
**SENATE COMMITTEE ON ENERGY, UTILITIES AND
COMMUNICATIONS**

Senator Ben Hueso, Chair

2021 - 2022 Regular

Bill No:	AB 2703	Hearing Date:	6/21/2022
Author:	Muratsuchi		
Version:	6/13/2022 Amended		
Urgency:	No	Fiscal:	Yes
Consultant:	Sarah Smith		

SUBJECT: Electric vehicle charging stations: reliability standards: low-income and disadvantaged community financial assistance

DIGEST: This bill requires the California Energy Commission (CEC) to develop a program to provide financial assistance for electric vehicle (EV) charging by low-income drivers and those who reside in disadvantaged communities. This bill also requires the CEC to establish reliability standards for EV chargers that receive state funds.

ANALYSIS:

Existing law:

- 1) Establishes the Clean Transportation Program (CTP), which is administered by the CEC to provide grants, loans, and other funding opportunities to projects that develop and deploy alternative and renewable fuels, zero-emission vehicle (ZEV) infrastructure and technologies, programs that help commercialize ZEV and alternative fuel vehicles and workforce development projects that transition workers from fossil fuel industries to clean transportation jobs. (Health and Safety Code §44272 et. seq.)
- 2) Allocates a portion of smog abatement fees to fund the CTP and sunsets the fee on January 1, 2024. (Health and Safety Code §44060.5)
- 3) Requires the CEC to conduct a statewide assessment every two years of EV charging infrastructure needed to support the levels of EV adoption required for the state to meet its goals of putting at least five million ZEVs on California roads by 2030, and of reducing emissions of greenhouse gases (GHG) to 40 percent below 1990 levels by 2030. (Public Resources Code §25229)
- 4) Authorizes the California Air Resources Board (CARB) to adopt interoperability billing standards for EV charging stations' network roaming payment methods if a national standards organization has not adopted similar

standards by January 1, 2015. If CARB adopts interoperability billing standards, all EV chargers requiring payment for use must meet those standards within a year. Any standards adopted by CARB must consider other governmental or industry-developed interoperability billing standards, and CARB may adopt standards developed by an outside authoritative body. (Health and Safety Code §44268.2)

This bill:

- 1) Requires the CEC, upon appropriation by the Legislature, to develop a program to provide financial assistance to low-income persons and members of disadvantaged communities to use EV chargers.
- 2) Requires the financial assistance program established by the CEC to do the following:
 - a) Provide the financial assistance through an open-loop, reloadable payment card that has both EMV chip and contactless capabilities and that is readily accessible to all low-income and disadvantaged community members in the state.
 - b) Not limit the consumer's choice of EV charging station providers.
 - c) Include eligibility criteria similar to programs that provide financial assistance to low-income and disadvantaged communities for public transit and electric rate assistance.
- 3) Authorizes the CEC to establish the amount of financial assistance to each eligible recipient and contract for professional services to administer the program.
- 4) Requires the CEC to develop reliability standards, which must include the following:
 - a) Uptime requirements.
 - b) Operation and maintenance plan requirements.
 - c) Outage and downtime requirements.
- 5) Requires the CEC to develop "downtime" exclusions that are exempt from the reliability standards. These exemptions may include, but are not limited to:
 - a) Telecommunications and electricity service failures.

- b) Damage caused by vandalism and accidents.
 - c) Vehicle inoperability failures.
 - d) Preventative maintenance.
 - e) Other unforeseeable circumstances.
- 6) Authorizes the CEC to develop different reliability standards for different types of chargers, including chargers in remote locations. This bill also authorizes the CEC to develop requirements and incentives for improving compliance with the reliability standards created under this bill.
- 7) Requires the CEC to publish reliability standards compliance data as part of biennial assessments regarding the need for EV infrastructure to meet EV adoption goals. This data must be anonymized and aggregated to prevent the disclosure of an entity's identifiable information.
- 8) Makes various definitions for the bill's purpose, including the following:
- a) "Open loop" means redeemable at multiple, unaffiliated merchants for goods or services.
 - b) "Downtime" means the inability of an EV charger to deliver electricity to an EV that is caused by charging station hardware or software issues that the EV charger provider could conceivably control.
 - c) "Outage time" means the time an EV charger is not operational based on when it is first reported.

Background

Charger outages limit access to EV charging. While California taxpayers and ratepayers have made significant investments in EV charging infrastructure, recent studies have indicated that publicly available chargers may experience frequent outages impacting consumers' ability to use this infrastructure. While some chargers may experience outages due to factors outside a provider's control (e.g. vandalism, electric power outages, accidents), other charger outages may be caused by a lack of maintenance. An April 2022 report by researchers at the University of California at Berkeley indicates that charger outages and malfunctions reduce charger availability significantly. The report studied all publicly accessible direct current fast chargers (DCFCs) in the greater Bay Area and found that only 72.5 percent of the chargers had functional electric vehicle service equipment (EVSE). The report states that the following were causes of nonfunctional DCFCs in the study: "The cable was too short to reach the EV inlet for 4.9 percent of the EVSEs.

Causes of 22.7 percent of EVSEs that were non-functioning were unresponsive or unavailable screens, payment system failures, charge initiation failures, network failures, or broken connectors.”

The CEC is in the process of exploring charger reliability needs. The CEC has opened a proceeding (Docket 21-TRAN-03) to assess Zero Emission Vehicle Infrastructure Barriers and Opportunities. In March 2022, the CEC held a workshop and solicited comments from stakeholders about barriers to EV adoption and issues the CEC should address in its Zero Emission Vehicle Infrastructure Plan. Stakeholders identified a variety of barriers to EV adoption and opportunities to incentivize adoption. Several of these stakeholders, including companies that provide software and hardware management services for EV charger providers, identified EV charger outages as a barrier to consumer confidence in EV charging. These stakeholders have recommended that the CEC to develop reliability standards for EV chargers to ensure that fewer service outages occur.

As part of the CEC’s ongoing proceeding on EV infrastructure barriers, the CEC released its draft staff report for the Zero Emission Vehicle Infrastructure Plan. While the plan acknowledges that state agencies and private entities need to collaborate to address the reliability of EV infrastructure, the plan does not identify downtime barriers directly related to EV chargers. The CEC’s report primarily identifies downtime and station reliability as a concern for hydrogen fuel cell electric vehicle (FCEV) adoption. Without more information about the reasons for outages, it is not clear how widespread these outages are and how they can be avoided.

Multiple bills address charger reliability – but with different strategies. This bill is one of two measures (including AB 2061, Ting) attempting to address the degree to which reliability of EV chargers may pose a barrier to EV use. While AB 2061 focuses on collecting and analyzing data to identify the extent to which charger malfunctions and outages exist, this bill requires the CEC to establish EV charger reliability standards. In the absence of data to identify the extent to which chargers experience preventable outages, it is not clear which outages are within charger providers’ control. Both this bill and AB 2061 focus on improving reliability in circumstances where outages stem from software and hardware failures within providers’ control. However, each bill defines periods in which the charger is available and working correctly (uptime) and periods in which avoidable outages occur (outage or downtime) differently. Both bills also focus on outages experienced by publicly subsidized chargers; however, this bill does not extend to ratepayer-funded chargers or publicly funded chargers on private property. As a

result, only taxpayer-funded EV infrastructure in publicly accessible locations would be subject to the standards established pursuant to this bill.

Bill's financial assistance program requirements are unclear. This bill requires the CEC to establish a program to provide financial assistance to low-income individuals and Californians in disadvantaged communities to help these individuals use EV chargers. This bill makes the creation of this program contingent upon the CEC receiving a legislative appropriation. The bill does not identify “low-income” or “disadvantaged communities” for the purposes of determining eligibility for a potential financial assistance program. Additionally, the bill does not limit this program to just those Californians who own, lease or rent electric vehicles. To the extent that a financial assistance program is established pursuant to this bill, it is not clear how the CEC could process financial support or align that support to EV use without more specific program criteria and rules.

Need for amendments. Both this bill and AB 2061 define terms associated with EV charger availability to establish consistent criteria for identifying preventable charger outages; however, this bill does not define uptime when a charger is functional and available for use. This bill also requires the CEC to establish a financial assistance program to support EV charger use; however, it does not establish clear program rules or eligibility criteria for this assistance. *As a result, the author and committee may wish to amend this bill to do the following:*

- *Conform definitions of uptime, downtime, and excluded time between this bill and AB 2061*
- *Delete Section 1 of this bill regarding the creation of an EV charger financial assistance program dependent upon a legislative appropriation.*

Double Referral. This bill is also referred to the Senate Committee on Transportation.

Prior/Related Legislation

AB 2061 (Ting, 2022) requires entities receiving state or ratepayer funding for EV infrastructure to report specified information about that infrastructure's uptime to the CEC, and it requires the CEC to assess the uptime data it receives. The bill also authorizes the CEC to adopt uptime requirements and incentives if it determines that uptime rates are a barrier to EV adoption. The bill is currently pending in the Senate Energy, Utilities and Communications Committee.

AB 1424 (Berman, 2019) would have required CARB to modify its EV billing standards to allow a person to pay via a toll-free telephone number to process a

credit card payment or via an onsite capacity for credit card payment by a contactless credit card, EMV chip, or magstripe card reader. The bill would have also delayed the adoption of specified interoperability standards for network roaming payment methods for EV charging stations until January 1, 2021. The bill was held in the Senate Appropriations Committee.

AB 2127 (Ting, Chapter 365, Statutes of 2018) required the CEC to conduct a statewide assessment every two years of EV charging infrastructure needed to support the levels of EV adoption required for the state to meet its goals of putting at least five million ZEVs on California roads by 2030, and of reducing emissions of GHG to 40 percent below 1990 levels by 2030.

SB 454 (Corbett, Chapter 418, Statutes of 2013) established the Electric Vehicle Charging Stations Open Access Act, which prohibits EV charger owner-operators from requiring individuals to join clubs or pay subscription fees to use a charger. The bill also authorized the CARB to establish interoperable billing standards for EV chargers if a national organization has not adopted such standards by 2015.

FISCAL EFFECT: Appropriation: No Fiscal Com.: Yes Local: No

SUPPORT:

ChargePoint, Sponsor
ActiveSGV
California Environmental Voters
CALSTART
Cruise
Electric Vehicle Charging Association
Plug in America
Redwood Coast Energy Authority
Silicon Valley Leadership Group

OPPOSITION:

None received

ARGUMENTS IN SUPPORT: According to the author:

California is a leader in the fight for clean air and for climate action. For California to reach its goal of five million ZEVs on our roads by 2025, we need to invest in our EV charging infrastructure to make charging more convenient, reliable, and equitable, in all communities throughout the state.

As an EV owner, I know how important it is to make EV charging more convenient and reliable. That's why we need to not only build more EV charging stations, but also make sure that they work reliably.

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