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SWTCH Comments on Light-Duty Electric Vehicle Block Grant Design Changes

Please see attached PDF document.

Additional submitted attachment is included below.

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California Energy Commission
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https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=20-TRAN-04

Re: SWTCH's comments on Light-Duty Electric Vehicle Block Grant Design Changes Docket No. 20-TRAN-04

SWTCH respectfully submits this feedback on the California Energy Commission's (CEC) proposed changes to the light-duty electric vehicle block grant programs, presented during the public workshop on January 9th. SWTCH appreciates the CEC's longstanding leadership in supporting deployment of EV charging infrastructure, and SWTCH values the CEC's collaborative approach in inviting and considering stakeholder perspectives.

About SWTCH

SWTCH is a leading provider of electric vehicle (EV) charging and energy management solutions for multifamily, commercial, and workplace properties across North America. Our end-to-end solution optimizes EV charging usage and manages load to benefit drivers, property owners, and the grid. SWTCH has deployed more than 8,000 charging stations, with a particular focus on ensuring equitable access to EV charging. SWTCH's charging management platform is built upon a foundation of open communication standards and interoperability to ensure future flexibility, scalability, and innovation even after purchase and installation.

Comments

SWTCH's comments are focused on the Communities in Charge (CIC) program.

1. Service Level Agreements (SLAs) should be an eligible expense.

SWTCH opposes the potential exclusion of service level agreements as an eligible expense.

Deployment, in and of itself, is only a first step towards providing a working EV charger. To ensure a charger works as intended in the months and years after its ribbon-cutting, an owner or operator of a charging station needs to plan and budget for ongoing operations and maintenance (O&M). Service level agreements (SLAs) are a widely accepted tool to provide such O&M and keep chargers up and running.

The charging industry's experience across California and the U.S. clearly demonstrates the need for ongoing O&M. Indeed, this is one of the industry's major lessons learned, even harkening back to the 2009 American Recovery and Reinvestment Act (ARRA) which included the first major national incentive program for EV charging. ARRA successfully incentivized the deployment of many chargers, but failed to incentivize ongoing O&M. As a result, many ARRA-era chargers remain deployed yet inoperable even today. Though

these chargers have failed to provide kilowatt hours to EVs — in some cases for years, they have provided plenty of headaches for frustrated EV drivers and for the government officials whose program logos remain proudly displayed on the chargers.

As a result of this unwelcome lesson learned from ARRA and some other incentive programs, policymakers are now more regularly including O&M as an eligible — and sometimes required — expense. As one notable example, the National EV Infrastructure (NEVI) formula program — part of the 2021 Bipartisan Infrastructure Law — allows as an eligible expense "costs allocable to operating and maintaining EV charging infrastructure…for up to five years."[1]

The potential exclusion of SLAs as an eligible CIC expense would repeat the mistakes of the past. Such an approach would fail to reasonably safeguard the public's investment in any chargers deployed with CIC funding, and it would fail to ensure a consistently reliable charging experience for EV drivers — something essential to convince more drivers to make the switch to electric.

As the charging industry has matured and scaled, so too have its contractual instruments. Many SLAs today include verifiable metrics for response times for diagnostics and repairs, for maintaining replacement part inventories, and for maintaining minimum network uptime. Many service providers also offer an upfront payment option for a multi-year service plan. This payment option enables a CIC applicant to include a multi-year SLA among the project's expenses at the time of application.

2. Maintain the Multifamily Housing Adder of up to $3,500 per port

SWTCH opposes the proposed reduction of the Multifamily Housing Adder from $3,500 to $1,000 per charging port.

As California's EV adoption rate continues to increase, so too does the disparity between those who have adequate access to EV charging and those who lack it. The multifamily housing sector remains a particularly challenging and underserved sector when it comes to EV charging. The reasons for this are well documented and include, to name a few: multiple layers of decision makers; misalignment between those paying for, benefiting from, and owning the chargers and infrastructure; technical challenges associated with managing charging load within a building's overall electrical capacity; and, notably, the often-higher costs of installation when compared to a single-family house or even a duplex or townhome.

The province of British Columbia (BC) offers an informative example of the value of — and need for — increased incentives for multifamily chargers. BC, like California, has surpassed the threshold of 20% of new vehicle sales per capita being zero-emission.[2] BC Hydro, the province's government-owned and largest electric utility, offers EV charger rebates for both single-family and multifamily properties. Its multifamily charging

[1] Federal Highway Administration. (Feb. 10, 2022). National Electric Vehicle Infrastructure Formula Program Fact Sheet. https://www.fhwa.dot.gov/bipartisan-infrastructure-law/nevi_formula_program.cfm.
[2] Statistics Canada. (Dec. 11, 2023). New motor vehicle registrations, third quarter 2023. https://www150.statcan.gc.ca/n1/daily-quotidien/231211/dq231211e-eng.htm.

incentive program offers a rebate up to five times higher than its single-family charger rebate, and also includes a separate, additional rebate specifically to help offset the cost of the infrastructure.[3]

3. Maintain the requirement for higher-powered Level 2 chargers

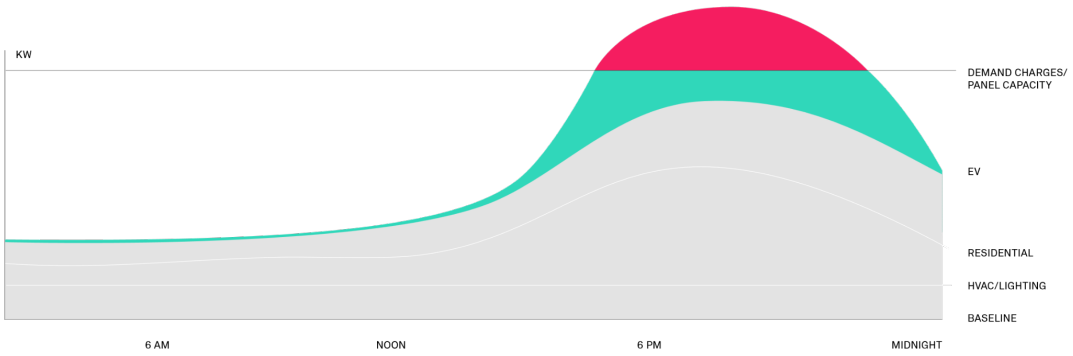
Although the CEC is not proposing to lower the required power level for eligible Level 2 chargers from the current minimum of 6.2 kW, public comment along those lines was offered during the January 9th public hearing. SWTCH opposes such an approach and supports maintaining the existing requirement for higher-powered Level 2 charging.

Software-based intelligent EV charging, often referred to as automated load management (ALM) is a key tool to provide cost-effective charging for the driver while enabling more optimal usage of the electrical system both at the property level and — when deployed at scale — on the grid. The more power a charger can deliver, the more flexibility the driver has to optimize charging via an ALM-based approach and realize the associated cost savings and benefits.

SWTCH Control® is SWTCH's proprietary ALM system that can help property owners avoid the need for costly upgrades to the master panel and/or service to the property while still dispensing the full amount of energy a vehicle needs during its charging session. SWTCH Control® does this by dynamically managing charging load, not just within the constraints of a residential dwelling unit's load or even of a dedicated sub-panel for EV chargers, but for a property's overall load.

The two graphics below illustrate how a SWTCH Control®-type of ALM system can manage load for a typical multifamily apartment or condominium building. The X axis represents 24 hours in a weekday from midnight to midnight. The Y axis represents the building's overall load.

EV Charging Scenario: Unmanaged Charging

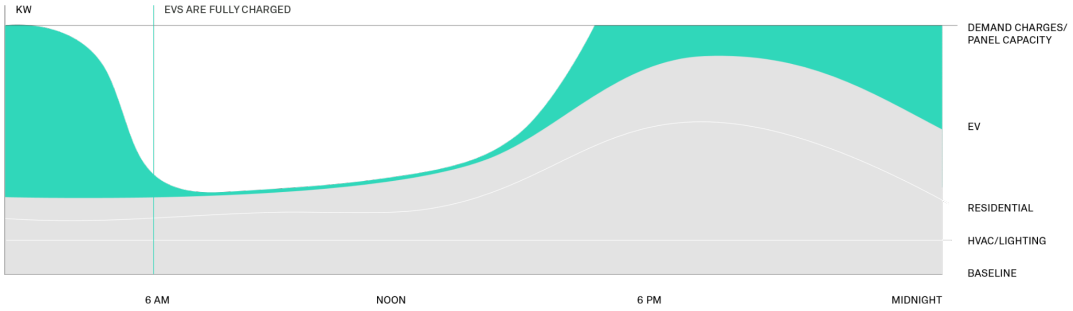


In the Unmanaged Charging Scenario above, the gray load curves represent the non-EV charging load. This includes the building's baseline load, its HVAC and lighting load, and its

[3] BC Hydro. (Oct. 24, 2023). B.C.'s EV charger rebate program. https://electricvehicles.bchydro.com/incentives/charger-rebates.

residential load. As people return home after work and school, this residential load of electric stove tops, clothes dryers, vacuums, and other appliances and devices has an evening peak. The load shown in green is the EV charging load. Similar to residential load, when drivers return home from work and plug in, the EV charging load adds to the evening peak. If left unmanaged, the combined load can exceed the building's overall electrical capacity for its master panel and utility service to the property. This excess load is shown in red.

EV Charging Scenario: Managed Charging



In the Managed Charging Scenario above, an ALM system senses when the building's overall load risks exceeding its panel capacity. The ALM system automatically throttles down the EV charging load and shifts it to overnight hours when the building's residential and other loads diminish, thereby making capacity available once again to charge the EVs.

Note that in both scenarios, the total amount of energy dispensed to the EVs is the same, and all EVs are fully charged and ready to go in the morning. The difference is in how the ALM system enables the facility owner to shift the EVs' evening peak load (shown in red in the unmanaged charging scenario) to periods of ample supply during the late-night and early morning hours (shown in green in the managed charging scenario).

These two scenarios illustrate the value afforded by a dynamic ALM-based EV charging solution. By dynamically managing load in the manner illustrated above, an ALM solution can enable a property to install higher-powered chargers on shared circuits. This can unlock significant cost savings while still enabling installation of a full complement of EV chargers by reducing the number of circuits needed to serve the chargers, and also by mitigating the need to pay for often costly utility-side service upgrades. These savings are not just theoretical; SWTCH delivers these cost savings regularly to customers.

At a more macro level, one can see how ALM also provides value to the grid more broadly and its ratepayers. California and other states at the forefront of EV adoption regularly discuss the role of EVs as a grid asset, and how EVs are in essence mobile batteries on wheels. By managing when and where EVs charge at scale, they can shift and shape load on the system, charging when electricity is cheaper and more plentiful, and enabling utilities to spread out their often-significant fixed system costs over a greater volume of kilowatt hours sold. This in turn applies downward pressure on rates to benefit all ratepayers. (Indeed, SWTCH is currently participating in a utility-scale demand response pilot that leverages the volume of EV charging energy not dispensed during a demand

response event to provide value to the grid.) California's own experience has conclusively demonstrated the value of such managed EV charging on the grid.[4]

The key to all of this is the ability to manage the delivery of higher powered charging. If the CIC eligibility guidelines were changed to allow lower-power L2 chargers, it would ironically limit the flexibility of such chargers, thereby curtailing the associated value and savings they can provide.

In Closing

SWTCH commends the CEC for its continued interest in optimizing its incentive programs to help best achieve California's goals for an equitable zero-emission transportation sector. SWTCH appreciates the CEC's consideration of these comments, and looks forward to continuing to participate in this proceeding.

If you have questions or if I can provide more information, please contact me at josh.cohen@swtchenergy.com or 202.998.7758.

Respectfully,

Josh Cohen
Head of Policy

[4] *See, e.g.* Fitch, T., Frost, J., and Whited, W., (2022, December). *Electric Vehicles Are Driving Electric Rates Down. December 2022 California Update.* Synapse Energy Economics. https://www.synapse-energy.com/sites/default/files/EV%20Impacts%20December%202022.pdf.