Date of Hearing: April 15, 2024

ASSEMBLY COMMITTEE ON TRANSPORTATION
Lori D. Wilson, Chair
AB 2815 (Petrie-Norris) – As Amended April 3, 2024

SUBJECT: Clean Transportation Program: electric vehicle charging stations

SUMMARY: Requires the California Energy Commission (CEC) to provide funding for repair or replacement of a non-operational electric vehicle (EV) charging station through a new or existing program under the Clean Transportation Program (CTP). Specifically, **this bill**:

1) Requires the CEC, on or before January 1, 2026, to provide funding for repair or replacement of a non-operational EV charging station through a new or existing program under the CTP.

2) Limits eligibility for funding under to owners and operators of an EV charging station that has been in operation for at least five years, was installed prior to January 1, 2024, and that is located in a publicly available parking space.

3) Permits use of funding for the cost to repair or replace an EV charging station.

4) Requires at least 50% of funding be allocated to low-income and disadvantaged communities.

5) Requires the CEC to require an applicant for funding to provide matching funds or in-kind contributions as a condition of receiving funding, and, for funding allocated to low-income communities and disadvantaged communities to reduce the amount of matching funds or in-kind contributions the applicant is required to provide.

6) Requires an EV charging station repaired or replaced under this section to meet requirements adopted by the CEC, including uptime recordkeeping and reporting standards.

7) Requires the CEC to consider aligning eligibility, funding, technical standards and other requirements for EV charging stations that receive funding under this section with existing incentive programs.

8) Is repealed as of January 1, 2036.

EXISTING LAW:

1) Establishes the Clean Transportation Program (CTP), administered by CEC, with funding from vehicle and vessel registration, vehicle identification plates, and smog-abatement fees that provide up to $100 million annually for grants, revolving loans, loan guarantees, and other financial assistance to accelerate the development and deployment of clean, efficient, low carbon alternative fuels and technologies. (Health and Safety Code (HSC) 44272)

2) Restricts funding certain eligible categories, including zero-emission fuel infrastructure, fueling stations, and equipment where feasible and near-zero-emission fuel infrastructure, fueling stations, and equipment elsewhere. (HSC 44272 (h)(1)-(13))

3) Requires EV charging station grant recipients to record on a daily basis at minimum the availability of operational charging plugs, whether the station was energized, the volume of electricity in kilowatt-hours used to charge by vehicles, the number of vehicles charged by a station, and any other data deemed necessary by the commission to monitor reliability and accessibility of the charging infrastructure, and to report this information electronically to the commission at least quarterly. (HSC 44272(i)(1)-(2))

4) Requires the CEC, the California Air Resources Board (CARB) and the Public Utilities Commission (PUC) to prepare a biennial assessment of the 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 zero-emission vehicles on California roads by 2030, and of reducing emissions of greenhouse gases to 40% below 1990 levels by 2030, and, in the assessment, expand on the CEC's EV infrastructure projections to consider all necessary charging infrastructure and other programs to accelerate the adoption of EVs to meet the stated goals. (PRC 25229)

5) Requires CEC, in consultation with CARB, as part of the development of the CTP investment plan, to assess whether charging station infrastructure is disproportionately deployed, and, to use CTP funding to more proportionately deploy new charging station infrastructure, unless CEC makes a finding that the disproportionate deployment is reasonable and furthers state energy or environmental policy. (PRC 25231)

6) Requires the CEC, in consultation with the PUC, to develop uptime recordkeeping and reporting standards for EV chargers and charging stations by January 1, 2024, applicable only to EV chargers and charging stations that were installed on or after January 1, 2024, that received an incentive from a state agency or through a charge on ratepayers, for a minimum of 6 years. (PRC 25231.5)

FISCAL EFFECT: Unknown

COMMENTS: A key aspect of California's strategy to tackle climate change is the transition of the state's transportation sector from burning traditional fossil fuels to using zero-emission technologies. As part of the transition, the state has provided an array of incentives to promote adoption of EVs and installation of charging infrastructure to support it.

In 2007, the Legislature established the CTP to accelerate deployment of infrastructure for zero-emission vehicles (ZEVs), including EV charging stations. The CTP is currently extended through July 1, 2035. By the CEC's count, California has over 1.6 million EVs on the road, and approximately 105,000 EV chargers in the ground. In 2020, Gov. Newsom issued Executive Order N-79-20, which requires 100% of in-state passenger car and truck sales to be ZEV by 2035. The CEC projects that, a decade from now, the state will need 2.11 million chargers (including 83,000 direct-current (DC) fast chargers) to support the 15.2 million light-duty EVs expected on the road.

According to 2023-2024 Investment Plan Update for CTP, the CEC has awarded more than $412 million for installation of new EV chargers over the program's lifetime. The state has further committed $1.9 billion dollars over the next four years to build out EV chargers, including $657.6 million for light-duty EV charging infrastructure. Combined with previous investment plans, funding from the federal government, utilities and other programs, the state expects to reach 250,000 chargers in a few years.

Across the EV industry, there is wide agreement that network reliability is essential as EV adoption increases. News organizations report that current EV drivers are frustrated by the limited availability and poor reliability of existing EV charging infrastructure, while potential EV owners are hesitant to buy electric for the same reasons. In a January 24, 2024, article, the L.A. Times profiled a consumer who was set to buy an electric car, but changed his mind because he "couldn't count on finding a charger that's functional or that doesn't have a line of cars waiting because only one of four chargers is working."

The state does not have a clear grasp on how many EV chargers are broken in the state, what the most common points of charger failure are, and who should be held accountable for reporting and fixing these broken chargers. For one, California lacks an accurate count of EV chargers in the state, and even less information on the operational status of the chargers. According to the CEC, the state has 105,000 chargers. According to studies from UC Berkeley and data firm J.D. Power, EV chargers operated by companies including ChargePoint, Electrify America, Blink and EVgo don't work 20% to 30% of the time. In contrast, the U.S. Department of Energy (DOE) has estimated there are about 44,500 EV charging ports active in California, and about 15% are broken (based on stations listed as temporarily unavailable between September and October 2023). The DOE relies on voluntary reporting of station locations whereas the CEC uses a combination of publicly available data, tallies of chargers installed through state agency and utility programs, and voluntary surveys of charging networks and fleets.

Secondly, the breadth and nature of broken chargers is not well-characterized, as EV chargers are complex pieces of technology. Non-operational chargers may be broken due to any one of many hardware, software, network, payment system, and other failures—including warped or vandalized connectors, faulty payment readers, or network connectivity issues. Starting in summer 2024, the CEC is partnering with UC Davis to assess the reliability of California's charging network and quantify the number of broken chargers, using an open-source EV charger test protocol and performing field tests of 3,600 EV chargers in the next three years.

Historically, confusion and disagreement have been common in discussions about who is responsible for reporting broken chargers as well as requesting or performing charger maintenance. There are many parties involved with installation, maintenance and operation of a typical EV charging station—such as the charger manufacturer, charging network provider, charging station operator, or site hosts. Site hosts that operate chargers and do not have maintenance contracts with third parties may not have previously understood that they are responsible for maintaining the chargers or lacked the resources or expertise to do so.

In a move to combat reliability issues going forward, the Legislature passed AB 2061 (Ting), Chapter 345, Statutes of 2022), requiring the CEC to impose uptime performance standards, recordkeeping and reporting on all chargers that are installed on or after January 1, 2024, and that receive funds from state agencies or charges on ratepayers. Existing chargers are not subject to these standards, but many lack the technological capability of complying with performance metrics and reporting requirements. Although the EV industry is now converging on common standards, EV charging technology has advanced very quickly—the hardware and software is not consistent across all chargers. Even for a single EV charger manufacturer, legacy EV chargers can range in age from a few months old to over a decade old, and often comprise a hodge-podge of different parts, communications software, and more.

To date, the CEC has not dedicated CTP funds for repair or replacement of broken chargers. However, in early 2024, the U.S. Joint Office of Energy and Transportation awarded California $63 million under the EV Charging Reliability and Accessibility Accelerator (EVC-RAA) to replace broken charging stations and install additional chargers meeting new federal standards for public charging infrastructure. The CEC and the California Department of Transportation (Caltrans) are jointly implementing EVC-RAA funds in California, and expect to start soliciting applications later this year. Caltrans estimates that the federal moneys will allow for full replacement of 1,000 chargers at 300 sites statewide. However, this number constitutes a small fraction of existing chargers (1% of 100,000 EV chargers) and funds are restricted to chargers acknowledged by the DOE as temporarily unavailable in September 2023.

According to the author, "California is a leader in the transition to zero-emission vehicles. To help meet our climate goals, it is essential that we have a reliable and fully operational public charging network. AB 2815, the EV Charging Modernization Act, will modernize legacy chargers to meet today's standards by making existing funding available to repair or upgrade chargers if it is cost effective to do so."

Writing in support, the Electric Vehicle Charging Association (sponsor), Advanced Energy United, Chargepoint, California Electric Transportation Coalition, and FreeWire Technologies state: "California has seen a swift surge in EV sales underscoring the necessity of investing in the maintenance and upgrading of older charging infrastructure…AB 2815 seeks to address this challenge by requiring the California Energy Commission (CEC) to establish a new or existing program to upgrade inoperable charging stations that were installed before January 1, 2024 and have been operational for more than 5 years. The bill requires that at least 50% of funds used for repairs are allocated to chargers located in disadvantaged or low-income communities."

Committee comments: This bill requires the CEC, starting in 2026, to provide funding through a new or existing program under the CTP for repair or replacement of an EV charging station that is at least five years old, was installed before January 1, 2024, and received funds from a state agency or charges on ratepayers. Any EV charging stations repaired or replaced using these funds would be required to comply with CEC requirements for performance (*e.g.* uptime).

This bill also requires the CEC to consider aligning certain eligibility, funding and technical standards to existing incentive programs, such as EVC-RAA, but does not require exact duplication of requirements. Given the large discrepancy in EV charger counts between the CEC and DOE, any state-funded repair-or-replace program will need to consider a larger body of potential chargers as well as specific state charging needs in prioritizing funding and maintaining chargers to support existing EVs. For example, the state may wish to require a higher matching contribution from applicants (*e.g.*, 50% vs. 20% matching), require procurement of maintenance contracts and warranties as a condition for receiving funds, or require compliance with technical standards (*e.g.*, 97% uptime for five years) as a condition for receiving the full incentive.

As California continues to pump state dollars into building out its EV charging infrastructure, the CEC should consider the cost effectiveness of repairing broken chargers as compared to replacing the charger altogether with a new charger of the same type, or even upgrading the charger type. The table below shows the EVC-RAA cost estimates for replacement of Level 2 and DC fast chargers. The cost of repairs will be difficult to estimate, given the range of all possible charger failures. Higher expected costs for replacement of a charging station could be worthwhile if it extends the life of the charger substantially more than a quicker, cheaper repair

would. Similarly, replacement of a Level 2 charger with an upgraded DC fast charger could be cost effective if it facilitated higher flow of charging traffic.

Table 1. Suggested estimated per port costs by technology and power level.

Charger Type	Power	Estimated Average Replacement Cost
Alternating Current (AC) Level 2	>6kW	$5,000
Direct Current (DC) Fast Charger	<74kW	$50,000
	75-149kW	$75,000
	>150kW	$125,000

Source: "Electric Vehicle Charger Reliability and Accessibility Accelerator" Notice of Funding Opportunity Number 693JJ324NF0001, September 13, 2023.

The extent to which California should fund the repair and replacement of legacy chargers, versus new state-of-the-art chargers, is not clear. The state faces a daunting task of growing the statewide network of EV chargers to over two million by 2035, and will need to dedicate a sizeable amount of money and effort to reach this goal. EV chargers from today will make up only 5% of the state's total EV charging network in 2035, but will be critical to bridge the charging gap until the next 100,000 EV chargers are built.

Related Legislation: AB 126 (Reyes), Chapter 319, Statutes of 2023 requires the CEC, by January 1, 2025, to set standards for how EV charging stations notify customers about the availability and accessibility of publicly available charging infrastructure, and requires, rather than authorizes, the CEC to adopt tools to increase charging station uptime.

AB 2061 (Ting), Chapter 345, Statutes of 2022 requires the CEC, in consultation with the PUC, to develop uptime recordkeeping and reporting standards for EV chargers and charging stations by January 1, 2024, applicable only to EV chargers and charging stations that were installed on or after January 1, 2024, that received an incentive from a state agency or through a charge on ratepayers, for a minimum of six years. AB 2061 further authorizes the CEC and PUC to adopt tools to increase charging station uptime.

SB 1000 (Lara), Chapter 368, Statutes of 2018 requires the CEC, in consultation with CARB, as part of the development of the CTP investment plan, to assess whether charging station infrastructure is disproportionately deployed by income level, population density, or geographical area, and, to use CTP funding to more proportionately deploy new charging station infrastructure, unless CEC makes a finding that the disproportionate deployment is reasonable and furthers state energy or environmental policy.

AB 2127 (Ting), Chapter 365, Statutes of 2018 requires the CEC, CARB and the PUC to prepare and biennially update a statewide assessment of the EV charging infrastructure needed to support the levels of EV adoption required for the state to meet its goals of putting at least 5 million zero-emission vehicles on California roads by 2030 and of reducing emissions of greenhouse gases to 40% below 1990 levels by 2030.

REGISTERED SUPPORT / OPPOSITION:

Support

Electric Vehicle Charging Association (sponsor)
Advanced Energy United
California Electric Transportation Coalition
California New Car Dealers Association
Chargepoint
Freewire Technologies
Union of Concerned Scientists

Opposition

None on file

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