
- The CEC has included reliability requirements in EV charging grants since 2021, which set 97 percent uptime standards, recordkeeping and reporting requirements, and maintenance requirements for recipients of CEC grants.
- The CEC has contracted with UC Davis to develop an open-source EV charging port test protocol and perform field tests of 3,600 EV charging ports in 2023 - 2026. This field testing program will include charging ports in rural and urban areas, as well as low-income and disadvantaged communities. The study will guide the CEC's 2025 assessment of charging port reliability throughout the state, regardless of how the charging port was funded.

More recently, AB 126 (Reyes, Chapter 319, Statues of 2023), codified at Public Resources Code 25231.5(d)(2), directed the CEC to adopt tools to increase charging station uptime, including uptime requirements. Public Resources Code 25231.5(d)(2) additionally directed the CEC to set standards for data sharing regarding the availability and accessibility of publicly available charging infrastructure.

In September 2023, CEC staff issued an initial draft of this staff report proposing new regulations requiring operators of EV charging ports to report the number, location, utilization, and reliability of EV charging ports, with exceptions for residential real property containing four

7 California Energy Commission, Docket 22-EVI-04, https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=22-EVI-04.

or fewer dwelling units.[8] The draft staff report was released before Public Resources Code 25231.5(d)(1) was enacted, and the draft did not propose EV charging port reliability standards. Staff hosted a public workshop soliciting feedback on the proposed regulations October 9, 2023. Following the workshop, staff received more than 30 comments from stakeholders recommending changes to the proposed regulations, most prominently to the addition of a charging port uptime requirement.

Staff released a second draft staff report incorporating the requirements of Public Resources Code 25231.5(d)(1) and results of public comment April 9, 2024. The second draft staff report made several changes to the September 2023 draft staff report, including but not limited to:

1. A 97 percent uptime requirement for public or ratepayer funded charging ports, effective January 1, 2024. This requirement mirrors the reliability requirements of the federal National EV Infrastructure (NEVI) Formula Grant Program, was widely supported in public comment, and fulfills the requirements of Public Resources Code 25231.5(d)(1).
2. Introducing the Successful Charge Attempt Rate metric and a 90 percent Successful Charge Attempt Rate requirement for certain public or ratepayer funded charging ports.
3. A requirement that state agencies consider reliability when making EV charging funding decisions.
4. Expanding default data confidentiality provisions for certain location and utilization data for private and shared private charging ports.
5. Requiring networked EV charging ports that are publicly available, received public or ratepayer funding, and were installed after January 1, 2024, to share real-time availability and accessibility data with third parties.

Following the release of this second draft, staff hosted a public workshop to solicit additional feedback on April 30, 2024, and received 29 written comments from members of the public.[9]

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8 The usage rate of a charging station is referred to as utilization throughout this report. See California Energy Commission, *Assembly Bill 2127 Second Electric Vehicle Charging Infrastructure Assessment: Assessing Charging Needs to Support Zero-Emission Vehicles in 2030 and 2035*, March 6, 2024, https://www.energy.ca.gov/publications/2024/assembly-bill-2127-second-electric-vehicle-charging-infrastructureassessment, 72.

9 California Energy Commission, "Workshop on Revised Proposed Regulations for Tracking and Improving Reliability of California's Electric Vehicle Chargers," April 30, 2024. Submitted comments available at https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=22-EVI-04.

This final staff report incorporates changes from the April 2024 second draft, including but not limited to:

- Changes to charging port inventory reporting regulations.
- Removing the charging port utilization reporting regulations.
- Removing reliability reporting requirements and reliability standards for alternating current Level 2 charging ports.
- Removing the Successful Charge Attempt Rate metric and 90 percent Successful Charge Attempt Rate requirement.
- Removing the requirement that state agencies consider reliability when making EV charging funding decisions.
- Exempting fleet charging ports that exclusively serve vehicles owned by the same business entity that owns the charging stations from the reliability reporting and performance standards.
- Minor clarifications and revisions throughout.

The remainder of this staff report is organized as follows:

- Chapter 2 reviews the EV charging industry and EV charging failure modes.
- Chapter 3 describes the legislative criteria for the proposed regulations.
- Chapter 4 reviews existing regulatory approaches to EV charging port reliability.
- Chapter 5 summarizes the proposed regulatory text attached in Appendix A.
- Chapter 6 describes alternative regulations considered but not proposed by CEC staff.
- Chapter 7 shows that the proposed regulations are technically feasible.
- Chapter 8 describes the costs of the regulations and potential savings.
- Chapter 9 shows that an environmental impact analysis is not required for the proposed regulations.
- Chapter 10 describes the economic and fiscal impacts of the regulations.
- Chapter 11 describes the effect of the regulations on consumer equity.
- Chapter 12 concludes the report.

The regulatory text proposed by CEC staff is attached to this staff report as Appendix A. Economic and fiscal impact modeling assumptions are attached to the initial statement of reasons.

The regulations proposed in this report may be adopted by the CEC at a future business meeting.

CHAPTER 2: Background

This chapter provides a brief background on the EV charging industry and potential causes of poor EV charging port reliability.

EV Charging Power Levels and Standards

California's EV charging ecosystem is made up of numerous charging port types and power levels, standards, and market participants.

Alternating Current Level 1 Charging ports

Alternating current (AC) Level 1 charging ports charge an EV at 120 volts and may be portable and plug directly into a standard wall outlet. Level 1 charging ports are typically not networked and not capable of connecting to a charging network provider or central management system.

Alternating Current Level 2 Charging ports

AC Level 2 charging ports are typically equal than or greater to 208 volt charging ports that can charge a light-duty EV in about 4–12 hours. Due to the charge time, AC Level 2 charging ports are most common in homes, workplaces, and recreational or retail locations where vehicles are parked for longer periods.

Direct Current Fast Charging

Direct current fast charging (DCFC) ports allows higher charging power than AC Level 2 charging ports. Modern commercial DCFC ports operate at 50–350 kilowatts (kW) and can charge a typical light-duty EV in less than an hour. DCFC ports are vital to enabling road trips and may be a convenient charging option for EV drivers without home access to an AC Level 1 or AC level 2 charging port. In the United States, there are three DCFC port connector types:

- The North American Charging Standard (NACS) is an AC and DC connector specification originally proposed by Tesla and subsequently formalized as J3400 by the Society of Automotive Engineers. The specification combines the shape of Tesla's existing connector with the communication protocols used by the Combined Charging System. Most automakers have announced that they will transition to using the NACS connector on future vehicles, and multiple charging network operators have announced they will install NACS connectors.
- As of late 2024, the Combined Charging System (CCS) standard is used by most non-Tesla EV models and DCFC charging networks. However, automakers and charging network operators have announced that they will transition to using the NACS connector for future products.

- The CHAdeMO standard is used primarily by EVs manufactured by Nissan and Mitsubishi. Vehicle manufacturers are moving away from the CHAdeMO standard, and it is being phased out of future infrastructure deployments.[10]

Compared to AC Level 2 charging ports, DCFC ports are capital-intensive, and deployments in California are dominated by major charging networks. The higher capital and operational costs of DCFC ports mean that public fast-charging operators nearly universally require payment for charging.

EV Charging Standards and Protocols

The EV charging ecosystem uses several protocols, some of which are developed and formalized by industry bodies into standards. Open standards widely used in the EV charging industry include the following:

- SAE J1772 is a connector design standard and communications protocol for AC and DC charging. While industry has announced a transition to J3400, J1772 remains in wide use for AC Level 2 charging ports in North America. The CCS DCFC connector incorporates DC conductors below the AC connector and uses this protocol for EV-to-charging port communications.
- *Deutsches Institut für Normung EV* (DIN) 70121 is an EV-to-charging port communications protocol for DC charging.
- CHAdeMO is a physical DC connector standard as well as an EV-to-charging port communications protocol.
- Open Charge Point Protocol (OCPP) is a communications protocol between the charging port and the charging network provider central management system.
- International Organization for Standardization (ISO) 15118 is an EV-to-charging port communications standard.

EV Charging Market Participants and Business Models

Numerous businesses participate in the EV charging process, and EV charging is a diverse market with numerous business models.

Automaker

10 U.S. Department of Transportation, Federal Highway Administration. February 28, 2023. *National Electric Vehicle Infrastructure Standards and Requirements*, pg. 12753, https://www.govinfo.gov/content/pkg/FR-2023-02-28/pdf/2023-03500.pdf.

The automaker designs and builds EVs. To charge successfully, an EV must communicate successfully with a charging port using a communications protocol. Communication errors may result in a failed or faulty charging session. EVs may encounter many different charging port makes and models and should optimally be able to charge at any one of them.

Charging Port Manufacturer

The charging port manufacturer is the entity that designs and builds the charging port. They may build the hardware and sell to a charging network provider or deploy the charging port as part of their own network. The manufacturer may or may not provide maintenance for the charging network during a warranty period.

Charging Network Provider

The charging network provider is an entity that operates a digital communications network that remotely manages EV charging ports. Charging network providers may also be referred to as EV service providers.

A charging network provider typically manages a group of networked EV charging ports, otherwise known as a charging network, and may use its communication capabilities to communicate directly with drivers, share real-time station status, broadcast station locations, collect and store data, and manage payments. Charging network providers often use OCPP to communicate with the charging port networks they provide communications services to.

Charging network providers may or may not provide technical and maintenance support for EV charging ports, may or may not manufacture their own charging ports, and are not regulated as utilities in California.

Charging Station Operator

The charging station operator is an entity that owns the charging ports and supporting equipment at one or more charging ports. Charging network providers and charging station operators can be understood to operate a charging network and often are the same entity. Major charging station operators include Electrify America, EVgo, and Tesla.

Payment Processor

Paid EV charging typically relies on a third-party payment processor to conduct transactions. Successful transactions must be communicated to the charging network provider and EV charging port to authorize charging. Nayax Ltd. and Payter are the major payments processors used by the EV charging industry.

Site Host

For this report, the site host is defined as the electrical customer of record who pays the electric utility bill for an EV charging port. Site hosts may or may not be the same entity as the charging station operator.

Utilities

Electricity is provided to the EV charging port by an electric utility. EV charging ports may rely on data services provided by a telecommunications utility for communications with charging network providers and payment processors.

EV Charging Reliability Concepts and Fault Categories

Uptime

Uptime, or the percentage of time that a charging port is functional, is one measure of EV charging port reliability. Definitions of uptime vary, as do categories of "excluded" downtime or periods when a charging port is not functional but are not counted in uptime statistics.

The NEVI Final Rule set criteria for considering a charging port "up" and establishes specific categories of excluded downtime:

> "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." [11]

Downtime due to electric service interruptions, failure to initiate a charge at the expected power level due to the fault of the vehicle, scheduled maintenance, vandalism, or natural disasters is excluded from the NEVI uptime calculation.[12]

Uptime statistics may not capture many situations where a charging port is considered "up," but drivers are still unable to charge their vehicles successfully. For example, a payment system fault may leave a driver unable to pay and authorize charging at an "up" charging

11 U.S. Department of Transportation, Federal Highway Administration. February 28, 2023. *National Electric Vehicle Infrastructure Standards and Requirements*, pg. 12756, https://www.govinfo.gov/content/pkg/FR-2023-02-28/pdf/2023-03500.pdf.

12 Ibid.

port.[13] A definition of downtime that excludes vandalism may leave drivers unable to charge at damaged charging ports.

While real-world data are limited, it is plausible that EV charging ports may report high uptime statistics but successfully charge vehicles with far less frequency. Other reliability statistics, such as the number of failed charging sessions and maintenance records, may provide insights in addition to charging port uptime.

Interoperability

EV charging port reliability is related to interoperability, or the ability of different products and systems to function together without special effort from users. In the context of EV charging, interoperability can include:

- EV charging ports successfully interfacing with a broad range of EV models made by different automakers, and vice versa.
- Drivers' ability to seamlessly pay for charging at charging ports operated by any charging network provider.
- The ability of EV charging ports to connect to any charging network provider's software.

Interoperability problems affect EV charging port reliability. For example, differing implementations of communication protocols on the EV and EV charging port may result in a charging session with lower charging power than expected or the inability to start the session altogether. Failures of EVs, EV charging ports, charging network provider systems, and payment systems to seamlessly interoperate produce poor charging experiences and drivers' perception that EV charging is unreliable. The EV charging industry to date has not implemented a comprehensive approach to interoperability. Some charging network operators have developed test labs intended to test and improve the ability of EV charging ports to interoperate successfully with different vehicle models.

EV Charging Failure Points

The EV charging ecosystem has potential failure points. For example, charging ports — which are often located outdoors, can be roughly treated, and typically are unattended — must be maintained and in good working order to charge successfully. Further, the driver must be able to connect the charging port to their vehicle to establish an electrical and communication link. Then, the vehicle and charging port — products that are often designed and manufactured by different entities — must recognize and interface with each other to communicate charging

13 General Motors. November 11, 2022. "GM Comments on CEC Reliability Workshop," https://efiling.energy.ca.gov/GetDocument.aspx?tn=247428&DocumentContentId=81809.

parameters. The driver must also be able to submit payment information, the payment entity must communicate authorization to charge to the EV charging port — typically over a wireless data network — and the charging port and vehicle must communicate to initiate a charging session.

For a satisfying driver experience, all these steps must occur over the span of a few seconds for any EV, in any weather condition, with no faults. The charging port must then maintain the expected flow of electricity for a full charging session. There are many ways this interaction can go wrong, but EV charging failures can be classified in five broad categories:[14]

Charging Port/Network Error

Charging port/network errors are persistent failures in communication between the EV charging port and the charging network provider's central system and would typically qualify as downtime. These failures include EV charging port hardware failures, charging port and charging network provider software failures, and charging network provider network failures.

- *Charging port hardware failures:* EV charging port internal physical systems such as power electronics can break, leaving the charging port inoperable.
- *Charging port software failures:* Charging port software can fail or require updates, which may leave charging ports inoperable.
- *Charging port network provider failures:* The charging network provider's central system must communicate with the charging port to authorize charging. Communications or software failures on the interface between the charging port and charging network provider's central system may leave a charging port inoperable or drivers unable to pay for charging.

Preventive maintenance and timely corrective maintenance are critical to avoiding charging port errors. Anecdotal evidence suggests that the entity responsible for charging port maintenance — the charging port manufacturer, charging network provider, charging port operator, or site host — is often contested or not clearly understood by all parties. Site hosts that operate charging ports and do not have maintenance contracts with third parties may not understand that they are responsible for maintaining the charging ports or lack the resources or expertise to do so.

14 Schell, Dustin. October 21, 2022. "Electric Vehicle Charging Infrastructure Reliability Workshop" staff presentation. California Energy Commission, https://www.energy.ca.gov/event/workshop/2022-10/workshop-electric-vehicle-charging-infrastructure-reliability-standards.

Internal Payment System Failures

Processing payments and authorizing a charging session require the charging port or charging network provider's smartphone app to communicate with the charging network provider's central system. Because the charging port remains nominally operational, internal payments system failures may be reported during uptime but still leave drivers unable to charge.

Payment processing also may incorporate roaming between charging network providers and operators using the Open Charge Point Interface (OCPI) protocol. Failures in this exchange may occur only once a driver has attempted to initiate a charge with a charging port that appears operational — a frustrating experience.

External Payment System Failures

Processing payments requires the charging port payment terminal or charging network provider app to communicate with an external third-party payment processor. Because the charging port remains nominally operational, external payments system failures may be reported as uptime but still leave drivers unable to charge.

Physical payment terminals can also fail because of physical damage like dust entering the card reader slot. Communication faults with the third-party payment processor can leave drivers unable to pay for charging and potentially unable to charge. Some charging network providers do not require payment for charging — "default to free" — in the event of a payment failure to keep EV charging ports functional, though charging ports will not default to free charging if physical damage that leaves a payment terminal inoperable is not detected by the charging port.

Charge Initiation/Interoperability Failures

Successful charging requires the EV and charging port to exchange charging parameters. This communication occurs via standards such as ISO 15118, SAE J1772, DIN 70121, CHAdeMO, or others. Anecdotal evidence suggests that interoperability failures are common, though the causes of these failures are unclear. Because the charging port remains nominally operational, charge initiation/interoperability failures may be reported during uptime but still leave drivers unable to charge.

Unmonitored Failures/Other

Charging ports can be broken in ways that are not detectable by the charging port itself or remotely diagnosed by the network operator. These charging ports may be reported as up unless the fault is physically detected by the operator.

EV charging ports are typically uncovered and unprotected from the elements. Connectors can be bent or run over by vehicles. Cables can be cut as acts of vandalism or stolen for copper. EV charging ports frequently incorporate screens that are necessary for operation, but screens can fade in sunlight, break, or be smashed. Because EV charging ports are typically unattended, broken hardware that the charging port cannot detect itself will often be noted only by the charging network provider if a customer reports it.

Electrical utility failures, such as power outages, may also leave charging ports inoperable. Since charging network providers and payment authorizers frequently use cellular data networks to communicate with charging ports, communication utility failures can cause charging port/network errors and payment system failures. Wireless data communication can be unreliable or unavailable entirely in certain locations, like rural areas or underground parking garages.

CHAPTER 3:
Legislative Criteria

CEC staff proposes the regulations discussed in this report under the following statutes and executive orders.

Executive Order B-48-18

Executive Order B-48-18 sets the target that California installs 250,000 EV chargers by 2025, of which 10,000 are DC fast chargers.[15] Tracking California's progress toward this goal requires an accurate understanding of the number of EV charging ports operating in California, data that the CEC lacks because of poor charging station operator responses to voluntary surveys.

Assembly Bill 2127

AB 2127 (Ting, Chapter 365, Statutes of 2018) requires the CEC to assess biennially the EV charging infrastructure required to meet the state's 2030 EV adoption and greenhouse gas reduction goals.[16] Assessing the status of and need for charging infrastructure requires an accurate inventory of the number of EV charging ports in California. To date, the CEC has produced two AB 2127 reports but found that existing data collection is not sufficient to gather a comprehensive picture of the number of EV charging ports in California.

Senate Bill 1000

SB 1000 (Lara, Chapter 368, Statutes of 2018) requires the CEC to assess whether charging infrastructure is disproportionately deployed by population density, geographical area, or population income level, including low-, middle-, and high-income levels.[17] This assessment requires accurate information on the number and location of EV charging ports in California. The CEC has produced two SB 1000 reports using available data. More complete data on the

15 Governor Edmund G. Brown, Jr. Executive Order B-48-18. Issued January 26, 2018, https://archive.gov.ca.gov/archive/gov39/2018/01/26/governor-brown-takes-action-to-increase-zero-emission-vehicles-fund-new-climate-investments/index.html.

16 Codified at Pub. Resources Code, § 25229.

17 Codified at Pub. Resources Code, § 25231.

number and location of EV charging ports in California will greatly improve the analysis of charging access in future SB 1000 reports.

Assembly Bill 1926

AB 1926 (Farr, Chapter 939, Statutes of 1991) requires the CEC to ease the development and commercialization of zero-emission electric vehicles, as well as the development of an infrastructure to support maintenance and fueling of those vehicles in California.[18]

Assembly Bill 2061

AB 2061 (Ting, Chapter 345, Statutes of 2022) directs the CEC, in consultation with the California Public Utilities Commission (CPUC), to develop uptime recordkeeping and reporting standards for EV chargers and charging stations installed after January 1, 2024, as well as a definition of charger and charging station uptime.[19] These standards will apply to EV chargers and charging stations that receive an incentive from a state agency or through a charge on ratepayers. AB 2061 also directed that the CEC, in consultation with the CPUC, may consider additional tools to increase EV charging station uptime, including uptime requirements.

AB 2061 additionally directs the CEC to assess the uptime of EV charging station infrastructure in California biennially, beginning January 1, 2025. This assessment must examine equitable access to reliable EV charging stations, including access to reliable charging stations in low-, moderate-, and high-income communities. The CEC does not collect the data required to complete a holistic assessment of the reliability of California's charging infrastructure (particularly the non-CEC funded charging ports), including the number of public and shared private charging ports and information on the reliability of these charging ports.

Assembly Bill 126

AB 126 (Reyes, Chapter 319, Statutes of 2023) directs the CEC to adopt tools to increase charging station uptime, including uptime requirements and operation and maintenance requirements.[20] AB 126 also mandates that the CEC establish standards for how charging stations inform customers about the availability and accessibility of publicly available charging infrastructure by January 1, 2025.

18 Codified at Pub. Resources Code, § 25618.

19 Codified at Pub. Resources Code, § 25231.5.

20 Ibid.

Integrated Energy Policy Report Statutes

Existing law directs the CEC to release a biennial IEPR that provides a cohesive assessment of major energy trends and issues in California. Through the IEPR, the CEC develops assessments and forecasts to conserve resources, protect the environment, ensure energy reliability, enhance the state economy, and protect public health and safety.[21] The purposes of the IEPR include to promote "reliable energy markets" and "conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices."[22]

In conducting assessments and forecasts for the IEPR, the CEC is authorized to collect data from a broad range of market participants.[23]

EV charging stations provide energy and fall under the purview of the IEPR.[24] EV charging accounts for an increasing share of California's transportation energy usage and plays an increasingly important role in the overall reliability of California's energy infrastructure. An assessment of California energy trends and issues that includes the deployment and reliability of EV charging will create a more comprehensive understanding and planning toward IEPR requirements and goals. Moreover, the Public Resources Code specifically requires the CEC to conduct transportation forecasting and assessment as part of the IEPR.[25]

The recordkeeping and reporting requirements proposed in this rulemaking are necessary to prepare the IEPR because current data collection methods are insufficient. The CEC also needs the information to make "[r]ecommendations to improve the efficiency of transportation energy use, reduce dependence on petroleum fuels, decrease environmental impacts from transportation energy use, and contribute to reducing congestion, promoting economic development, and enhancing energy diversity and security," as directed by the Public Resources Code.[26] These statutes authorize the CEC to collect data about the deployment,

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21 Pub. Resources Code, § 25301(b)(5); see Pub. Resources Code, § 25001, 25300(c) and (d) ("state government requires at all times a complete and thorough understanding of the operation of energy markets" and that "timely reporting, assessments, forecasting, and data collection activities are essential to serve the information and policy development needs of the Governor, the Legislature, public agencies, market participants, and the public.")

22 Ibid.

23 Pub. Resources Code, § 25301(a).

24 Ibid.

25 Pub. Resources Code, § 25304.

26 Ibid.

reliability, and maintenance of EV charging ports from participants in the EV charging industry. The need for participant data outweighs the low to moderate cost to the industry that these recordkeeping and reporting requirements could impose.

Public Resources Code Sections 25400 and 25401

Public Resources Code Sections 25400 and 25401 direct the CEC to carry out studies, research projects, data collection, and other activities required to assess the nature, extent, and distribution of energy resources to meet the needs of the state.

Public Resources Code Sections 25601 and 25602

Public Resources Code Sections 25601 and 25602 direct the CEC to develop and coordinate a program of research and development in energy supply, consumption, and conservation. Furthermore, it directs the CEC to carry out technical assessment studies on all forms of energy and energy-related problems to be informed on future energy options and related impacts. Such assessments may also be conducted to determine which energy systems among competing technologies are most compatible with standards established under this division. An assessment of California energy trends and issues that include the deployment and reliability of EV charging stations will create a more comprehensive understanding of changes in transportation technology in relation to implications for energy consumption and technologies.

CHAPTER 4:
Regulatory Approaches

Regulatory agencies in California and elsewhere have set regulatory requirements for EV charging ports. The regulations vary by jurisdiction and are in different phases of development.

California State Agencies

California state agencies have set reliability and uptime reporting standards for EV charging ports that receive public funds through specific agency-administered programs. For example, recent CEC grant funding opportunities for EV charging ports have required that charging ports be operational 97 percent of the time. Since these grant agreements are relatively recent, the CEC does not have robust data about the actual uptime of charging ports installed through these programs. The CEC has not set general charging port reliability standards for EV charging ports that are not funded by the CEC.

The CPUC has ordered that EV supply equipment installed under the Transportation Electrification Framework must have uptime reliability consistent with AB 2061 and the standards adopted in this rulemaking.[27]

Federal Regulations

The Federal Highway Administration has set minimum uptime requirements for charging ports that receive federal funds and are located along highways, most prominently those funded through the Charging and Fueling Infrastructure Discretionary Grant and NEVI Formula Program.[28] States and other direct recipients of federal funds through these programs must ensure that each charging port installed under the program has an average annual uptime of greater than 97 percent as defined in regulation.[29] While there is uncertainty regarding the

27 California Public Utilities Commission. November 21, 2022. *Final Decision 22-11-040*, pg. 184, https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M499/K005/499005805.PDF.

28 U.S. Department of Transportation. June 7, 2024. Federal Highway Administration. Charging and Fueling Infrastructure Grant Program, https://www.transportation.gov/rural/grant-toolkit/charging-and-fueling-infrastructure-grant-program.

29 U.S. Department of Transportation, Federal Highway Administration. February 28, 2023. *National Electric Vehicle Infrastructure Standards and Requirements*, pg. 12756, https://www.govinfo.gov/content/pkg/FR-2023-02-28/pdf/2023-03500.pdf.

future of federal programs, the programs set important reliability requirements for charging ports funded through those programs.

CHAPTER 5:
Proposed Regulatory Framework

This staff report proposes new regulations for:

1. Inventory reporting to track the number of EV charging ports installed in California.
2. Reliability recordkeeping and reporting to track the reliability of publicly or ratepayer funded DCFC ports.
3. A 97 percent uptime standard for publicly or ratepayer funded DCFC ports.
4. Data sharing on the real-time availability and accessibility of publicly available charging infrastructure for publicly or ratepayer funded charging ports.

The applicability of these regulations varies based on a variety of factors including the following:

- Whether the charging port received an incentive from a state agency or through a charge on ratepayers.
- Whether the charging port is solely for private non-commercial use.
- Whether the charging port is networked or non-networked, as shown in Table 1.

Table 1: Applicability and Exclusions

Inventory reporting	Applies to: All charging ports in California, except those excluded below Excludes all: Level 1 charging ports Off-grid, research, and temporary charging ports[1] Private residential charging ports [1,2] Authority cited: Integrated Energy Policy Report statutes (Public Resources Code sections 25300 through 25305.) Public Resources Code sections 25400–25401, 25601–25602, 25618
Reliability recordkeeping and reporting	Applies to: All publicly or ratepayer funded DCFC ports installed Jan 1, 2024 and later, except those excluded below Excludes all: Fleet charging ports[1] Off-grid, research, and temporary charging ports[1] Private residential charging ports [1,2] Authority cited:

	Public Resources Code 25231.5(a)
Reliability performance standard 97% uptime	Applies to: All publicly or ratepayer funded DCFC ports installed January 1, 2024, and later, for a period of 6 years from the date of recording of the required data, except those excluded below Excludes all: Fleet charging ports[1] Off-grid, research, and temporary charging ports[1] Private residential charging ports [1,2] Authority cited: Public Resources Code 25231.5(d)(1)
Data sharing on real-time availability and accessibility	Applies to: All publicly available, publicly or ratepayer funded charging ports installed January 1, 2024, and later, except those excluded below Excludes all: Level 1 charging ports Fleet charging ports[1] Nonnetworked charging ports Off-grid, research, and temporary charging ports[1] Private residential charging ports[1,2] Authority cited: Public Resources Code 25231.5(d)(2)

Source: CEC staff

1. See section 3121(b) of Appendix A and Table 2 for definitions.
2. Charging ports must be solely for private, non-commercial use

Terms used in this report are defined in section 3121 of Appendix A of this report. They are also reproduced here in Table 2 for convenience, however, in the event of a discrepancy between Appendix A and Table 2, the definitions in Appendix A control.

Table 2: Definitions

Charging network provider	The entity that operates the digital communication network that remotely manages the chargers including, but not limited to, authorizing customer transactions and monitoring charger operative status. Charging network providers can be charging station operators or manufacture chargers.
Charging port	The system within a charger that charges one EV. A charging port can have multiple connectors, but it can provide power to charge only one EV through one connector at a time.

Charging station operator	The entity that owns the charging port and supporting equipment at one or more charging stations. Although this entity can delegate responsibility for certain aspects of charging station operation and maintenance to subcontractors, this entity retains responsibility for operation and maintenance of charging ports and supporting equipment. The charging station operator and the charging network provider can be the same entity.
Direct current fast charger	A charger that enables rapid charging by delivering DC electricity to an EV's battery.
Fleet charger	A charger that is not publicly available, is not installed at a single-family residence or a multifamily dwelling, and is solely used to charge electric vehicles registered to the charging station operator.
Multifamily dwelling	Real property that is improved with, or consisting of, one or more buildings containing more than one dwelling unit that is intended for human habitation, excluding single-family residences.
Off-grid charger	A charger that does not draw power from an electric utility as defined in Public Resources Code section 25108, at any time.
Private residential chargers	A charger used solely for private use by residents of a residential real property containing four or fewer dwelling units, or any charger used solely for private use by residents of a single unit of a residential real property containing more than four dwelling units for which one or more of the residents of that unit would be the exclusive charging station operator(s) or site host(s) of the charger.
Publicly available	A charger and associated parking space or spaces designated, such as by a property owner or lessee, to be available to, and accessible by, the public for any period of time. A charger designated, such as by a lessee or a property owner, to be available only to customers or visitors of the business is a publicly available charger for purposes of this chapter. Chargers and associated parking spaces located in parking garages or gated facilities are considered publicly available for purposes of this chapter if any member of the public can obtain vehicular access to the facility for free or through payment of a fee. If a charger and associated parking space is made available to the public for only limited time periods, that charger and associated parking space is considered a publicly available charger. A publicly available charger does not include any of the following:

	(A) A workplace charging station if it is clearly marked and operated as available exclusively to the organization's employees or independent contractors. (B) A charger and associated parking spaces reserved exclusively to residents, tenants, visitors, or employees of: a private residence or common interest development; or a residential building adjacent to a private residence. (C) A charger provided by a manufacturer of electric vehicles for the exclusive use by vehicles it manufactures. (D) A research charger.
Publicly or ratepayer funded charger	A charger or charging station installed on or after January 1, 2024, except at a residential real property containing four or fewer dwelling units, for which an incentive was received from a state agency or a charge on ratepayers, or both, to install or operate the charger or charging station. An incentive from a state agency includes, without limitation, any incentive funded in whole or in part from the Greenhouse Gas Reduction Fund as defined in section16428.8 of the Government Code. A charge on ratepayers includes, without limitation, charges on the customer of an investor-owned utilities, local publicly owned electric utility as defined in section 224.3 of the Public Utilities Code, or community choice aggregator as defined in section 331.1 of the Public Utilities Code. For purposes of these regulations, an incentive from a state agency includes, without limitation, pass-through funds for a federal grant administered by a state agency, for which the state agency is reimbursed, including but not limited to, the CEC's National Electric Vehicle Infrastructure Formula Program. A charger remains a "publicly or ratepayer funded charger" for six years from the date the charger is installed, and thereafter it is no longer a "publicly or ratepayer funded charger." If a "publicly or ratepayer funded charger" is replaced, its replacement charger is also a "publicly or ratepayer funded charger" for at least the remainder of the six years from the date the replaced charger was previously installed. If an incentive is received from a state agency or a charge on ratepayers, or both, to replace a charger, then the replacement charger is a "publicly or ratepayer funded charger" for six years from the date the replacement charger replaced the prior charger.

Research charger	A charger that is attached or placed solely to dispense electricity for testing or research; it is neither a fleet charger nor publicly available charger; and it is not used for workplace charging.
Residential real property containing four or fewer dwelling units	A single-family residence or a multifamily dwelling containing four or fewer dwelling units.
Single-family residence	A detached or semi-detached (semi-attached, side-by-side) residence, duplex, triplex, quadruplex, row house such that each row house shares at least one wall with another of the row houses even if not in a row, townhouse, or manufactured home, including mobilehome, unless the residence is part of a condominium as defined in Civil Code section 4125 or is located in a mobilehome park.
Site host	The electric utility customer of record for electric service to the charger and can also be the charging network provider or the charging station operator of the charger.
Temporary charger	A charger that is designed to be portable and available for use intermittently, is not attached at a location, and is not available for use at a single lot or parcel, or an adjacent lot or parcel, for more than 30 days in a calendar year. For the purposes of this definition, a charger that is made available for use for any portion of a day, is considered available for use for that full day.

Source: CEC staff

These regulations apply equally to charging ports that serve light-duty and medium-duty/heavy-duty (MDHD) EVs. Level 1 chargers are excluded from these regulations in their entirety.

These regulations are proposed following section 25231.5 of the California Public Resources Code, and sections 25210, 25213, 25218(e), 25229, 25301, 25302, 25303, 25304, 25305, 25400, 25401, 25601, 25602, and 25618 of the California Public Resources Code, and sections 1220 through 1225 of Title 20 of the California Code of Regulations. The full proposed regulatory text is attached to this report as Appendix A.

EV Charging Port Inventory Reporting Regulations

CEC staff proposes the following regulations for tracking the number of light-duty EV and MDHD EV charging ports operating in California, which are necessary to assess whether California is on track to meeting state EV infrastructure goals.

Applicability

The charging port inventory regulations will apply to all charging network providers, charging station operators, and certain site hosts and funding recipients of EV charging ports in California, encompassing those that received public or ratepayer funding as defined and those that did not. These regulations apply to all charging ports in the state regardless of funding source or public availability of the charging port.

Exemptions

This charging port inventory reporting regulation excludes uninstalled charging ports, private residential charging ports, temporary chargers, off-grid chargers, and research chargers.

Inventory Reporting Requirements

Operators of EV charging ports installed, with exception of private residential charging ports, are required to file an EV charging port inventory report beginning on the first semi-annual reporting deadline following the effective date of these regulations. These reports will detail the number of charging ports operated by the recordkeeping and reporting agent. The specific reporting requirements will vary depending on the networking status of each charging port.

The proposed inventory reporting requirements are shown in Table 3.

Table 3: Inventory Reporting Requirements

Charging port Configuration	Inventory Reporting Requirements
Nonnetworked	• The date the charging port was installed • Charging port address • Charging port geographic coordinates • Make and model of charging port • Charging port nameplate power • Charging port voltage • Charging port serial number • Statement of whether charging port is a replacement of a former charging port • Charging port characteristics, including whether charging port is networked, publicly or ratepayer funded, alternating or direct current, and connector standard • Primary use of the charging port (e.g., public light-duty, public MDHD, private fleet charging, etc.) • A statement if the charging port was uninstalled • Certain customer service information including the charging station name, contact information, access days and times, and payment information • Power sharing capabilities between connectors, if applicable
Networked	All information required for nonnetworked charging ports, and: • Charging port ID • Port ID • Charging station network provider

Source: CEC staff

The CEC will provide further guidance and direction about data submittals under these regulations at a future date.

Data Use

The CEC will use charging port inventory data in the preparation of the AB 2127 and SB 1000 reports, the IEPR, other reports required by statute, and other analytical tasks. These data will inform estimates of the number of additional EV charging ports needed to address state goals. The CEC will hold the address and location of private and shared private charging ports confidential, unless sufficiently aggregated.

EV Charging Port Reliability Recordkeeping and Reporting Regulations

CEC staff proposes the following regulation to establish reliability reporting requirements for DCFC ports that received public or ratepayer funding, as defined.

Applicability

These reliability reporting regulations apply to all publicly or ratepayer funded DCFC ports operating in California, as defined above. The reliability recordkeeping and reporting standards are effective for six years after the date of recording the required data.

The proposed reliability recordkeeping and reporting regulations apply to DCFC ports that receive public or ratepayer funding. For the purpose of these regulations, "ratepayers" are defined as customers of any electric load-serving entity, including publicly owned utilities and community choice aggregators.[30] For the purposes of these regulations, a publicly funded charging port includes charging ports that receive pass-through funds for a federal grant administered by a state agency, for which the state agency is reimbursed, and must comply with these regulations. However, they do not apply to DCFC ports where the only public or ratepayer funding was to fund front-of-the-meter make-readies or associated infrastructure.[31] The regulations would still apply if a DCFC port received state or ratepayer funding for the make-ready and state or ratepayer funding for the customer-side EV charging infrastructure.

30 Community choice aggregators procure energy for electricity users in a community or region. Community choice aggregators do not operate electric distribution infrastructure, and electricity procured by community choice aggregators is delivered via existing distribution infrastructure typically operated by a utility.

31 For this report, the front-of-the-meter make-ready is defined as electrical equipment and accompanying infrastructure located between the utility distribution system and the meter.

Exemptions

These regulations exempt EV charging ports installed at residential real property containing four or fewer dwelling units, fleet charging ports, and off-grid EV charging ports, research, and temporary EV charging ports.[32]

Recordkeeping and Reporting Requirement

The proposed regulations define "uptime" as the percentage of time a charging port is operational with the exception of excluded downtime periods. More details on excluded downtime periods are provided below. The excluded downtime categories proposed by staff are aligned with the excluded downtime categories in the federal NEVI Program.

For calculating uptime, downtime begins when nonoperational status is remotely reported to the charging network provider or the recordkeeping and reporting agent becomes aware that a charging port is not operational, whichever comes earliest. A charging port will be considered not operational due to any equipment or software fault not included in categories of excluded downtime. Certain downtime categories receive a limited period during which they are considered excluded downtime.

These proposed regulations define uptime on a per-port basis. Some commenters following the October 2022 CEC reliability workshop requested that uptime be defined on a per-station rather than per-port basis.[33] Yet Public Resources Code 25231.5(a)(3)(B)(ii) requires this uptime definition be consistent with the federal NEVI Program guidelines.[34] The NEVI Program defines a charging port as "up" on a per-port basis.[35] Further, since these are publicly or ratepayer funded charging ports, or both, the expectation is that each port remain functional and operational for use by the public and ratepayers.

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32 Off-grid chargers are defined as a charger that does not draw power from an electric utility, at any time. A temporary charger is defined as a charger that is designed to be portable and available for use intermittently, is not attached at a location, and is not available for use at a single location for more than 30 days in a calendar year.

33 Electrify America. November 14, 2022. "[O]n Electric Vehicle Charging Infrastructure Reliability Workshop,"; EVGo. November 14, 2022. "EVgo Comments on Electric Vehicle Charging Infrastructure Reliability Workshop," https://efiling.energy.ca.gov/GetDocument.aspx?tn=247465&DocumentContentId=81857 3; Tesla. November 14, 2022. "Tesla Comments October 2022 Reliability Workshop." https://efiling.energy.ca.gov/GetDocument.aspx?tn=247434&DocumentContentId=81819.

34 PR Code Section 25231.5 (a)(3)(B)(ii).

35 U.S. Department of Transportation, Federal Highway Administration, *National Electric Vehicle Infrastructure Standards and Requirements*, February 28, 2023, pg. 12756. https://www.govinfo.gov/content/pkg/FR-2023-02-28/pdf/2023-03500.pdf.

Certain categories of downtime will be excluded from the charging port uptime calculation. Staff's intention is that excluded downtime be limited only to situations that are entirely outside the charging station operator's control or remedy. Proposed exclusions include:

- Grid power loss.
- Communication network outages, provided that the charging ports default to free in the event of communications outages.
- Natural disasters.[36]
- Vandalism, for up to five days.

The proposed excluded downtimes are in line with NEVI's exclusion criteria. Planned maintenance is excluded from downtime for up to 72 hours per rolling 12-month period, as are nonoperating hours when charging ports are routinely not available to drivers.

Equipment unavailability due to supply chain delays, labor unavailability, damage, and payment system failures are not considered excluded downtime. Precluding these faults from excludable downtime recognizes the importance of the driver experience and was supported by several commenters following the 2022 CEC reliability workshop.[37]

Recordkeeping and reporting entities must record and retain supporting documentation to the CEC for any excluded downtime claim for six years and provide it to the CEC upon request. This recordkeeping requirement includes records that preventive maintenance was scheduled in advance, which is required to claim this category of excluded downtime.

The proposed reliability reporting requirements are shown in Table 4.

36 Natural disasters are defined as natural events such as a flood, earthquake, or wildfire that causes great damage.

37 ChargerHelp!. November 11, 2022. "ChargerHelp! Comments on EV Charging Reliability Standards," https://efiling.energy.ca.gov/GetDocument.aspx?tn=247433&DocumentContentId=81814; EV Charging Coalition. November 11, 2022. "EV Charging Coalition Comments," https://efiling.energy.ca.gov/GetDocument.aspx?tn=247431&DocumentContentId=81812.

Table 4: Reliability Reporting Requirements

DCFC port Configuration	Reliability Reporting Requirements
Nonnetworked DCFC ports	• The uptime percentage rate and minutes of excluded downtime • An itemized summary of excluded downtime • Maintain maintenance records and supporting documentation for excluded downtime and provide them to the CEC upon request
Networked DCFC ports	• The uptime percentage rate and minutes of excluded downtime • An itemized summary of excluded downtime and maintain (report if requested), supporting documentation • Charging port operative status

Source: CEC staff

The CEC will provide further guidance and direction about data submittals under these regulations at a future date.

Networked DCFC Ports

Recordkeeping and reporting agents that operate publicly or ratepayer funded networked DCFC ports are required to report EV charging port uptime and downtime.

Recordkeeping and reporting requirements for networked DCFC ports vary based on the date of recording of the data required for each networked DCFC port.

- Recordkeeping and reporting agents for networked DCFC ports installed up to 179 days after the regulations' effective date are required to record, and retain for six years, the operative status of the DCFC port on a 15-minute interval. These DCFC ports are required to report the uptime percentage semiannually. Charging network providers must make the retained data available to the CEC upon request. The entity responsible for reporting information on these DCFC ports may optionally choose to comply with the requirements for DCFC ports installed on or after 180 days after the regulations' effective date in lieu of these requirements, provided the CEC is prepared to meet those requirements.
- Recordkeeping and reporting agents for networked DCFC ports installed on or after 180 after the regulations' effective date are required to collect, retain for six years, and transmit directly to the CEC certain protocol data units using OCPP 2.0.1 or a subsequent version of OCPP. The DCFC ports are required to report each uptime percentage semiannually based on these protocol data units. Charging network providers must make the retained records available to the CEC upon request.

Nonnetworked DCFC Ports

Recordkeeping and reporting agents who operate publicly or ratepayer funded nonnetworked DCFC ports are required to report DCFC port uptime and downtime to the CEC. Operators of nonnetworked DCFC ports are also required to maintain maintenance records and provide them to the CEC upon request. The CEC recognizes that nonnetworked DCFC ports cannot provide real-time reliability data in the same manner as networked DCFC ports and seeks to create regulations that do not favor either networked or nonnetworked DCFC ports. Requiring maintenance records for nonnetworked DCFC ports is intended to allow the CEC to evaluate the reliability of nonnetworked DCFC ports while recognizing the limited self-reporting capabilities of nonnetworked devices.

Data Use

The CEC will use DCFC port reliability data in forthcoming reports on the reliability of California's EV charging infrastructure, as required by statute, the IEPR, and other analytical tasks. Reliability data collected through these regulations may be featured in other CEC publications, reports, and dashboards.

Recordkeeping and Reporting Agent

The recordkeeping and reporting agent is the entity responsible for collecting, storing, and reporting all the information required by the regulations proposed in this staff report, inclusive of charging port inventory and reliability, as applicable.

The recordkeeping and reporting agent of a charging port depends on whether the charging port is networked or nonnetworked and whether it received public or ratepayer funding, as defined. For these regulations, a business entity may be considered a charging network provider at one charging location operated by the entity and a charging station operator or site host at another.

The charging network provider is by default the recordkeeping and reporting agent for networked charging ports under these regulations. Providers of automated load management software are not considered charging network providers for the purpose of these regulations.

Recordkeeping and reporting agents are identified in Table 5.

Table 5: Recordkeeping and Reporting Agent

Charger Configuration	Recordkeeping and Reporting Agent	Agent Definition
All networked chargers	Charging network provider	Entity that operates the digital communication network that remotely manages the chargers. A charging network provider that agrees to serve as a recordkeeping and reporting agent under these regulations using an Application Programming Interface (API) data reporting tool is considered an enrolled charging network provider.
Nonnetworked chargers that are either not publicly or ratepayer funded or were installed before January 1, 2024	Charging station operator	Entity that owns the chargers and supporting equipment at one or more charging stations.
Nonnetworked chargers that are publicly or ratepayer funded and were installed on or after January 1, 2024	Site host or their designee	Electric utility customer of record for electric service to the charger.

Source: CEC staff

Nonnetworked charging ports by definition lack a charging network provider. For nonnetworked charging ports that received public or ratepayer funding, as defined, the site host is the recordkeeping and reporting agent. The charging station operator is the recordkeeping and reporting agent for nonnetworked charging ports that did not receive public or ratepayer funding, as defined. At many EV charging stations, the charging network provider, charging station operator, and site host may be the same entity.

Recordkeeping and reporting agents are required to submit required data to the CEC executive director in semi-annual reports. For any charging port uninstalled from service during the reporting period, a statement must be provided. This statement, executed under penalty of perjury under the laws of the State of California, should confirm the uninstallation of the charging port and specify the date on which it was uninstalled.

Recordkeeping and reporting agents may designate one or more entities to fulfill their reporting responsibilities, but the recordkeeping and reporting agents remain legally responsible for complying with the requirements of these regulations.

Recordkeeping and reporting agents are required to submit required data in a format specified by the CEC. CEC staff will issue a data template specifying the data format required for reporting these data before the regulations come into effect.

For networked publicly or ratepayer funded charging ports installed at most 179 days after these regulation's effective date, recordkeeping and reporting agents are required to submit required reliability data in the format specified by the CEC. For networked publicly or ratepayer funded charging ports installed on or after 180 days after the effective date of these regulations, recordkeeping and reporting agents are required to report required data to the CEC through an application programming interface (API) data portal as an enrolled charging network provider or retain another enrolled charging network provider capable of submitting data through an API to report this data on their behalf. An enrolled charging network provider is a charging network provider that has completed an application to the CEC and meets the technical requirements of reporting required data through the API data portal.

Charging ports installed by charging network providers on or after 180 days of the regulations' effective date are required to comply with OCPP version 2.0.1 or a subsequent version of OCPP.

Confidentiality

Recordkeeping and reporting agents may request that the CEC hold certain data gathered under these regulations confidential. The CEC may disclose data previously designated as confidential if this disclosure is permitted by law.

Confidentiality provisions are shown in Table 6.

Table 6: Confidentiality

"Automatically" Confidential[38]	Not "Automatically" Confidential
• Charging port address (only for private and shared private charging ports) • OCPP messages that contain utilization data • Charger and port unique identification • Any personally identifiable information (PII)	• All other data • Data that would otherwise be confidential if they have been sufficiently aggregated • Confidentially may be requested for any data under section 2505 of Title 20 of California Code of Regulations

Source: CEC staff

Data that would otherwise be confidential will only be publicly released by the CEC if they have been aggregated to such a level to meet one of the following criteria:

1. Aggregated to at least the county level.
2. Contains data from three entities or more.

Recordkeeping and reporting agents who wish to hold charging port address and geographic coordinates, serial number, and charging port and port identification data confidential must identify the data as confidential to the CEC. Charging port location, serial number, and port identification data will be held confidential if requested provided the data are not already being reported to the National Renewable Energy Laboratory (NREL) or through the NEVI Program.

Private and shared private charging port locations will be kept confidential by default.[39]

Reliability Standards Regulations

In consideration of the requirement of Public Resources Code 25231.5(d)(1) and the valuable comments provided by stakeholders following the October 9, 2023, reliability workshop, CEC

38 As provided in Code of Regs., Tit. 20, § 2505(a)(5).

39 As provided in Code of Regs., Tit. 20, § 2505(a)(5).

staff proposes a DCFC port uptime requirement.[40] This standard is essential to improving the reliability of DCFC ports in California for the benefit of consumers and the state EV charging infrastructure goals.

Applicability

The proposed reliability standards regulations are applicable to DCFC ports that receive public or ratepayer funding and were installed on or after January 1, 2024, other than at residential real property containing four or fewer dwelling units. The reliability standards are not applicable to fleet DCFC ports that exclusively serve vehicles owned by the same business entity that owns the charging ports; these charging ports must still report charging port reliability to the CEC.

The proposed reliability regulations apply to DCFC ports that receive public or ratepayer funding. For the purposes of these regulations, a publicly funded DCFC port includes DCFC ports that receive pass-through funds for a federal grant administered by a state agency, for which the state agency is reimbursed, and must comply with these regulations. However, they do not apply to DCFC ports where the only state or ratepayer funding was to fund front-of-the-meter make-readies or associated infrastructure. The regulations would still apply if a DCFC port received state or ratepayer funding for the make-ready and public or ratepayer funding the customer-side EV charging infrastructure.

For these regulations, the recipient of public or ratepayer funding is the entity responsible for maintaining the DCFC port.

Exemptions

These regulations exempt DCFC ports installed at residential real property containing four or fewer dwelling units, fleet charging ports as defined, off-grid EV charging ports, research, and temporary EV charging ports.

Uptime Requirement

Public Resources Code 25231.5(d)(1) requires the CEC to adopt uptime requirements. Under statute, staff proposes that DCFC ports that receive public or ratepayer funding, as defined above, and are installed on or after January 1, 2024 meet a 97 percent minimum uptime standard. This minimum uptime requirement is in line with the requirements of NEVI-funded

40 California Energy Commission. October 2, 2023. "Workshop on Proposed Regulations for Electric Vehicle Charger Inventory, Utilization, and Reliability Reporting," https://www.energy.ca.gov/event/workshop/2023-10/workshop-proposed-regulations-electric-vehicle-charger-inventory-utilization.

charging ports. The uptime requirement is defined on a per-port and not-site basis; each charging port at a charging site must be up 97 percent of the time to comply.

Charging port uptime is defined for this uptime requirement in the same manner as for uptime reporting. The excluded downtime categories defined in this chapter also apply to the 97 percent uptime minimum.

Operation and Maintenance Requirements

There are operations and maintenance requirements throughout the proposed regulation. Charging station operators of publicly or ratepayer funded DCFC ports must ensure that EV charging customers have mechanisms to report outages. Although the specific operations and maintenance means by which each DCFC port must follow is not stated in regulation, all publicly or ratepayer funded DCFC ports or both installed on or after January 1, 2024 will have to be maintained such that they meet the minimum 97 percent minimum uptime requirement.

State Reliability Reports

The CEC will issue biennial reports assessing the reliability of charging infrastructure, including equitable access to reliable charging ports, regardless of funding source. CEC staff intends to rank the reliability of major EV charging networks publicly and publish network uptime information in these reports. Charging networks will have the option to dispute the published reliability metrics by submitting a letter of dispute to the executive director, and the CEC will issue a correction if inaccuracies are found.

Data-Sharing Requirements

Public Resources Code 25231.5(d)(2) requires that the CEC set standards for notifying customers about the availability and accessibility of publicly available charging infrastructure by January 1, 2025. Under this statute, CEC staff proposes all publicly available networked AC Level 2 and DC fast charging ports that received public or ratepayer funding and were installed on or after January 1, 2024 shall share data, consistent with the data-sharing requirements for charging ports funded by the NEVI Program.

Applicability

This requirement applies to all publicly or ratepayer funded networked AC Level 2 and DCFC ports in California that are available to and accessible by the public for any period and were installed on or after January 1, 2024.

Exemptions

This proposed regulation exempts nonnetworked charging ports, private charging ports, and shared-private charging ports.

Requirements

In line with the NEVI Program requirements, all publicly or ratepayer funded publicly available AC Level 2 and DCFC ports in California shall share real-time data accessibility, availability, and pricing data with third-party software developers through an API. This requirement may

dramatically increase the public's ability to find operational and available charging ports, significantly improving the EV driver experience.

EV charging networks retain the ability to set terms and conditions for using their accessibility, availability, and pricing data. However, the requirement of these regulations is to inform customers about charging station availability, accessibility, price to charge, and any applicable roaming fees. EV charging networks obfuscating (or concealing) these data or making it harder for customers and interested parties from receiving the data will be out of compliance with the regulations' requirements. The CEC may set further regulations mandating sharing this data without terms and conditions if EV charging networks set overly onerous terms and conditions as to make these data practically unavailable to third parties.

CHAPTER 6:
Alternatives Considered

CEC staff has assessed two alternatives to the EV charging port reporting, reliability, and data sharing regulations proposed in this staff report.

Alternative 1: Require Charging Port Uptime Reporting and Uptime Requirements but Not Inventory Reporting

The regulations proposed in this staff report set EV charging port inventory and reliability reporting requirements, as well as reliability and data-sharing standards, for EV charging ports. An alternative to this proposal would be only to require charging network providers and site hosts to report charging port uptime as required by Public Resources Code 25231.5(a) and not set regulations for inventorying charging ports. Under this alternative, the CEC would still set uptime reporting requirements, uptime standards, and data sharing requirements as required by Public Resources Code 25231.5(d)(2).

AB 2127 and SB 1000 require the CEC to regularly assess the number of EV charging ports needed to meet state goals and the deployment distribution of charging infrastructure. Moreover, the Public Resources Code specifically requires the CEC to conduct transportation forecasting and assessment as part of the IEPR.[41] While the CEC has published AB 2127, SB 1000, and IEPR reports, the CEC lacks firm charging port inventory reporting regulations, making it difficult to assess the EV infrastructure required to meet California's EV adoption goals and the deployment distribution of charging infrastructure. The charging port inventory reporting requirements proposed in this report will improve the robustness of the regular assessments mandated by AB 2127, SB 1000, and the IEPR. CEC staff rejects the alternative of setting only uptime reporting regulations.

41 Pub. Resources Code, § 25304.

Alternative 2: Set Reliability Standards for AC Level 2 Charging Ports as Well as DCFCs

This staff report proposes that an uptime requirement apply to DCFC ports that receive public or ratepayer funding. An alternative regulation would be to apply the proposed uptime requirement to AC Level 2 charging ports as well as DCFC ports that received public or ratepayer funding.

Setting a 97 percent uptime standard for AC Level 2 ports as well as DCFCs would provide greater reliability benefits than applying these requirements to only state or ratepayer funded DCFC ports. However, Alternative 2 would have a higher estimated cost than the staff proposal as it would apply reliability requirements to more charging ports. Moreover, AC Level 2 chargers are low-cost chargers, are typically sited in large numbers, and are thought to be generally reliable. CEC staff does not propose applying reliability standards to publicly or ratepayer funded AC Level 2 ports at this time.

CHAPTER 7:
Technical Feasibility

The regulations proposed in this staff report are technically feasible.

Recordkeeping and Reporting Regulations

Recordkeeping and reporting agents are capable of reporting the number of charging ports they operate to the CEC. Charging network providers that operate networked charging ports are technically capable of reporting the reliability of these charging ports. The requirement that networked publicly or ratepayer funded charging ports report the status of the charging ports using OCPP is technically feasible.

OCPP is a broadly accepted protocol for communication between charging ports and charging network providers, and CEC staff's understanding is that most charging network providers use some implementation of OCPP. This requirement is consistent with other CEC EV charging programs, many of which require charging ports to comply with OCPP version 2.0.1 or later.

It will be technically feasible for recordkeeping and reporting agents to retain an enrolled charging network provider to report required data through the CEC's API data portal for charging ports installed 180 days after this regulation's effective date. Enrolled charging network providers are required to collect the operative status of publicly or ratepayer funded charging ports using specified messages defined in OCPP version 2.0.1 or later and transmit the specified messages directly to the CEC via an API, both of which are technically feasible.

The CEC's proposed reliability regulations for nonnetworked charging ports require that site hosts operating publicly or ratepayer funded charging ports make maintenance records available to the CEC upon request, which reflects the limitations on remote reporting by nonnetworked charging ports.

Reliability Regulations

CEC staff is confident in the technical feasibility of the proposed minimum DCFC uptime requirement of 97 percent. A 97 percent uptime requirement is already being implemented in the federal NEVI Program.

Data-Sharing Regulations

It is also technically feasible for networked AC Level 2 and DCFC ports to share real-time availability and accessibility data with third parties, as these requirements are already being implemented for DCFCs in the federal NEVI Program. Major EV charging network providers already remotely collect charging port operative status data from networked charging ports. Requiring these data to be shared with third parties via an API is technologically feasible and is already implemented in some commercial mapping applications.

CHAPTER 8:
Savings and Cost Analysis

Complying with the EV charging port recordkeeping and reporting, reliability, and data-sharing regulations is expected to create new costs and benefits. Following staff and third-party analysis, the CEC anticipates a first-order cost to industry of complying with the proposed reliability regulations of $11,226,024 (2026$) in the first full year the regulations take effect. However, the regulations are expected to produce savings for California and create benefits for EV drivers by increasing the reliability of EV charging ports with real-time data, which will increase the sensitivity of forecasting models. This will support more informed infrastructure planning that can dynamically respond to the needs of an evolving market. Full calculations of expected costs and benefits are documented in the Initial Statement of Reasons.

Expected Costs

The costs to the industry necessary to comply with the proposed regulations comprise the most immediate, first-order costs of the regulations.

Recordkeeping and Reporting Regulations

Complying with the EV charging port inventory and reliability reporting recordkeeping and reporting regulations proposed in this staff report will have cost implications for recordkeeping and reporting agents. Recordkeeping and reporting agents' cost to comply with these regulations include one-time expenses to set up the processes and architecture necessary for data storage and APIs, as well as ongoing expenses to store reliability data, maintain databases and APIs, and report to CEC.

Staff estimates that these reporting requirements have a total first-order cost to regulated entities $6,086,494 (2026$) in 2026. This estimate includes the costs of reliability reporting for all publicly or ratepayer funded DCFC ports, including those funded by the CEC and NEVI Program as the proposed reporting requirements differ from the existing reporting requirements in CEC grants and the NEVI Program.

However, these costs may be reduced for those entities, such as major EV charging networks that already have recordkeeping systems and processes in place for their own purposes or to report to other agencies. The fact that many EV charging networks already have similar reporting processes in place may reduce the reporting costs of the regulations because EV charging networks are the default reporting entity for networked charging ports.

A recordkeeping and reporting agent's cost to comply with these regulations will depend on the type of charging ports the regulated entity operates and the recordkeeping and reporting agent's existing infrastructure for tracking the location and reliability of their charging ports. CEC staff expects that large charging network providers will already have some of these systems in place or be able to absorb these expenses as a cost of doing business. Compliance

costs for smaller charging station operators and site hosts who do not contract with a charging network provider to manage their charging ports are expected to be low to moderate.

Reliability Regulations

The reliability regulations proposed in this staff report may impose costs on EV charging operators. These costs may include higher upfront costs of more reliable DCFC ports, increased operation and maintenance costs to increase DCFC port reliability, and higher costs of DCFC port testing and troubleshooting.

CEC staff assessed the costs and benefits associated with implementing the 97 percent EV DCFC port uptime requirement. This analysis estimated the marginal cost of increasing the uptime of both DCFC ports from an assumed baseline reliability to 97 percent uptime, and multiplying this marginal cost by the anticipated number of regulated charging ports installed between 2024 and 2026, the first year the regulations are anticipated to take effect. This is a conservative assumption, as CEC staff expect that the large majority of publicly and ratepayer funded DCFC ports will be funded by the CEC and these CEC funded DCFC ports are largely already covered by 97 percent uptime standard included in the relevant grant terms.

The first step in this calculation is estimating the number of publicly and ratepayer funded charging ports that will be installed between 2024 and 2026. CEC staff expects 170 federally funded DCFC ports to be installed through the end of 2026, which for the purpose of this regulation are considered publicly funded. These DCFC ports already must comply with a 97 percent uptime standard through the federal NEVI Program so their relatability costs are not included here.

The number of relevant DCFC ports is then multiplied by the estimated cost of a service level charging port maintenance agreement, which was estimated through consultation with industry. Staff assume a per port service level agreement cost of $1,512 (2026$) for DCFCs. These future service level agreement costs assume a 5 percent inflation rate.

First-order, direct cost estimates for the 97 percent uptime regulation for publicly or ratepayer funded DCFC ports, excluding CEC funded ports, are shown in Table 7.

Table 7: Estimated Reliability Costs

	DCFC ports
Total publicly or ratepayer funded charging ports installed between 2024 - 2026	3,400
2026 cost (2026$)	$5,139,530

Source: CEC staff.

Thus, the total first-order incremental cost of the increased reliability regulations is estimated to be $5,139,530 (2026$) for the year 2026.[42]

Data-Sharing Regulations

CEC staff estimates that the direct, first-order cost of the availability and accessibility data sharing regulations is zero. This is a justified assumption because many EV charging network providers are already expanding access to availability and accessibility data on public mapping sites like Google Maps and Apple Maps. This existing sharing of charging port location data means that the cost of complying with these regulations should be considered a baseline cost and not an incremental cost of the regulations.

Overall cost

The overall first-order cost of the proposed regulations to industry in 2026 is $6,086,494 (2026$) in reporting costs and $5,139,530 (2026$) in reliability costs, for a total cost of $11,226,024 (2026$).

Expected Benefits

The proposed charging port inventory reporting regulations will create benefits for Californians by increasing public visibility into the number of EV charging ports installed in California and progress toward meeting state goals. They will also improve the quality of forecasts and analysis produced by the CEC and other state agencies. Because these are second-order benefits, they are not estimated here.

The proposed reliability regulations are likely to create benefits for Californians. Most directly, enforcing a 97 percent uptime standard for publicly or ratepayer funded DCFC will benefit EV drivers by increasing the reliability of the state's EV charging infrastructure. Arriving at a DCFC port only to find that it is not functioning is an inconvenient, unpleasant, and potentially even dangerous experience for EV drivers. Increasing DCFC reliability will create greater public confidence in EV charging and increase EV driver convenience and security.

CEC staff calculated first-order benefits by estimating the marginal electricity cost incurred by drivers who arrive at a nonfunctional DCFC charging port and must drive to the next closest functional DCFC port at another charging station. As a conservative estimate, benefits from

[42] Simply multiplying $1,512 per port SLA cost by 3,400 ports yields $5,140,800, which differs from the $5,139,530 reliability cost reported here. This is due to rounding in intermediate calculations for ease of reporting. The rounding error is 0.025%. Full calculations are documented in the Initial Statement of Reasons.

more reliable federally funded DCFC ports are not included here, as these charging ports already face a 97 percent uptime requirement.

This calculation shows direct benefits of these regulations of $56,890 (2026$) in 2026, the first year the regulations take effect.

However, this estimate is only one aspect of the public benefits of the regulations. Other benefits such as increased EV adoption rates resulting from improved DCFC port reliability and diminished range anxiety are deemed second-order benefits because they are associated with the vehicle purchase rather than directly linked to the increased uptime. For instance, while increased uptime indirectly influences higher EV adoption rates, subsequent emissions reductions are a consequential outcome of the increased EV adoption, not a direct result of the uptime requirement itself.

The availability and accessibility data-sharing regulations are expected to provide benefits to EV drivers by increasing access to real-time information about the availability and accessibility of EV charging ports. Requiring EV charging networks to share this real-time charging port availability and accessibility data with third parties may enable smartphone map app developers to offer new services that automatically make EV drivers aware of, and route them to, available and functional charging ports, increasing convenience and security for drivers. Because these are second-order benefits, they are not estimated here.

Summary

Overall, the first-order costs and benefits of the regulations in their first year total $11,282,914 ($2026); thus, they do not require a standard regulatory impact assessment.

CHAPTER 9:
Environmental Impacts Analysis

The EV charging port recordkeeping and reporting, reliability, and data-sharing regulations proposed in this report are not expected to result in any change to the environment or any adverse environmental impacts. The proposed regulations add reporting and recordkeeping requirements and performance standards; they do not require the construction of new EV charging ports. The proposed regulations would not require any new specific materials to be used in constructing EV charging ports, would not result in more charging ports being constructed, nor would they result in energy waste, meaning that the regulations are not expected to produce any adverse environmental impact.

Ultimately, the proposed reporting regulations may have beneficial environmental impacts by improving the public's perception of charging port reliability, resulting in greater adoption of EVs. Increased EV adoption results in greater use of electricity as a fuel, reducing fossil fuel consumption and reducing greenhouse gas emissions and the impact of local air pollutants.

Class 1, Class 6, and Common Sense Exemptions

The California Environmental Quality Act (CEQA) generally applies to discretionary agency actions that meet the definition of a project, but CEQA provides that certain projects are exempted from the requirements.[43] The common sense exemption applies "where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment."[44] As discussed above, the regulations are not expected to result in any changes to the environment, have no potential for causing a significant effect on the environment, and are thus exempt under the common sense exemption.

If any changes were to be made to existing EV charging ports as a result of the performance standards contained in these regulations, such changes would fall within the Class 1 categorical exemption provided by section 15301 of Title 14 of the California Code of Regulations (Class 1 exemptions), which exempts projects for "the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment or topographical features, involving negligible or no expansion of existing or former use." Examples of projects specifically exempted pursuant

43 Pub. Resources Code, § 21000 et seq.; CEQA Guidelines, Cal. Code Regs., Tit. 14, § 15000 et seq.

44 Cal. Code Regs., Tit. 14, § 15061(b)(3).

to Class 1 include: alterations involving such things as electrical conveyances; existing utility facilities used to provide electric power, or other public utility services; and the restoration or rehabilitation of deteriorated or damaged structures, facilities, or mechanical equipment to meet current standards of public health and safety.

Here, the proposed regulations include data-reporting, data-sharing, and reliability standards, including a 97 percent uptime standard for publicly or ratepayer funded DCFC ports installed after January 1, 2024. Thus, the proposed regulations affect the operation and maintenance of DCFC ports after they are installed, which will not result in more than a negligible expansion of use, within the Class 1 exemption.

The proposed regulations also fall within the Class 6 exemption under section 15306 of Title 14 of the California Code of Regulations, which includes activities that involve data collection, research, experimental management, and resource evaluation and do not result in a serious or major disturbance to an environmental resource. Here, a major goal of the proposed regulations is to set recordkeeping and reporting standards and related administrative requirements to track the number of EV charging ports installed in California and reliability. These proposed activities involve data collection, research, experimental management, and resource evaluation that do not result in a serious or major disturbance to an environmental resource; thus, they qualify for the Class 6 exemption.

CHAPTER 10:
Economic and Fiscal Impacts

This chapter provides an overview of possible economic and fiscal impacts of the proposed regulations. A full description of estimated economic and fiscal impacts is provided in the initial statement of reasons.

Economic Impacts

Jobs

The effect of the proposed recordkeeping and reporting regulations and reliability and data-sharing regulations on employment in California depends on recordkeeping and reporting agents and EV charging network providers' current recordkeeping practices.

The effect of jobs from the proposed charging port inventory reporting regulations is likely minimal if conducted by charging network providers, as is the default for networked charging ports. Charging network providers already collect data on how many charging ports are in their network, which are core business metrics for these organizations. EV charging networks also likely possess real-time availability and accessibility data for charging ports they manage, and the job impact of releasing these data is likely minimal. Although the proposed regulation would create public benefit through increased public information about the scale, reliability, and availability and accessibility of EV charging infrastructure, it does not create a private benefit charging networks or site hosts can monetize.

As a conservative estimate, staff estimates the new jobs created by these regulations as zero, as regulated entities already need to comply with similar federal EV charging port reporting and reliability regulations.

Business Creation and Elimination

The proposed regulations would likely not lead to the direct creation of new businesses, nor would they likely lead to the elimination of existing businesses. However, the regulations could induce the creation of additional businesses focused on operation and maintenance of charging ports, assuming that charging port operation and maintenance requirements increase substantially beyond the status quo. The regulations do not limit the sale or distribution of any kind of product or service, nor do they ban a particular business arrangement used by existing firms.

It is unlikely that the costs of achieving the new reliability standards, as well as the recordkeeping and reporting requirements in the proposed regulation, would lead to the entire closure of regulated entities' core business. Charging network providers likely record the data required by these regulations in their normal course of business, and operators of nonnetworked charging ports are required to report only charging port inventories and retain

maintenance records. EV charging operators are also expected to adapt to the new reliability requirements, which partially mirror those already adopted in the federal NEVI Program.

Business Advantages and Disadvantages

The regulations proposed in this staff report apply to recordkeeping and reporting agents regardless of the number of EV charging ports they operate. Reporting, recordkeeping, and meeting the proposed reliability standards could have economies of scale. In other words, the per-charging port cost of reporting to the CEC, maintaining records, and additional investments needed for the reliability standards may be lower for recordkeeping and reporting agents that manage a large number of charging ports. Furthermore, recordkeeping and reporting agents that are already collecting and maintaining data specified in the proposed regulation and those already achieving the reliability standards may be advantaged relative to businesses that are not already conducting such processes or meeting the reliability standards.

The proposed reliability and data-sharing regulations may create business advantages for operators of reliable EV charging ports. Regulated entities who already operate reliable DCFC ports may have a lower marginal cost of complying with the proposed regulations than operators of unreliable DCFC ports, who may need to adopt increased maintenance practices to comply. The proposed data-sharing regulations may also cause drivers to prefer charging ports that are shown to be operable, increasing business for the operators of these charging ports.

Because recordkeeping, reporting, and reliability standards in the proposed regulation create additional costs for businesses, it is possible this cost might be passed along to consumers in the form of modestly higher charging prices.

Investment

The proposed regulations are unlikely to generate significant investments within California, though the proposed reliability regulations may increase investment in charging port operations and maintenance. However, transparent reporting on DCFC port reliability can boost investor confidence in the EV industry. Increased investment can lead to expanding charging infrastructure, creating jobs, and stimulating economic growth in California.

Innovation

The proposed reliability standards may drive technological innovation that increases the reliability of EV charging ports. The proposed data-sharing standards may lead to innovations by developers of online mapping applications, which may include new map features that direct drivers to reliable and available charging ports.

Benefits

The proposed regulations are expected to provide modest economic benefits by increasing public information on the number, reliability, and availability and accessibility of EV charging ports installed in California. In addition, the proposed regulations are expected to create economic benefits by improving the reliability of California's EV charging networks.

Improvements in the reliability of public EV charging infrastructure may increase consumer confidence in EVs and grow EV sales, providing additional public benefits.

Fiscal Impacts

Local Government Fiscal Impacts

The proposed regulations may create new costs for local governments that operate EV charging ports. Staff estimated the fiscal impact to local governments by estimated anticipated adoption of EV charging ports by local governments, showing a top end total fiscal impact of about $1,485,994 in 2026 – 2028 across all local governments that operate EV charging ports covered by the regulations. Note that this fiscal impact is not additive to the economic impact calculated in Chapter 8.

These costs are not reimbursable to the state. Operating EV charging ports is generally a discretionary decision for local governments, so any incremental costs required by the proposed regulation are not required of local governments. Moreover, the proposed regulation applies generally to all entities operating EV charging stations rather than applying specific mandates to local governments. Thus, these regulations do not impose unique new requirements on local governments.

State Agency Fiscal Impacts

CEC staff anticipates that the proposed regulations will create some additional costs for state agencies. Agencies that function as charging station operators or site hosts may incur additional costs to fulfill the reporting requirements and reliability standards of these regulations, but these costs are expected to be manageable. State agencies that operate EV charging ports will be required to meet applicable inventory and reliability reporting requirements. CEC staff anticipates that this reporting requirement should not pose a significant challenge, considering the existing data-reporting capacity of some state agencies. Specifically, for networked charging ports, the responsibility for reliability reporting will be delegated to the charging network provider. Conversely, for nonnetworked charging ports, state agencies will be tasked with reporting reliability data.

Staff believes that the primary operator of EV charging stations within the state government is the Department of General Services. Using charging port installation forecasts provided by Department of General Services, staff estimates the three year fiscal impact of the regulations to state agencies for 2026 – 2028 is $17,002. The proposed regulations may also provide benefits to state agencies by increasing the reliability of EV charging stations, but these benefits are more difficult to measure.

The CEC may require additional resources to implement these regulations, and the Office of the Attorney General of California may also require additional resources to enforce these regulations, but these costs are difficult to quantify at this time.

CHAPTER 11:
Consumer Equity

The EV charging port recordkeeping and reporting, reliability, and data-sharing regulations proposed in this report are expected to have a positive effect on low-income households and disadvantaged communities.

Electric vehicles are typically less expensive to refuel than comparable fossil fuel vehicles and have lower maintenance costs.[45] These lower ongoing costs mean that wider EV adoption could benefit low-income households and disadvantaged communities. Yet many members of these communities are unable to adopt EVs because of a lack of reliable public charging. Wealthier communities are more likely to reside in owner-occupied homes with garages, allowing convenient charging. Low-income residents are less likely to have access to at-home charging than wealthier communities because of higher rates of living in rental housing or multifamily dwellings without home charging options.[46] For drivers without access to home charging to be able to adopt EVs, public and shared-private charging infrastructure must be accessible and reliable.

The regulations proposed in this staff report are intended to improve the CEC's understanding of gaps in the EV charging infrastructure, improve the reliability of charging infrastructure, and increase public access to EV charging. Improving EV charging reliability and accessibility may make it easier for members of low-income and disadvantaged communities to adopt EVs and may provide direct benefits to these communities.

45 California Energy Commission. "Electric Vehicle & Charging Infrastructure," accessed August 31, 2023, https://www.energy.ca.gov/programs-and-topics/programs/clean-transportation-program/clean-transportation-funding-areas-0.

46 Alexander, Matt. January 2022. *Home Charging Access in California.* California Energy Commission. Publication Number: CEC-600-2022-021, p. 5, https://www.energy.ca.gov/sites/default/files/2022-01/CEC-600-2022-021.pdf.

CHAPTER 12: Conclusion

California statute tasks the CEC with assessing gaps in EV charging and the reliability of charging infrastructure. The CEC lacks key data about EV charging port inventory and reliability. Statute additionally directs the CEC to adopt tools to increase charging port reliability and set standards for sharing data on the availability and accessibility of charging ports.

This staff report proposes new regulations for reporting the number and location of EV charging ports. The recordkeeping and reporting requirements proposed in this rulemaking are necessary to prepare the CEC's reports and analyses, including for the IEPR, because current data collection methods are insufficient. CEC staff will use the charger inventory data collected under these proposed regulations in creating future AB 2127, SB 1000, and IEPR analyses and reports. An assessment of California energy trends and issues that includes the deployment of EV charging will create a more comprehensive understanding and planning toward IEPR requirements and goals. Moreover, the Public Resources Code specifically requires the CEC to conduct transportation forecasting and assessment as part of the IEPR.[47]

This staff report proposes new reliability reporting regulations and reliability standards for certain DCFC ports. Staff will use the reliability data collected under these regulations to prepare biennial assessments of the reliability of California's EV charging infrastructure under Public Resources Code 25231.5(c)(1). The CEC intends to publicly rank the reliability of major EV charging networks in these assessments. The proposed reliability standards may improve EV charging port reliability and overall consumer experience.

These proposed regulations are technically feasible, are not expected to impose significant new costs or fiscal impacts, and support consumer equity.

47 Pub. Resources Code, § 25304.

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GLOSSARY

AB	Assembly Bill
AC	Alternating current — Flow of electricity that constantly changes direction. Almost all power produced by electric utilities in the United States moves in a current that shifts direction at a rate of 60 times per second.
API	Application Programming Interface — A type of software interface that offers service to other pieces of software.
Automated load management	Software to manage the energy load or demand of an electric vehicle charger.
CCS	Combined Charging System — A connector standard for fast charging of electric vehicles that can provide up to 350 kilowatts of power.
CEC	California Energy Commission — The state's primary energy policy and planning agency. It has seven core responsibilities: advancing state energy policy, encouraging energy efficiency, certifying thermal power plants, investing in energy innovation, developing renewable energy, transforming transportation, and preparing for energy emergencies.
CEQA	California Environmental Quality Act. The California Environmental Quality Act (CEQA) is a statute that requires public agencies in California to disclose and identify the potential environmental effects of their actions. The act also requires agencies to avoid or mitigate these effects if possible.
CHAdeMO	A connector standard for fast charging of electric vehicles that can provide up to 62.5 kilowatts of power.
Charger	A device with one or more charging ports and connectors for charging EVs. Also referred to as electric vehicle supply equipment (EVSE).
Charging network	A collection of chargers located on one or more property(ies) that are connected via digital communications to manage the facilitation of payment, the facilitation of electrical charging, and any related data requests.
Charging network provider	The entity that operates the digital communication network that remotely manages the chargers including, but not limited to, authorizing customer transactions and monitoring charger operative

	status. Charging network providers can be charging station operators or manufacture chargers.
Charging port	The system within a charger that charges one electric vehicle.
Charging station operator	The entity that owns the charger and supporting equipment at one or more charging stations. Although this entity can delegate responsibility for certain aspects of charging station operation and maintenance to subcontractors, this entity retains responsibility for operation and maintenance of chargers and supporting equipment. The charging station operator and the charging network provider can be the same entity.
CCA	Community choice aggregator — Entities that procure energy for electricity users in a community or region. CCAs do not operate electric distribution infrastructure, and electricity procured by CCAs is delivered via existing distribution infrastructure typically operated by a utility.
CPUC	California Public Utilities Commission — A state agency created by a California constitutional amendment in 1911 to regulate the rates and services of more than 1,500 privately owned utilities and 20,000 transportation companies. The CPUC is an administrative agency that exercises legislative and judicial powers; its decisions and orders may be appealed only to the California Supreme Court. The major duties of the CPUC are to regulate privately owned utilities, securing adequate service to the public at rates that are just and reasonable to customers and shareholders of the utilities; and to oversee electricity transmission lines and natural gas pipelines. The CPUC also provides electricity and natural gas forecasting, and analysis and planning of energy supply and resources. Its headquarters are in San Francisco.
DC	Direct current — A current of electricity that flows in one direction and is the type of power that comes from a battery
DCFC	Direct current fast charger — A electric vehicle charging station that operates using direct current and typically provides a maximum power of more than 50 kilowatts.
DIN 70121	*Deutsches Institut für Normung* EV DIN 70121 — An EV-to-charger communications protocol for direct current charging.
EV	Electric vehicle — A broad category that includes all vehicles that can be fully powered by electricity or an electric motor.
EV charging station	A location where one or more electric vehicle chargers are installed.

Fleet charger	A charging port that is not publicly available, is not installed at a single-family residence or a multifamily dwelling, and is solely used to charge electric vehicles registered to the charging station operator.
Front-of-the-meter make-ready	For this report, the front-of-the-meter make-ready is defined as electrical equipment and accompanying infrastructure located between the utility distribution system and the meter.
IEPR	Integrated Energy Policy Report — A biennial California Energy Commission report that is required by statute to produce an integrated assessment of major energy trends and issues facing California and provide recommendations.
ISO 15118	International Organization for Standardization standard for EV-to-charger communications.
kW	Kilowatt — One thousand watts, a measure of power. On a hot summer afternoon, a typical home — with central air conditioning and other equipment in use — might have a power demand of 4 kW.
Load-serving entity	Any company that (a) sells or provides electricity to end users located in California, or (b) generates electricity at one site and consumes electricity at another site that is in California and that is owned or controlled by the company. Load-serving entity does not include the owner or operator of a cogenerator.
MDHD	Medium-duty/heavy-duty.
Multifamily dwelling	Real property that is improved with, or consisting of, one or more buildings containing more than one dwelling unit that is intended for human habitation, excluding single-family residences.
NREL	National Renewable Energy Laboratory.
NCAS	North American Charging Standard — A connector standard for fast charging.
Networked charger	An electric vehicle charger capable of connecting to a charging network provider or otherwise connected to a central management system.
NEVI	National Electric Vehicle Infrastructure Formula Program.
OCPI	Open Charge Point Interface — A communications protocol between charging network providers' central management systems intended to facilitate customers roaming between networks.
OCPP	Open Charge Point Protocol — A communications protocol between the charger and the charging network provider central management system.

Off-grid charger	A charger that does not draw power from an electric utility as defined in Public Resources Code Section 25108, at any time.
PII	Personally identifiable information means any information that is maintained by an agency that identifies or describes an individual, including, but not limited to, the individual's name, social security number, physical description, home address, home telephone number, financial matters, and medical or employment history.
Private residential chargers	A charger used solely for private use by residents of a residential real property containing four or fewer dwelling units, or any charger used solely for private use by residents of a single unit of a residential real property containing more than four dwelling units for which one or more of the residents of that unit would be the exclusive charging station operator(s) or site host(s) of the charger.
Publicly available	A charger and associated parking space or spaces designated, such as by a property owner or lessee, to be available to, and accessible by, the public for any period of time. A charger designated, such as by a lessee or a property owner, to be available only to customers or visitors of the business is a publicly available charger for purposes of this chapter. Chargers and associated parking spaces located in parking garages or gated facilities are considered publicly available for purposes of this chapter if any member of the public can obtain vehicular access to the facility for free or through payment of a fee. If a charger and associated parking space is made available to the public for only limited time periods, that charger and associated parking space is considered a publicly available charger. A publicly available charger does not include any of the following: 1. A workplace charging station if it is clearly marked and operated as available exclusively to the organization's employees or independent contractors. 2. A charger and associated parking spaces reserved exclusively to residents, tenants, visitors, or employees of: a private residence or common interest development; or a residential building adjacent to a private residence. 3. A charger provided by a manufacturer of electric vehicles for the exclusive use by vehicles it manufactures. 4. A research charger.
Publicly or ratepayer funded charger	A charger or charging station installed on or after January 1, 2024, except at a residential real property containing four or fewer dwelling units, for which an incentive was received from a state agency or a charge on ratepayers, or both, to install or operate the charger or charging station. An incentive from a state agency

	includes, without limitation, any incentive funded in whole or in part from the Greenhouse Gas Reduction Fund as defined in Section 16428.8 of the Government Code. A charge on ratepayers includes, without limitation, charges on the customer of an investor-owned utilities, local publicly owned electric utility as defined in section 224.3 of the Public Utilities Code, or community choice aggregator as defined in section 331.1 of the Public Utilities Code. For purposes of these regulations, an incentive from a state agency includes, without limitation, pass-through funds for a federal grant administered by a state agency, for which the state agency is reimbursed, including but not limited to, the CEC's National Electric Vehicle Infrastructure Formula Program. A charger remains a "publicly or ratepayer funded charger" for six years from the date the charger is installed, and thereafter it is no longer a "publicly or ratepayer funded charger." If a "publicly or ratepayer funded charger" is replaced, its replacement charger is also a "publicly or ratepayer funded charger" for at least the remainder of the six years from the date the replaced charger was previously installed. If an incentive is received from a state agency or a charge on ratepayers, or both, to replace a charger, then the replacement charger is a "publicly or ratepayer funded charger" for six years from the date the replacement charger replaced the prior charger.
Research charger	A charger that is attached or placed solely to dispense electricity for testing or research; it is neither a fleet charger nor publicly available charger; and it is not used for workplace charging.
Residential real property containing four or fewer dwelling units	A single-family residence or a multifamily dwelling containing four or fewer dwelling units.
RFID	Radio-Frequency Identification.
SAE J1772	A connector design standard and communications protocol for alternating current and direct current charging.
SB	Senate Bill
Shared private	A shared private charging station has parking space(s) designated by a property owner or lessee to be available to and accessible by employees, tenants, visitors, and/or residents. Parking spaces are not dedicated to individual drivers or vehicles.
Single-family residence	A detached or semi-detached (semi-attached, side-by-side) residence, duplex, triplex, quadruplex, row house such that each row house shares at least one wall with another of the row houses even if not in a row, townhouse, or manufactured home, including

	mobilehome, unless the residence is part of a condominium as defined in Civil Code section 4125 or is located in a mobilehome park.
Site Host	The electric utility customer of record for electric service to the charger and can also be the charging network provider or the charging station operator of the charger.
Temporary charger	A charger that is designed to be portable and available for use intermittently, is not attached at a location, and is not available for use at a single lot or parcel, or an adjacent lot or parcel, for more than 30 days in a calendar year. For the purposes of this definition, a charger that is made available for use for any portion of a day, is considered available for use for that full day.
ViGIL	Vehicle-Grid Innovation Lab — A California Energy Commission grant to expand capacity at an EV charger testing lab to ensure chargers meet published standards.
VOLTS	Vehicle Interoperability Testing Symposium — A symposium in May 2023 convened stakeholders and facilitated charger-vehicle interoperability testing.

APPENDIX A:
Proposed Regulatory Language

California Code of Regulations

Title 20. Public Utilities and Energy

Division 2. State Energy Resources Conservation and Development Commission

Chapter 7. Administration

Article 2. Disclosure of Commission Records

Sections 2505 and 2507

AND

Chapter 12. Alternative and Renewable Fuel and Vehicle Technology Program Regulations

Articles 1 and 2

Express Terms:

Chapter 7. Administration

Article 2. Disclosure of Commission Records

Sections 2505 and 2507 are amended as follows:

§ 2505: Designation of Confidential Records.

(a) Third Parties.

…[skipping subdivisions (a)(1) through (a)(4)]

(5) Automatic Designation. Information submitted by a private third party shall be designated confidential without an application for confidentiality if the requirements of subsections (a)(5)(A) and (B) of this Section are met. If the requirements of subsection (a)(5)(A) and (B) are not met, the Executive Director shall inform the private third party that the record will not be deemed confidential. Except as provided in Section 2507 of this Article, the record for which confidentiality was requested shall not be disclosed for fourteen days to allow the requirements of subsection (a)(5)(A) and (B) to be met or to allow the filing of an application pursuant to subsection (a)(1) of this section.

(A) The entity submitting the information shall label each individual item of the submittal that is entitled to be designated confidential.

(B) The entity submitting the information shall attest under penalty of perjury that the information submitted has not been previously released and that it falls within one of the following categories:

1. Information that is derived from energy consumption metering, energy load metering research projects, or energy surveys provided pursuant to Section 1343 or 1344 of Article 2 of Chapter 3, and that is one or more of the following:

   a. for the residential customer sector and the commercial customer sector — customer identifiers, energy consumption, and any other information that could allow a third party to uniquely identify a specific respondent;

   b. industrial major customer sector — all information;

   c. survey design information — all information used to design a survey, stratify billing records, devise a sample scheme, select a sample, sample specific end-users for participation in a survey or a pretest of a questionnaire or interview form.

…[skipping subdivisions (a)(5)(B)(2) through (a)(5)(B)(9)]

10. Information regarding a charger submitted pursuant to section 3123if the information is one or more of the following:

    a. Information provided pursuant to section 3125(b)(5).

    b. Information provided pursuant to section 3123(b)(2)(B) through (b)(2)(D), (b)(2)(M), and (b)(2)(P) and section 3125(b)(1) through (b)(4), unless the information relates to a publicly available charger or has been publicly disclosed, including without limitation, by submission to the National Renewable Energy Laboratory pursuant to California Code of Regulations, Title 13, Section 2360.4(k), or shared with third-parties pursuant to Title 23, Code of Federal Regulations, part 680, section 680.116(c).

…[skipping subdivisions (a)(6) through (d)]

§ 2507: Disclosure of Confidential Records.

…[skipping subdivisions (a) through (d)]

(e) Unless an application for confidentiality is granted under Section 2505(a)(3) specifying a different confidentiality term, data subject to an automatic confidentiality designation under Section 2505(a)(5) will remain confidential in accordance with the following timelines:

…[skipping section 2507(e)(1) through 2507(e)(5)]

6. Confidential data relating to chargers provided pursuant to Article 2 of Chapter 12 may be released without restriction no sooner than 10 years from the date of submittal.

(f) The Executive Director may release records previously designated as confidential in the following circumstances:

(1) where the confidential information has been masked or aggregated at the levels described below in subdivisions (A)-~~(C)~~(D)

…[skipping section 2507(f)(1)(A) through 2507(f)(1)(C)]

(D) Confidential data relating to chargers provided pursuant to Article 2 of Chapter 12 may be disclosed at any time if the data is aggregated as follows:

1. At the county level by year and customer sectors; or
2. To such a level that the disclosure includes the data from three or more entities by year and customer sectors.

…[skipping the remainder of section 2505]

…[skipping the remainder of Chapter 7 through Chapter 11]

Article 1 of Chapter 12 is amended as follows:

Chapter 12. ~~Alternative and Renewable Fuel and Vehicle Technology Program Regulations~~Fuels and Transportation

Article 1. General Provisions Regarding Clean Transportation Program Project Funding

…[skipping the remainder of Article 1]

Article 2 is added to Chapter 12 as follows:

Article 2. EV Charger Data and Reliability Standards

§ 3120: Scope.

This Article applies to all the following:

(a) All charging station operators and charging network providers of one or more AC Level 2 or DCFC installed in California excluding any temporary charger or off-grid charger.

(b) All entities that provide or receive any incentive from a California state agency or through a charge on California ratepayers to install one or more chargers or charging stations that are installed in California on or after January 1, 2024, other than at a residential real property containing four or fewer dwelling units, excluding any temporary charger and off-grid charger.

(c) All site hosts of any publicly or ratepayer funded charger as defined in section 3121.

(d) All charging network providers that the CEC has enrolled to be, or that have applied to the CEC to be, enrolled charging network providers pursuant to section 3127.

Note: Authority cited: Sections 25210, 25213, 25216.5, 25218(e), 25231.5, 25301, 25302, 25303, 25304, 25305, 25400–25401, 25601–25602, 25618, Public Resources Code; Reference: Sections 25210, 25216.5, 25231.5, 25300, 25301, 25302, 25303, 25304, 25305, 25324, 25400–25401, 25601–25602, 25618, Public Resources Code.

§ 3121: Definitions.

In this Article, the following definitions apply:

(1) "AC Level 2" means a charger that operates on a circuit greater than or equal to 208 volts and transfers alternating-current (AC) electricity to a device in an EV that converts alternating current to direct current to charge an EV battery.

(2) "Application programming interface" or "API" means a type of software interface that offers service to other pieces of software. An API allows two or more computer programs to communicate with each other.

(3) "Charger" means a device with one or more charging ports and connectors for charging EVs. Also referred to as electric vehicle supply equipment (EVSE).

(4) "Charging network" means a collection of chargers located on one or more property(ies) that are connected via digital communications to manage the facilitation of payment, the facilitation of electrical charging, and any related data requests.

(5) "Charging network provider" means the entity that operates the digital communication network that remotely manages the chargers including, but not limited to, authorizing customer transactions and monitoring charger operative status. A charging network provider can also be a charging station operator or a charger manufacturer.

(6) "Charging port" means the system within a charger that charges one EV. A charging port can have multiple connectors, but it can provide power to charge only one EV through one connector at a time.

(7) "Charging session" means an event starting when a user or a vehicle initiates a refueling event and stops when a user or a vehicle ends a refueling event.

(8) "Charging station" means the area in the immediate vicinity of one or more chargers and includes the charger, supporting equipment, parking areas adjacent to the charger, and lanes for vehicle ingress and egress.

(9) "Charging station management system" means a system that can be used to operate a charger, to authorize use of the charger, or to record or report charger data, such as by using OCPP.

(10) "Charging station operator" means the entity that owns the charger and supporting equipment at one or more charging stations. Although this entity can delegate responsibility for certain aspects of charging station operation and maintenance to subcontractors, this entity retains responsibility for operation and maintenance of chargers and supporting equipment. The charging station operator and the charging network provider can be the same entity.

(11) "Connector" means a device that attaches an EV to a charging port in order to transfer electricity.

(12) "Corrective maintenance" means maintenance that is carried out after failure detection and is aimed at restoring an asset to a condition in which it can perform its intended function.

(13) "Direct current fast charger" (DCFC) means a charger that enables rapid charging by delivering direct-current (DC) electricity to an EV's battery.

(14) "Downtime" means a period of time that a charger is not capable of successfully dispensing electricity or otherwise not functioning as designed. Downtime is calculated pursuant to Section 3124(c).

(15) "Electric utility" means any person engaged in, or authorized to engage in, generating, transmitting, or distributing electric power by any facilities, including, but not limited to, any such person who is subject to the regulation of the Public Utilities Commission.

(16) "Electric vehicle" or "EV" means a vehicle that is either partially or fully powered on electric power received from an external power source. For the purposes of these regulations, this definition does not include golf carts, electric bicycles, or other micromobility devices.

(17) "Enrolled charging network provider" means a charging network provider that meets the technical and administrative criteria of Section 3131 ~~of this Article~~ and is granted the status of an enrolled charging network provider by the Commission pursuant to Section 3131(c)(2).

(18) "Electric vehicle supply equipment" or "EVSE" means a "charger" as defined.

(19) "Executive Director" means the Executive Director of the Energy Commission and anyone the Executive Director designates as an agent.

(20) "Fleet charger" means a charger that is not publicly available, as defined in this section, is not installed at a single-family residence or a multifamily dwelling, as defined in this section, and is solely used to charge electric vehicles registered to the charging station operator, as defined in this section.

(21) "Funding entity" means any entity that disburses funds from a California state agency or through a charge on ratepayers to a funding recipient to install one or more chargers or charging stations that are installed on or after January 1, 2024, in California other than at a residential real property containing four or fewer dwelling units. There may be multiple funding entities as to a charger or charging station. If the same funds are disbursed sequentially through multiple entities to a funding recipient, then the funding entity for purposes of this Article is the entity that disburses the funds most directly to the funding recipient.

(22) "Funding recipient" means any entity that receives any incentive from a California state agency or through a charge on California ratepayers to install one or more chargers or charging stations that are installed on or after January 1, 2024, in California other than at a residential real property containing four or fewer dwelling units.

(23) "Hardware" means the machines, wiring, and other physical components of an electronic system including onboard computers and controllers.

(24) "Incentive" means anything of value received from a state agency or a charge on ratepayers to install or operate a charger or charging station, including any electrical equipment up to the first meter or submeter. Incentive excludes funds for electrical distribution infrastructure beyond the first meter or submeter, and excludes funds for other preparations of the immediate vicinity of a charger or charging station, other supporting equipment, parking areas adjacent to the chargers, or lanes for vehicle ingress and egress.

(25) "Inoperative State" means the charger or charging port is not operational.

(26) "Installed" means first attached or placed at a location and available for a charging session. The date a charger is "installed" is the date it is first available for a charging session. A charger that is replaced is newly "installed" as of the date it is first available for a charging session.

(27) "Maintenance" means any instance in which preventive or corrective maintenance is carried out on equipment.

(28) "Multifamily dwelling" means real property that is improved with, or consisting of, one or more buildings containing more than one dwelling unit that is intended for human habitation, excluding single-family residences as defined in this section.

(29) "Networked" means a charger that can receive or send commands or messages remotely from or to a charging network provider or is otherwise connected to a central management system, such as by using OCPP 2.0.1, for the purposes of charger management and data reporting. For the purposes of this Article, a charger that exclusively uses customer cell phones as carriers for communication between the charger and central system is not a networked charger.

(30) "Nonnetworked charger" means a charger that is not networked.

(31) "Off-grid charger" means a charger that does not draw power from an electric utility as defined in Public Resources Code section 25108, at any time.

(32) "Open Charge Point Interface" or "OCPI" means an open-source communication protocol that governs the communication among multiple charging networks, other communication networks, and software applications to provide information and services for EV drivers.

(33) "Open Charge Point Protocol" or "OCPP" means an open-source communication protocol that specifies communication between chargers and the charging networks that remotely manage the chargers.

(34) "Operational" or "up" means both the hardware and software of a charging port are both online and available for use, or in use, and the charging port is capable of successfully dispensing electricity.

(35) "Operative state" means the charger is operational.

(36) "Operative status" means an electronically transmitted communication from the charger or charging port to the central system indicating whether the charger or charging port is in an operative or inoperative state. Each communication shall include fields for date-timestamp and any error codes associated with the operative status.

(37) "Preventive maintenance" means maintenance that is performed on physical assets to reduce the chances of equipment failure and unplanned machine downtime.

(38) "Private access," when referring to a charger, means a charger that is not a publicly available charger, as defined in this section.

(39) "Private residential charger" means a charger used solely for private use by residents of a residential real property containing four or fewer dwelling units, or any charger used solely for private use by residents of a single unit of a residential real property containing more than four dwelling units for which one or more of the residents of that unit would be the exclusive charging station operator(s) or site host(s) of the charger.

(40) "Publicly available," when referring to a charger, means a charger and associated parking space or spaces designated, such as by a property owner or lessee, to be available to, and accessible by, the public for any period of time. A charger designated, such as by a property owner or a lessee , to be available only to customers or visitors of the business is a publicly available charger for purposes of this chapter. Chargers and associated parking spaces located in parking garages or gated facilities are considered publicly available for purposes of this chapter if any member of the public can obtain vehicular access to the facility for free or through payment of a fee. If a charger and associated parking space is made available to the public for only limited time periods, that charger and associated parking space is considered a publicly available charger.

A publicly available charger does not include any of the following:

(A) A workplace charging station if it is clearly marked and operated as available exclusively to the organization's employees or independent contractors.

(B) A charger and associated parking spaces reserved exclusively to residents, tenants, visitors, or employees of: a private residence or common interest development; or a residential building adjacent to a private residence.

(C) A charger provided by a manufacturer of electric vehicles for the exclusive use by vehicles it manufactures.

(D) A research charger, as defined in this section.

(41) "Publicly or ratepayer funded charger" means a charger installed on or after January 1, 2024, except at a residential real property containing four or fewer dwelling units, for which an incentive was received from a state agency or a charge on ratepayers, or both, to install or operate the charger or its associated charging station. An incentive from a state agency includes, without limitation, any incentive funded in whole or in part from the Greenhouse Gas Reduction Fund as defined in section 16428.8 of the Government Code. A charge on ratepayers includes, without limitation, charges on the customer of an investor-owned utilities, local publicly owned electric utility as defined in section 224.3 of the Public Utilities Code, or community choice aggregator as defined in section 331.1 of the Public Utilities Code. For purposes of these regulations, an incentive from a state agency includes, without limitation, pass-through funds for a federal grant administered by a state agency, for which the state agency is reimbursed, including but not limited to, the CEC's National Electric Vehicle Infrastructure Formula Program. A charger remains a "publicly or ratepayer funded charger" for six years from the date the charger is installed,and thereafter it isno longer a "publicly or ratepayer funded charger." If a "publicly or ratepayer funded charger" is replaced, its replacement charger is also a "publicly or ratepayer funded charger" for at least the remainder of the six years from the date the replaced charger was previously installed. If an incentive is received from a state agency or a charge on ratepayers, or both, to replace a charger, then the replacement charger is a "publicly or ratepayer funded charger" for six years from the date the replacement charger replaced the prior charger.

(42) "Recordkeeping and reporting agent" means the entity responsible to ensure timely compliance with the recordkeeping and reporting requirements of this Article. The identity of the recordkeeping and reporting agent is determined according to Section 3122.

(43) "Replaced" means that the charger has been substantially modified or substituted with another unit, as indicated by a change in the serial number, ID, or the model name.

(44) "Research charger" means a charger that is attached or placed solely to dispense electricity for testing or research; it is neither a fleet charger nor publicly available charger; and it is not used for workplace charging.

(45) "Residential real property containing four or fewer dwelling units" means a single-family residence or a multifamily dwelling containing four or fewer dwelling units.

(46) "Single-family residence" means a detached or semi-detached (semi-attached, side-by-side) residence, duplex, triplex, quadruplex, row house such that each row house

shares at least one wall with another of the row houses even if not in a row, townhouse, or manufactured home, including mobilehome, unless the residence is part of a condominium as defined in Civil Code section 4125 or is located in a mobilehome park.

(47) "Site host" means the electric utility customer of record for electric service to the charger and can also be the charging network provider or the charging station operator of the charger.

(48) "Software" means a set of instructions, data, or programs used to operate computers and execute specific tasks.

(49) "Temporary charger" means a charger that is designed to be portable and available for use intermittently, is not attached at a location, and is not available for use at a single lot or parcel, or an adjacent lot or parcel, for more than 30 days in a calendar year. For the purposes of this definition, a charger that is made available for use for any portion of a day, is considered available for use for that full day.

(50) "Uninstalled" means the charging station operator took affirmative steps to make the charger unavailable for a charging session with intent to make it permanently unavailable, such that the number of chargers at the charging station is reduced by the number of uninstalled chargers for at least one year. Affirmative steps required to qualify as "uninstalled" include at least labeling the charger in a way that notifies drivers that it is not operational without the need to interact with the charger and updating the data field shared pursuant to section 3130(a)(6) to be consistent with uninstalled status. Mere failure to repair a malfunctioning charger does not make it "uninstalled."

(51) "Uptime" means the time that a charger is installed during a reporting period excluding downtime pursuant to section 3124(c) and (d).

(52) "Workplace charging" means an EV charger and its associated parking space is provided by an organization primarily to serve its employees and independent contractors at the organization's place of business.

Note: Authority cited: Sections 25210, 25213, 25216.5, 25218(e), 25231.5, 25301, 25302, 25303, 25304, 25305, 25400–25401, 25601–25602, 25618, Public Resources Code; Reference: Sections 25210, 25216.5, 25231.5, 25300, 25301, 25302, 25303, 25304, 25305, 25324, 25400–25401, 25601–25602, 25618, Public Resources Code.

§ 3122: The Recordkeeping and Reporting Agent.

(a) The recordkeeping and reporting agent shall be responsible to ensure timely compliance with the recordkeeping and reporting requirements of this Article.

(1) The recordkeeping and reporting agent may designate one or more entities to fulfill the responsibilities of this Article, but the recordkeeping and reporting agent remains responsible to ensure compliance.

(2) If there is more than one recordkeeping and reporting agent for a charger, then compliance with any requirements of this Article by any one recordkeeping and reporting agent fulfills those requirements as to the others.

(b) Except as to a publicly or ratepayer funded charger as provided in subdivision (c) of this section, the recordkeeping and reporting agent for a charger is as follows:

(1) Each charging network provider that operates the digital communication network that remotely manages a charger during a reporting period is its recordkeeping and reporting agent.

(2) If there is no charging network provider for a charger during a reporting period, then each charging station operator of the charger is its recordkeeping and reporting agent.

(c) Publicly or Ratepayer funded Chargers.

(1) For any networked publicly or ratepayer funded charger installed from January 1, 2024, through 179 days from the effective date of this paragraph, except as provided in subdivisions (c)(1)(A) or (c)(1)(B), the site host, or the funding recipient if designated pursuant to subdivision (c)(4) of this section, shall designate a charging network provider to serve as the recordkeeping and reporting agent.

(A) If the site host of a networked publicly or ratepayer funded charger, or the funding recipient if designated pursuant to subdivision (c)(4) of this section, is a charging network provider pursuant to section 3121, then it may itself serve as the recordkeeping and reporting agent, and if so, it need not retain another.

(B) If a networked publicly or ratepayer funded charger is not used to dispense electricity during a reporting period other than for testing or maintenance, then the site host, or the funding recipient if designated pursuant to subdivision (c)(4) of this section, is not required to retain a charging network provider for that charger for the period of non-operation, but if not, then it shall itself serve as the recordkeeping and reporting agent.

(2) For any networked publicly or ratepayer funded charger installed on or after 180 days from the effective date of this paragraph, except as provided in subdivisions (c)(2)(A) or (c)(2)(B), the site host, or the funding recipient if designated pursuant to subdivision (c)(4) of this section, shall designate an enrolled charging network provider to serve as the recordkeeping and reporting agent.

(A) If the site host of a networked publicly or ratepayer funded charger, or the funding recipient if designated pursuant to subdivision (c)(4) of this section, is an enrolled charging network provider pursuant to section 3131, then it may itself serve as the recordkeeping and reporting agent and if so, it need not retain another.

(B) If a networked publicly or ratepayer funded charger is not used to dispense electricity during a reporting period other than for testing or maintenance, then the site host, or the funding recipient if designated pursuant to subdivision (c)(4) of this section, is not required to retain an enrolled charging network provider for

that charger for the period of non-operation, but if not, then it shall itself serve as the recordkeeping and reporting agent.

(3) For any nonnetworked publicly or ratepayer funded charger, the site host, or the funding recipient if designated pursuant to subdivision (c)(4) of this section, shall serve as the recordkeeping and reporting agent.

(4) Site hosts may, at any time within the first six years following the installation of a publicly or ratepayer funded charger, upon written or electronic notice to the funding recipient at least 60 days before the start of a reporting period, designate the funding recipient to be responsible to fulfill the requirements of the site host under this Article regarding the publicly or ratepayer funded charger. The site host may revoke or reinstate the designation in the same manner. A funding recipient may, at any time more than six years of receiving the most recent incentive for a charger, terminate its duties under this subdivision upon written or electronic notice to the site host at least 60 days before the start of a reporting period.

Note: Authority cited: Sections 25210, 25213, 25216.5, 25218(e), 25231.5, 25301, 25302, 25303, 25304, 25305, 25400–25401, 25601–25602, 25618, Public Resources Code; Reference: Sections 25210, 25216.5, 25229, 25231.5, 25300, 25301, 25303, 25303, 25304, 25305, 25324, 25400–25401, 25601–25602, 25618, Public Resources Code.

§ 3123: Semiannual Reporting Requirement.

(a) Except as provided in subdivision (c) of this section, each recordkeeping and reporting agent or designee pursuant to section 3122, shall collect and submit to the Executive Director a semiannual report as specified in subdivision (b) for each charger for which the recordkeeping and reporting agent has one of the relationships described in section 3120, by the following deadlines:

(1) H1 Reporting Period. For the period from January 1 through June 30 of a year, by July 31 of the same year.

(2) H2 Reporting Period. For the period from July 1 through December 31 of a year, by January 31 of the following year.

(b) Except as provided in subdivision (c) of this section, each report required by subdivision (a) shall include the following for each charger:

(1) Contact Information for each entity subject to section 3120.

(A) **Contacts for the following roles:**

1. Each recordkeeping and reporting agent's name, address, telephone number, email address, and, if available, URL (website) address; provided, however, that if a parent entity is filing on behalf of a subsidiary entity, if a subsidiary entity is filing on behalf of a parent entity, or if an affiliate entity is filing on behalf of another affiliate entity, then each entity shall be clearly identified, and the information shall be provided for both entities.

2. A statement whether each recordkeeping and reporting agent has one or more of the following roles with respect to the charger: charging network provider, charging station operator, funding recipient, or site host, as defined in section 3121(b).
3. The charging network provider's name, address, telephone number, email address, and, if available, URL (website) address of the charging station operator, if the recordkeeping and reporting agent is not the charging station network provider.
4. The charging station operator's name, address, telephone number, email address, and, if available, URL (website) address, if the recordkeeping and reporting agent is not the charging station operator.
5. The charging funding recipient's name, address, telephone number, email address, and, if available, URL (website) address.
6. The charging site host's name, address, telephone number, email address, and, if available, URL (website) address.

(B) **Designee.** If the recordkeeping and reporting agent designated one or more entities to fulfill the responsibilities of this Article pursuant to section 3122(a)(1), then each entity's name, address, telephone number, email address, and, if available, URL (website) address of the site host; provided, however, that if a parent entity is filing on behalf of a subsidiary entity, if a subsidiary entity is filing on behalf of a parent entity, or if an affiliate entity is filing on behalf of another affiliate entity, then each entity shall be clearly identified, and the information shall be provided for both entities.

(C) **Point of contact.** The name, affiliation, if any, address, telephone number, and email address of an individual to contact concerning the statements pursuant to this Article. Only one individual may be listed as the contact except that the individual may identify another contact for use when the designated contact is temporarily unavailable.

(2) Inventory Report. For each charger for which the recordkeeping and reporting agent has one of the relationships described in section 3120:

(A) The date the charger was installed.

(B) Charger address.

(C) Geographic coordinates (latitude and longitude) of the charger to within one ten-thousandth of a degree of exact charging station location.

(D) Charger serial number.

(E) Make and model of charger.

(F) Maximum power delivery rating in kilowatts by charging port.

(G) Maximum charger output voltage.

(H) If a prior semiannual report did not list the serial number, a statement of whether the charger is in addition to or a replacement of a former charger,

including the serial number of the charger replaced and the date the replacement charger was installed, if any.

(I) A statement as to whether the charger is networked or nonnetworked.

(J) A statement as to whether the charger is publicly or ratepayer-funded, or both.

(K) A statement of whether the charger provides alternating current or direct current to the EV.

(L) Charging Ports — number of charging ports including the number of connectors and connector types (e.g., SAE J1772, J1772 Combo, CHAdeMO, SAE J3400 NACS) for each port available at the charger.

(M) If networked:

1. Charger ID — the unique identifier for the charger within the network provided by the charging network provider.
2. Charging Port ID — the unique identifier for each port, unique within the context of the charging network provider servicing the charger.

(N) Identify charger's primary use as follows:

1. Primary site access (choose one):
    a. Publicly available
    b. Private access
2. Primary vehicle type(s) served (all that apply):
    a. Light-duty (gross vehicle weight rating less than or equal to 10,000 pounds)
    b. Medium-duty (gross vehicle weight rating greater than 10,000 pounds and less than or equal to 26,000 pounds)
    c. Heavy-duty (gross vehicle weight rating greater than 26,000 pounds)
3. Primary charger use: (choose one)
    a. Publicly available
    b. Multifamily dwelling with greater than four dwelling units
    c. Workplace charging
    d. Fleet charging
    e. Other

(O) For any charger uninstalled during the reporting period, a statement that the charger has been uninstalled, as defined in section 3121(b), and the date it was uninstalled.

(P) Station name – a unique identifier for the charging station.

(Q) Telephone number to call if user has problems at the station.

(R) Access Days and Times – hours of public operation for the station.

(S) Payment methods – list of payment methods accepted at the station.

(T) Payment actions – list of ways a user can pay for charging at the station.

(U) Pricing information (e.g. $/kWh (kilowatt-hour), $/MJ (megajoule), demand response, variable, non-member fee, parking fee).

(V) Power Sharing capabilities of charger - if the charger has multiple ports, identify how it distributes power among all ports in use.

(3) Publicly or Ratepayer Funded Charger Uptime Report.

(A) For each charging port of a publicly or ratepayer funded charger required to report under subdivision (b) of this section, for the first six years after the charger is installed, each recordkeeping and reporting agent or designee shall report the uptime data required by section 3124.

(c) The following are exceptions to the semiannual reporting requirement of subdivisions (a) and (b) of this section.

(1) A charger that was reported in a previous semiannual report as being uninstalled, as defined in section 3121(b), need not be included in the semiannual report required by this section if it has not dispensed electricity since it was most recently reported uninstalled.

(2) Private residential chargers, temporary chargers, off-grid chargers, and research chargers, as defined in section 3121(b), are excluded from the semiannual reporting requirements of this section.

(3) Fleet chargers and AC level 2 chargers, as defined in section 3121(b), are excluded from the uptime report required by subdivision (b)(3) of this section.

(4) No report is required pursuant to subdivision (a) for any reporting period that started before the effective date of this section.

Note: Authority cited: Sections 25210, 25213, 25216.5, 25218(e), 25231.5, 25301, 25302, 25303, 25304, 25305, 25400–25401, 25601–25602, 25618, Public Resources Code; Reference: Sections 25210, 25216.5, 25229, 25231.5, 25300, 25301, 25302, 25303, 25304, 25305, 25324, 25400–25401, 25601–25602, 25618, Public Resources Code.

§ 3124: Publicly or Ratepayer Funded Charger Uptime Report Requirements.

(a) Publicly or Ratepayer Funded Charger Uptime Report. The publicly or ratepayer funded charger uptime report required by section 3123(b)(3) shall include all of the following:

(1) The uptime percentage rate and minutes of excluded downtime for each charger port during the reporting period, calculated according to subdivisions (b), (c), and (d) of this section.

(2) For each period of excluded downtime being claimed for a reporting period, an itemized summary of the date, duration, and category under subdivisions (d)(1)-(8).

(b) The uptime percentage rate for a charger port shall be calculated using the following formula:

(1) $U = \frac{T-D+E}{T} * 100\%$

(2) Where:

(A) U = Charging port uptime percentage rate for the reporting period.

(B) T =

1. Q1 reporting period = 129,600 minutes, except for a leap year, which is 131,040 minutes.

2. Q2 reporting period = 131,040 minutes.

3. Q3 and Q4 reporting periods = 132,480 minutes.

(C) D = Total charging port downtime during the reporting period, in minutes, calculated according to subdivision (c) of this section.

(D) E = Total charging port excluded downtime during the reporting period, in minutes, calculated according to subdivision (d) of this section.

(c) Downtime:

(1) Networked Publicly or Ratepayer Funded Chargers: Downtime shall be determined on a per charging port basis by summing the durations of all downtime events during the period. The duration of a downtime event shall be the longest of the following periods:

(A) The time after the charger has transmitted an operative status indicating the charger or a charging port is in an inoperative state until a subsequent operative status is transmitted indicating the charger has returned to an operative state. The timestamps in the operative statuses shall be used to quantify the downtime.

(B) If using OCPP version 2.0.1 or a subsequent version of OCPP, the time after the charger has transmitted a StatusNotificationRequest indicating that the charging port associated with that charger is in a "faulted" or "Unavailable" state until a subsequent StatusNotificationRequest is transmitted by that charger indicating that the charging port has transitioned to an "available," "occupied," or "reserved" state. The timestamps in each StatusNotificationRequest shall be used to quantify downtime.

(C) If using OCPP version 2.0.1 or a subsequent version of OCPP, the time between a BootNotificationResponse transmitted by the Central Management System and the last HeartbeatResponse transmitted by the Central Management System prior to the BootNotificationResponse. The timestamps in the relevant

BootNotificationResponse and HeartbeatResponse shall be used to quantify downtime.

(D) The time between the first record that a charger is not capable of successfully dispensing electricity or otherwise not functioning as designed and the time it is available to deliver a charge. A record that a charger is not capable of successfully dispensing electricity or otherwise not functioning as designed can result from consumer notification, internal diagnostics, inspection, or any other method by which the recordkeeping and reporting agent is made aware that a charger is not functioning.

(2) Nonnetworked Publicly or Ratepayer Funded Charger: The time that a charging port is in an inoperative state or not capable of successfully dispensing electricity. This can be known by consumer notification, internal diagnostics, inspection, or other methods.

(A) The downtime shall be calculated from the time the charging port is in an inoperative state until it is restored to an operative state.

(d) Excluded Downtime: Downtime accounted for pursuant to subdivision (c) of this section that is caused by events outside of the control of the charging station operator can be subtracted from total downtime when calculating uptime percentages. Excluded downtime is limited to the categories below:

(1) Before Installation: Downtime before the charging port was installed as defined in section 3121.

(2) Grid Power Loss: Downtime during which utility supplied power is not supplied at levels required for minimum function of the charging port. This can include, but is not limited to, service outages due to utility equipment malfunction or public safety power shutoffs. This does not include instances where power generation or storage equipment has been installed to serve the charger(s) exclusively. Documentation from the load serving entity detailing the outage is required to claim this as excluded downtime.

(3) Outage for Preventative Maintenance or Upgrade: Downtime caused by any preventative maintenance or upgrade work that takes the charging port offline. This exception only applies if the outage was scheduled at least two weeks in advance of the charger being placed in an inoperative state. The maximum downtime that can be excluded for preventative maintenance or upgrade work is 72 hours for any 12-month period.

(4) Vandalism or Theft: Downtime caused by any physical damage to the charger or station committed by a third party unless the downtime was reasonably foreseeable and could have been avoided through reasonable repair or maintenance. This can include, but is not limited to, theft of charging cables, damage to connectors from mishandling, or damage to screens. A maximum of 5 days may be claimed as excluded downtime for each vandalism or theft event. A police report, timestamped

photograph of the damage, or similar third-party documentation is required to claim this as excluded time.

(5) Natural Disasters: Downtime caused by any disruption of the charging port due to a natural event such as a flood, earthquake, or wildfire that causes great damage. Third party documentation such as news reporting is required along with a narrative of the direct impacts to the chargers(s) to claim this as excluded downtime.

(6) Communication Network Outages: Downtime caused by loss of communication due to cellular or internet service provider system outages. A Communication Network Outage can be claimed as excluded downtime provided the chargers default to a free charge state during communication losses. A free charge state is when the charger is operational and dispenses energy free of charge to any consumer.

(7) Operating Hours: Hours in which the charging port is in an operative state but that are outside of the identified hours of operation of the charging station.

Note: Authority cited: Sections 25210, 25213, 25216.5, 25218(e), 25231.5, 25301, 25302, 25303, 25304, 25305, 25400–25401, 25601-25602, 25618, Public Resources Code; Reference: Sections 25210, 25216.5, 25229, 25231.5, 25300, 25301, 25302, 25303, 25304, 25305, 25324, 25400–25401, 25601–25602, 25618, Public Resources Code.

§ 3125: Additional Requirements for Networked Publicly or Ratepayer Funded Chargers.

(a) For networked publicly or ratepayer funded chargers installed on or after 180 days after the effective date of this paragraph, the recordkeeping and reporting agent as designated pursuant to section 3122 , shall ensure the charger meets the following requirements:

(1) The charger has Subset Certification in the Open Charge Alliance OCPP Certification Program for OCPP version 2.0.1, edition 3, published June 27, 2024, or a subsequent version of OCPP, for Core and Advanced Security functionalities.

(2) The charger and Central Management System transmit the following protocol data units as specified in OCPP:

(A) AuthorizeRequest shall be transmitted to the Central Management System by the charger as specified in OCPP.

(B) AuthorizeResponse shall be transmitted by the Central Management System to the charger as specified in OCPP 2.0.1.

(C) HeartbeatRequest shall be transmitted to the Central Management System by the charger on a set interval.

(D) HeartbeatResponse shall be transmitted to the charger by the Central Management System in response to any received HeartbeatResponse.

(E) StatusNotificationRequest shall be transmitted by the charger to the Central Management System as specified in OCPP 2.0.1.

(F) BootNotificationRequest shall be transmitted by the charger to the Central Management System any time the charger is powered on.

(G) BootNotificationResponse shall be transmitted by the Central Management System to the charger in response to any received BootNotificationRequest.

(H) RequestStartTransactionRequest shall be transmitted by the Central Management System to the charger as specified in OCPP 2.0.1.

(I) TransactionEventRequest shall be transmitted to the Central Management System by the charger as specified in OCPP 2.0.1.

1. The optional field meterValue must be populated when the eventType field is set to either "Started" or "Ended."
2. When populated, the sub-subfield Value of the subfield SampledValue of the field meterValue shall be transmitted in Watt-hours (Wh).
3. When populated, the sub-sub-subfield unit of the sub-subfield unitOfMeasure of the subfield SampledValue of the field meterValue shall be set to the default string, "Wh."
4. When populated, the sub-sub-subfield multiplier of the sub-subfield unitOfMeasure of the subfield SampledValue of the field meterValue shall be set to the default integer, 0 (zero).
5. When the meterValue field is populated, the measurand sub-subfield of the SampledValueType subfield, of the field meterValue shall be populated as specified in OCPP 2.0.1.

(b) For networked publicly or ratepayer funded chargers installed on or after 180 days from the effective date of this paragraph, the recordkeeping and reporting agent of a networked publicly or ratepayer funded charger shall automatically transmit to the CEC or the CEC's designee the data specified in the following subdivisions (1) through (5) via API. If the record is generated by the central system and sent to the charger, the recordkeeping and reporting agent shall transmit the record to the CEC or the CEC's designee within 60 minutes after the record's generation. If the record is generated by the charger and sent to the central system, the recordkeeping and reporting agent shall transmit the record to the CEC or the CEC's designee within 60 minutes after the record's receipt by the Central Management System:

(1) Charger serial number.

(2) Charger ID — the unique identifier for the charger within the network provided by the charging network provider. This shall be identical to the charger ID reported pursuant to section 3123(b)(2)(M)(1).

(3) Charging Port ID – the unique identifier for the charging port within the network provided by the charging network provider. This shall be identical to the charger ID reported pursuant to section 3123(b)(2)(M)(2) .

(4) All instances of HeartbeatResponse and BootNotificationResponse for each charger.

(5) All instances of AuthorizeRequest, AuthorizeResponse, RequestStartTransactionRequest, StatusNotificationRequest, and TransactionEventRequest for each charging port.

(c) For networked publicly or ratepayer funded chargers installed from January 1, 2024 through 179 days after the effective date of this paragraph, the recordkeeping and reporting agent of a networked publicly or ratepayer funded charger shall comply with subdivisions (a) and (b) of this section, or shall record, and retain for six years from the date of recording, the operative status of each charging port for each publicly or ratepayer funded charger on a fifteen-minute interval. In the event the recordkeeping and reporting agent elects to comply with subdivisions (a) and (b) of this section and the CEC or the CEC's designee is not yet set up to receive the data via API, the recordkeeping and reporting agent shall transmit the data to the CEC or the CEC's designee with the semiannual reporting required in section 3123 in an electronic format of the Executive Director's choosing until the CEC or the CEC's designee is set up to receive the data via API.

(d) For publicly or ratepayer funded chargers installed on or after January 1, 2024, the charging station operator shall record and retain for six years from the date of recording, the documentation required by section 3124(d) for any excluded downtime claimed as part of the uptime report specified in subdivision 3124(a).

(e) The Executive Director may electronically request (sent to the most recent email address filed pursuant to section 3123(b)(1)(C)) that a recordkeeping and reporting agent provide the CEC with copies of the records retained pursuant to subdivision (c) and (d) of this section in an electronic format of the Executive Director's choosing. The recordkeeping and reporting agent shall submit the requested records to the CEC within 21 days after the date of the request in the electronic format specified by the Executive Director.

(f) In the event of a technological malfunction other than the situation described in subdivision (c)(1) of this section that prevents recordkeeping and reporting agents from transmitting the records specified in subdivisions (a) and (b) of this section within 60 minutes of the records generation via API, the recordkeeping and reporting agent shall transmit data that was unable to be transmitted to the CEC or CEC's designee promptly upon the resolution of the technological malfunction.

(g) Any charger that meets the definition of an AC level 2 charger, off-grid charger, private residential charger, research charger, or temporary charger, as those terms are defined in section 3121(b), need not meet the requirements of subdivisions (a) through (f) of this section.

The following documents are incorporated by reference into section 3125.

Open Charge Point Protocol

Open Charge Point Protocol version 2.0.1 Edition 3 (June 27, 2024). https://www.openchargealliance.org/downloads/

Copies available from: Superintendent of Documents
U.S. Government Printing Office Washington, DC
20402 www.ecfr.gov

Note: Authority cited: Sections 25210, 25213, 25216.5, 25218(e), 25231.5, 25301, 25302, 25303, 25304, 25305, 25400-25401, 25601-25602, 25618, Public Resources Code; Reference: Sections 25210, 25216.5, 25229, 25231.5, 25300, 25301, 25302, 25303, 25304, 25305, 25324, 25400-25401, 25601-25602, 25618, Public Resources Code.

§ 3126: Additional Requirements for Nonnetworked Publicly or Ratepayer funded Chargers.

(a) The recordkeeping and reporting agent of a nonnetworked publicly or ratepayer funded charger shall create, and retain for six years, the following maintenance records for each nonnetworked publicly or ratepayer funded charger it operates:

(1) Date and time of any maintenance.

(2) Whether the maintenance was corrective or preventive in nature.

(3) Whether and for how long the charger was in an inoperative state prior to, during, or after the maintenance.

(4) Whether the charger was in an operative state following the maintenance.

(b) The recordkeeping and reporting agent of a nonnetworked publicly or ratepayer funded charger shall retain for six years from the date of recording, the documentation required by section 3124(d) for any excluded downtime claimed as part of the uptime report specified in section 3124(a), and any customer complaint, internal diagnostic, or inspection report indicating the occurrence or duration of a period when a charger was in an inoperative state or when an attempt to charge a vehicle failed.

(c) The Executive Director may electronically request (sent to the most recent email address filed pursuant to section 3123(b)(1)(C)) that the recordkeeping and reporting agent provide the CEC with copies of the records retained pursuant to subdivisions (a) and (b) of this section. The recordkeeping and reporting agent or its designee shall submit the requested records to the CEC within 21 days after the date of the request.

(d) Any charger that meets the definition of an AC level 2 charger, off-grid charger, private residential charger, research charger, or temporary charger, as defined in section 3121(b), need not meet the requirements of subdivisions (a) through (c) of this section.

Note: Authority cited: Sections 25210, 25213, 25216.5, 25218(e), 25231.5, 25301, 25302, 25303,25304, 25305, 25400–25401, 25601–25602, 25618, Public Resources Code; Reference: Sections 25210, 25216.5, 25229, 25231.5, 25300, 25301, 25302, 25303, 25304, 25305, 25324, 25400–25401, 25601–25602, 25618, Public Resources Code.

§ 3127: Customer Service Requirements for Publicly or Ratepayer Funded Chargers.

Charging station operators operating publicly or ratepayer funded chargers, excluding those that meet the definition of AC level 2 chargers or private residential chargers, as defined in section 3121(b), shall ensure that EV charging customers have at least one mechanism to report outages, malfunctions, and other issues with the charger. Instructions describing the process for reporting outages shall be made available at the charging station.

Note: Authority cited: Sections 25210, 25213, 25218(e), 25231.5, 25618, Public Resources Code; Reference: Sections 25210, 25231.5, 25618, Public Resources Code.

§ 3128 Performance Standards for Publicly or Ratepayer Funded Chargers.

(a) The funding recipient shall ensure that, publicly or ratepayer funded chargers installed on or after January 1, 2024, shall maintain a minimum annual average uptime rate of 97 percent for each calendar year for the first six years after the charger is installed. The annual average uptime rate shall be calculated using the calculation defined in section 3124(b)(1) using the parameters in (1) through (4) of this subdivision.

(1) U = The charging port annual uptime percentage.

(2) T = 525,600 minutes, except for a leap year, which is 527,040 minutes.

(3) D = Total charging port downtime, reported in minutes, during the calendar year according to section 3124(c).

(4) E = The total excluded downtime, reported in minutes, during the calendar year according to section 3124(d).

(b) Any charger that was previously reported as uninstalled or that meets the definition of an AC level 2 charger, fleet charger, private residential charger, research charger, temporary charger, or off-grid charger, as defined in section 3121(b), need not meet the performance standards of subdivision (a) of this section.

Note: Authority cited: Sections 25210, 25213, 25216.5, 25218(e), 25231.5, 25301, 25302, 25303, 25304, 25305, 25400–25401, 25601–25602, 25618, Public Resources Code; Reference: Sections 25210, 25216.5, 25229, 25231.5, 25300, 25301, 25302, 25303, 25304, 25305, 25324, 25400–25401, 25601–25602, 25618, Public Resources Code.

§ 3129: Funding Entities.

(a) Beginning 180 days after the effective date of this paragraph, CEC staff shall make reliability metrics available to funding entities so that they may be considered prior to

approving any application for funding to install a publicly or ratepayer funded charger using funds from a California state agency or through a charge on ratepayers.

(b) CEC staff shall publish model terms and conditions that funding entities can include, by mutual agreement, in the terms of any agreement granting an incentive to a funding recipient for a publicly or ratepayer funded charger, that would hold the funding recipient accountable if it fails to meet the performance standards of section 3128.

(c) The Executive Director may assess and publicly report, including on the CEC's website, the reliability metrics of individual and aggregated charging stations and charging ports associated with one or more funding recipient, charging station operator, or charging network provider. The reliability metrics may be based on any information available, including without limitation, the uptime report and protocol data units submitted pursuant to sections 3123(b)(3) and 3125. The Executive Director's reports may assess equitable access to charging stations, including without limitation, assessing variations in reliability metrics of charging stations in low-, moderate-, and high-income communities. Nothing in this section is intended to require disclosure of otherwise confidential information.

Note: Authority cited: Sections 25210, 25213, 25216.5, 25218(e), 25231.5, 25301, 25302, 25303, 25304, 25305, 25400-25401, 25601-25602, 25618, Public Resources Code; Reference: Sections 25210, 25216.5, 25229, 25231.5, 25300, 25301, 25302, 25303, 25304, 25305, 25324, 25400–25401, 25601–25602, 25618, Public Resources Code.

§ 3130: Data-Sharing Requirements for Networked Publicly or Ratepayer Funded Chargers that are Publicly Available.

(a) Except as provided in subdivision (b), each charging network provider shall, for every networked publicly or ratepayer funded charger installed in California that is publicly available, ensure that the following data fields are made available, free of charge, to third-party software developers, via application programming interface:

(1) Unique charging station name or identifier;

(2) Address (street address, city, state, and zip code) of the property where the charging station is located;

(3) Geographic coordinates in decimal degrees of exact charging station location;

(4) Charging station operator name;

(5) Charging network provider name;

(6) Charging station status (operational, under construction, planned, or decommissioned);

(7) Charging station access information:

(A) Charging station access type (public or limited to commercial vehicles);

(B) Charging station access days and times (hours of operation for the charging; station); and

(8) Charging port information:

(A) Number of charging ports;

(B) Unique port identifier for each port;

(C) Connector types available by port;

(D) Charging level by port (DCFC, AC Level 2, etc.);

(E) Maximum power delivery rating in kilowatts by charging port;

(F) Maximum output voltage by charging port;

(G) Accessibility by vehicle with trailer (pull-through stall) by port (yes/no); and

(H) Real-time status by port in terms defined by Open Charge Point Interface 2.2.1. Real-time, in this instance, means this data field must be updated within 1-minute of the charging port's status changing.

(9) Pricing and Payment Information: Pricing structure including all fees associated with charging. This can include, but is not limited to, parking fees, plug-in fees, and roaming fees.

(10) Real-time price to charge, in U.S. dollars per kilowatt-hour or megajoule, at each charging port, in terms defined by Open Charge Point Interface 2.2.1. Real-time, in this instance, means this data field must be updated within 1-minute of a change in pricing.

(11) Payment methods accepted at charging station including charging network providers and charging station operators that have roaming agreements which would allow their customers to use this charger.

(b) If a publicly available charger is made available to the public for only limited time periods, it must comply with this section during those limited time periods.

The following documents are incorporated by reference into section 3130.

Open Charge Point Interface

Open Charge Point Interface 2.2.1 (October 6, 2021).	https://evroaming.org/app/uploads/2021/11/OCPI-2.2.1.pdf
Copies available from:	Superintendent of Documents U.S. Government Printing Office Washington, DC 20402 www.ecfr.gov

Note: Authority cited: Sections 25210, 25213, 25216.5, 25218(e), 25231.5, 25301, 25302, 25303, 25304, 25305, 25400–25401, 25601–25602, 25618, Public Resources Code; Reference: Sections 25210, 25216.5, 25229, 25231.5, 25300, 25301, 25302, 25303, 25304, 25305, 25324, 25400–25401, 25601–25602, 25618, Public Resources Code.

§ 3131: Enrolled Charging Network Providers for Publicly or Ratepayer Funded Chargers.

(a) A charging network provider may apply to be an enrolled charging network provider by submitting an application to the Executive Director, executed under penalty of perjury of the laws of the State of California, containing the following:

(1) The full legal name, address of the principal place of business, telephone number, and email address of the charging network provider submitting the application.

(2) The full legal name, title, and telephone number, and email address of the person executing the declaration.

(3) A statement that the person executing the declaration is authorized to do so and to submit the application on behalf of the charging network provider.

(4) The name, title, and telephone number, and email address of a person to contact regarding the application.

(5) A statement that the charging network provider agrees to undertake the duties of a recordkeeping and reporting agent under this Article, including without limitation, reporting the protocol data units required to be reported to the CEC pursuant to Section 3125.

(6) A statement that the charging network provider meets, and will maintain so long as the charging network provider is enrolled, the following technical requirements:

(A) An API of the CEC's choosing to permit the charging network provider to transfer the data required to be submitted pursuant to Section 3125(b).

(B) Subset Certification of the Charging Station Management System in the Open Charge Alliance OCPP Certification Program for OCPP version 2.0.1, published May 24, 2023, or a subsequent version of OCPP for Core and Advanced Security.

(b) Upon receipt of an application pursuant to subdivision (a), the Executive Director shall provide the charging network provider with notice of receipt of the application as follows:

(1) If the Executive Director determines that an application does not meet the requirements of subdivision (a), the Executive Director shall provide the applicant with notice that the application is incomplete and a statement of what is necessary to meet the requirements of subdivision (a). The Executive Director's failure to comply with this subdivision, in whole or in part, does not waive any requirements.

(2) If the Executive Director determines that an application meets the requirements of subdivision (a), the Executive Director shall provide the charging network provider with notice of receipt of the application and access to an API of the CEC's choosing to

permit the charging network provider to demonstrate its ability to transfer the data required to be submitted pursuant to Section 3125(b).

(c) Within 60 days of the Executive Director granting a charging network provider access to an API pursuant to subdivision (b)(2), the charging network provider shall demonstrate its ability to transfer the data required to be submitted pursuant to 3125(b).

(1) If within 60 days, the charging network provider does not successfully demonstrate transfer of data to the CEC via the API enabled in subdivision (b), the Executive Director shall notify the charging network provider that the API demonstration was unsuccessful and why if known. Upon notice, the charging network provider shall have an additional 30 days to demonstrate transfer of data to the CEC via the API enabled in subdivision (b). If the charging network provider does not successfully demonstrate transfer of data, the Executive Director shall issue a determination denying the application. A charging network provider may reapply at any time following a denial.

(2) If the charging network provider successfully demonstrates transfer of data to the CEC via the API enabled in subdivision (b), the Executive Director shall deem the charging network provider an enrolled charging network provider for purposes of this Article and the Executive Director shall list the charging network provider on the CECs website.

(d) Revocation. The Executive Director may revoke a charging network provider's status as an enrolled charging network provider for repeated failure to meet its obligations under this section.

(e) Appeal to CEC. A charging network provider may appeal a denial of an application, or revocation, pursuant to Section 3133(d).

(f) Renewal. Status as an enrolled charging network provider granted under this section shall remain in effect for six years and then terminate without notice unless renewal is requested and granted. An entity may renew the six-year period of an exemption at any time before its enrolled charging network provider status terminates by applying as set forth in subdivisions (a) through (c) of this section. Nothing in this section prohibits an entity whose enrolled charging network provider status has terminated from applying to be an enrolled charging network provider.

Note: Authority cited: Sections 25210, 25213, 25216.5, 25218(e), 25231.5, 25301, 25302, 25303, 25304, 25305, 25400–25401, 25601–25602, 25618, Public Resources Code; Reference: Sections 25210, 25216.5, 25229, 25231.5, 25300, 25301, 25302, 25303, 25304, 25305, 25324, 25400–25401, 25601–25602, 25618, Public Resources Code.

§ 3132: Disclosure of Reporting Requirements for Publicly or Ratepayer Funded Chargers.

Disclosure. The funding entity shall clearly disclose to the funding recipient the funding recipient's reporting requirements of this Article. If the funding recipient is a charging network provider or other third-party entity that is not the site host, the charging network provider or third-party entity shall provide a separate disclosure to the site host about the site host's right

to designate the charging network provider or third-party as the entity to be responsible to ensure the data is reported on behalf of the site host. The funding recipient shall verify receipt of the disclosure by signing the disclosure, to be confirmed by the funding entity.

Note: Authority cited: Sections 25213, 25218(e), 25231.5, 25400–25401, 25601–25602, 25618, Public Resources Code; Reference: Sections 25231.5, 25400–25401, 25601–25602, 25618, Public Resources Code.

§ 3133: General Administration.

(a) Forms and Formats Specified by the Executive Director. The Executive Director may specify and require the use of any form or format for the submittal of any data, reports, or other information required by this Article, including but not limited to computer programs or formats.

(b) Electronic Filing.

(1) Unless otherwise stated in this Article, the statements and other submittals required or allowed by this Article shall be filed electronically to the CEC's database so that the electronic filing to the CEC's database uses a format and characteristics, including without limitation appropriate formatting, that are specified by the Executive Director.

(2) Any electronic filing to the CEC's database constitutes a representation by the person making the filing that:

(A) All applicable requirements of this Article have been met;

(B) The person will electronically acknowledge receipt through the CEC's database of all electronic communications concerning the filing from the Executive Director through the nCECs database to the person;

(C) All electronic communications concerning the filing from the Executive Director through the CEC's database to the person shall be deemed received by the person upon notification to the Executive Director, by the computer or other electronic device from which the Executive Director communication has been sent, that the communication has been sent; and

(D) All electronic communications concerning the filing from the person to the Executive Director shall be deemed received by the Executive Director only upon actual receipt.

(3) At any time the Executive Director may forbid electronic filings by any person or enrolled charging network provider and may remove affected information from the CEC's database upon finding that an applicable requirement of this Article is not being met.

(c) Retention of Records

(1) Recordkeeping and reporting agents shall retain all data, forms, information, and all other records required by this Article:

(A) For at least two years after the record was generated, except as specified in section 3125(c) and (d), and section 3126(a) and (b); and

(B) In a manner allowing ready access by the Executive Director on request.

(d) Appeal to CEC. Within 30 days of any decision or determination made by the Executive Director pursuant to this Article, any entity subject to the part of the decision or determination at issue may appeal the decision or determination to the CEC. The following procedures apply to the appeal:

(1) The appeal shall be signed by the appellant, and filed with the CEC's Docket Unit by mail or email, as set forth in sections 1208 and 1208.1. The appeal shall consist of a written argument, stating the grounds for modifying or reversing the decision, identifying the statutes and regulations relevant to the appeal, and stating whether an oral hearing is requested. The appeal shall include a copy of all relevant notices, responses, correspondence, documents, and decisions.

(2) Within 30 days after the date the appeal was filed, the Executive Director shall provide the appellant and the CEC a written decision or determination, stating the grounds for affirming, modifying, or reversing the decision, identifying the statutes and regulations relevant to the appeal, and stating whether an oral hearing is requested. The Executive Director's written decision or determination shall also be accompanied by any relevant notices, responses, correspondences, documents, and decisions not previously provided by the appellant.

(3) CEC Consideration of Appeal:

(A) The proceedings on appeal shall be conducted using informal hearing procedures in a manner consistent with Government Code sections 11425.10 and 11445.10 and Title 20 CCR sections 1200 through 1216. The Chair may appoint a committee to conduct proceedings including an oral hearing, if any. If the Chair appoints a committee, the presiding member of the committee shall prepare a proposed decision for consideration at a business meeting for potential adoption by the CEC. At the conclusion of an oral hearing or anytime thereafter, or if no oral hearing is requested then anytime after the Executive Director submits its written decision or determination, the presiding member may close the hearing record and preclude additional testimony and evidence.

(B) The CEC shall review the decision or determination made pursuant to this Article de novo.

Note: Authority cited: Sections 25213, 25216.5, 25218(e), 25231.5, 25301, 25302, 25303, 25304, 25305, 25400–25401, 25601–25602, 25618, Public Resources Code; Reference: Sections 25210, 25216.5, 25229, 25231.5, 25300, 25301, 25302, 25303, 25304, 25305, 25324, 25400–25401, 25601–25602, 25618, Public Resources Code.

§ 3134: Confidentiality.

(a) An entity submitting information pursuant to this Article may request confidentiality pursuant to section 2505, including without limitation, for automatic designation pursuant to the provisions of 2505(a)(5).

(b) The CEC may disclose information submitted under this Article that was previously designated as confidential if disclosure is permitted by law, including without limitation, pursuant to section 2507(e)(6) and (f)(1)(D).

(c) Nothing in this section is intended to limit or expand the confidentiality of information submitted to the CEC.

Note: Authority cited: Sections 25213, 25218(e), 25231.5, 25301, 25302, 25303, 25304, 25305, 25400–25401, 25601–25602, 25618, Public Resources Code; Reference: Sections 25210, 25216.5, 25229, 25322, 25231.5, 25366, 25300- 25305, 25400–25401, 25601–25602, 25618, Public Resources Code.

§ 3135: Enforcement.

(a) The CEC may enforce against an entity obligated to submit semiannual inventory reports pursuant to section 3123(b)(2) for late or willfully false submittals, including issuing civil penalties, consistent with Public Resources Code section 25321.

(b) The Executive Director and CEC may take other such actions as are authorized by statute and CEC regulations to address or prevent any act or omission addressed under this Article.

Note: Authority cited: Sections 25213, 25218(e), 25231.5, 25301, 25302, 25303, 25304, 25305, Public Resources Code; Reference: Section 11180, Government Code, Sections 25210, 25216.5, 25229, 25322, 25231.5, 25300, 25301, 25302, 25303, 25304, 25305, 25324, 25321, 25900, Public Resources Code.