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## **Cruise Comments - Response to CHILL-2 Pre-Solicitation Workshop**

Please find Cruise LLC's comments attached. We look forward to continuing to work with the Energy Commission on the proposed program's implementation.

*Additional submitted attachment is included below.*



October 10, 2022

### **California Energy Commission**

Comments in Response to Convenient, High-Visibility, Low-Cost Level 2 Charging (CHiLL-2) Pre-Solicitation Workshop  
Docket No. 20-TRAN-04

Cruise LLC (“Cruise”) appreciates the opportunity to comment on the CHiLL-2 Pre-Solicitation Workshop, held on September 20, 2022, to inform how the California Energy Commission (“CEC”) will develop its innovative new program to accelerate Level 2 (“L2”) charger deployments across California.

Cruise is a shared, fully-electric, self-driving car company based in San Francisco, California, with a mission to provide safer, cleaner, and more inclusive transportation. Cruise commends the CEC for its recent 2021-2022 allocations, including BESTFIT, REACH, CARTS, REV, additional Block Grants, and most recently CHiLL-2. Together, these opportunities are prioritizing high-need and high-impact electrification targets that can serve to deliver on the state’s broader decarbonization goals.

### **Potential Benefits of Centrally-Managed EV Fleets for L2 Deployments**

Alongside the specific feedback provided below on the proposed solicitation requirements, Cruise would also like to offer a brief overview of the benefits and synergies that an L2-focused program like CHiLL-2 presents, and how centrally managed and operated fleets such as Cruise’s could be a valuable asset for site design.

As California evaluates pathways to facilitate creative approaches that will accelerate electrification, programs like CHiLL-2 could be instrumental in evaluating novel business models and innovative use cases - such as combined fleet and public access L2 charging.

Existing data clearly shows the benefits of L2 charging for multi-unit dwellings, workplace charging, and public parking - these chargers can serve as a relatively low-cost way to provide charging at periods when a personal vehicle is not in use, or, in the case of a vehicle fleet, when service demand (be it for passenger or delivery services) is reduced. Furthermore, research indicates that while L2 charging is popular at home, particularly for detached units, public and workplace L2 chargers often see less traffic during overnight hours.<sup>1</sup> Anecdotally, this is also likely increased in areas that may see above average demand during day hours but

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<sup>1</sup> Dr. Gil Tal et al. “Advanced Plug-in Electric Vehicle Travel and Charging Behavior Final Report”. *UC Davis Plug-In Hybrid & Electric Vehicle Research Center*. April 10, 2020. Prepared for the California Air Resources Board, as part of CARB Contract 12-319.  
[https://csiflabs.cs.ucdavis.edu/~cjniitta/pubs/2020\\_03.pdf](https://csiflabs.cs.ucdavis.edu/~cjniitta/pubs/2020_03.pdf).



less demand after PM rush hours, such as L2 charging depots located in central business districts and downtown.

Fleets - particularly those that are centrally managed - are perfectly tailored to serve a valuable role to charge off-peak at these public and workplace L2 chargers. These fleet's charging behaviors can be tailored to respond dynamically to existing public demand, to ensure that charging availability is maximized during the day. Furthermore, the charging needs of a passenger transportation fleet, such as an autonomous ridehailing fleet, are countercyclical to public demand. During the day a ridehailing fleet will seek to maximize vehicle availability for passengers by using DC fast chargers to minimize downtime, whereas during overnight hours passenger trip demand is low and can afford the opportunity to utilize L2 charging - inverse to private vehicle charging needs at public L2s in public garages and other areas.

These shared synergies between public L2 charging demand and optimized countercyclical fleet charging are tangible. They could increase utilization, strengthen site viability for charge point operators ("CPOs") and EV service providers ("EVSPs") by increasing total charging use, and maximize the impact of public funding on electrification, given that such ridehailing fleets may democratize access to clean miles - including for those who may not be able to afford an EV or conveniently charge. This also shifts charging demand to periods of excess power generation and minimal demands on electrical grid infrastructure, improving overall power grid reliability.

In this regard, Cruise applauds the CEC's proposed design of CHILL-2 in exploring innovative business models - such as the shared public/fleet option outlined above - that could help advance and test the Energy Commission's understanding of new potential charging use cases.

### **Comments on Proposed Eligibility and Design, Technical, and Operational Requirements**

As outlined in the workshop, the goals of this program are to increase public access to high-density, high-visibility L2 installations, as well as to better understand the business models and dynamics at play with larger-scale L2 deployments.

Alongside the general feedback offered above, Cruise provides the following selected feedback to specific questions raised around proposed eligibility and design, technical, and operational requirements:

#### **Proposed Eligibility and Design**

- ***Is a 500-charger minimum reasonable?*** Cruise commends the CEC on the scope of the project design. However, the proposed 500 charger minimum is considerable. By

comparison, even in a relatively charger-dense urban area like San Francisco, there are only four sites that have more than 25 public L2 chargers.<sup>2</sup> Cruise urges the CEC to consider a lower charger minimum, such as 200, particularly in geographies with less overall available land for development and that may not be zoned accordingly for infrastructure installation. Furthermore, L2 chargers - particularly at a scale of 500+ stations within a 1 mile radius - may face delays around grid upgrades, potentially significantly delaying the availability of CEC-funded sites for public use. Having a lower minimum and adjusting funding levels - as discussed below - could also afford the CEC the opportunity to provide more awards that could test different business models and site types.

- ***Is the funding level appropriate (\$10M)?*** The proposed \$10M funding level is appropriate for the scale of 500 minimum chargers. If the CEC considers a lower minimum for chargers, Cruise also notes that the funding level could be reduced commensurately, allowing for more grants to be awarded and, as a result, more business models to be evaluated and tested.
- ***Is a 1-mile radius feasible?*** Similar to the points raised above, the 1-mile radius can be limiting, particularly given potential constraints around land availability, zoning restrictions, site upgrades, and varied required site types (which may not be situated in the same radius). Cruise recommends a larger radius be contemplated by the CEC, such as 2 or 3 miles.
- ***Should we require different site types?*** Cruise recognizes the importance of different site types, particularly when evaluating how these site types can fit different use cases and business model needs. While the CEC should encourage different site types, Cruise recommends that the lack of different site types is not a disqualifier, particularly given the limited real estate options in areas where this density of L2 installation could be most economically viable.
- ***Should we require partnerships with cities/counties?*** Cruise believes the Energy Commission should encourage partnerships with both cities and counties, as these entities are natural partners through public parking garages, lots, and other parcels. However, lack of such a partnership should not be a disqualifier, as different jurisdictions have different sites available, and may have varied zoning or use requirements that could put certain applications at an advantage.

## Proposed Project Readiness and Technical and Operations Requirements

- ***Should sites be identified at the time of application?*** Sites should be encouraged at the time of application, but not required, particularly if the CEC maintains its 500 charger minimum. The CEC might alternatively consider having at least half of the charger minimum tentatively sited as part of the application.
  - ***If so, should we require site host agreements?*** Cruise does not recommend making a site host agreement a requirement. Negotiations with site hosts,

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<sup>2</sup> US Department of Energy. "[Electric Vehicle Charging Station Locations](#)". *Alternative Fuels Data Center*.

including public entities, may require significant interagency coordination to finalize, which will ultimately take time. The proposed February/March 2023 deadline may not afford enough runway to structure a site host agreement.

- ***Does equipment need to be network capable and be networked (i.e., have a networking agreement)?*** Yes, Cruise recommends networked equipment, including the flexibility for WiFi-connected L2 chargers that use a gateway, which could minimize total project costs.
- ***Do sites and the chargers need to be available 24/7?*** Sites and charger availability should be determined by market constraints and signals, with a minimum threshold required for public access. At those sites where public demand is low during certain times, such as overnight periods in central business districts, site hosts and charging network operators should be afforded the opportunity to portion a section of chargers for use by fleets or other use cases to increase utilization and create new revenue opportunities for charging operators.
- ***Should we require site jurisdiction to have streamlined permitting?*** Streamlined permitting should be encouraged but not required. According to the Governor's Office's EV Charging Station Permit Streamlining Map, there has been notable progress on accelerating permitting timelines and implementing the guidance under AB 1236 and AB 970, with 61% of California jurisdictions having either already streamlined their permitting, or in the process of doing so.<sup>3</sup> However, even in dense urban cores like the Bay Area and Los Angeles, there are several jurisdictions that have not yet streamlined EV station permitting, often overlapping with disadvantaged and low-income community designations. Furthermore, the scale of the proposed projects in CHILL-2 may also require significant additional zoning variances with local planning departments, even in jurisdictions that have streamlined permitting.

## Proposed Evaluation Criteria and Reaching Underserved Populations

- ***What data would be most useful for others to learn from and replicate these projects?*** Cruise believes that evaluating business models in different site types, as well as exploring the countercyclical charging opportunities for fleet uses (both public and private) could be useful. Underlying these learnings would be data on session times and unique vehicle identifiers that can be used to identify the balance of different charging behaviors.
- ***What metrics should be used to compare L2 business models?*** Given the scale of proposed deployments, Cruise believes that charger utilization should be an important metric - particularly with an eye towards maximizing the impact of public spending. Given the public-facing nature of these projects, reliability and uptime should also be critical metrics that the CEC considers when evaluating and comparing these models. Beyond these, Cruise also recommends that equitable distribution of chargers -

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<sup>3</sup> Governor's Office of Business and Economic Development. "Plug-in Electric Vehicle Charging Station Readiness". <https://business.ca.gov/industries/zero-emission-vehicles/plug-in-readiness/>.

including both in low-income communities and disadvantaged communities, as well as demonstrable partnerships with organizations based in or representing these communities - should also be metrics leveraged for comparison.

- ***Is there anything missing from the proposed scoring criteria?*** Within the “project budget” criteria, Cruise also recommends that the CEC weigh private sector contribution as a component of proposal scoring, as well. Third party operators, like fleets, can help provide capital for initial project development as well as build predictable demand for chargers, reducing the overall requested grant funding. These creative business model approaches should be encouraged in the CEC’s scoring rubric.
- ***Is the evaluation point allocation appropriate?*** The overall scoring criteria includes the appropriate categories. However, given the goal of this solicitation is to test and understand business models for L2 charging, including evaluating new and innovative approaches to charging, Cruise recommends that “project readiness and implementation” and “innovation” both be scored out of 25 points, rather than 30 and 20 respectively. This also reflects some of the potential challenges that applicants may face in terms of aligning site host agreements with public entities, and therefore not unduly penalize applicants pursuing arrangements with public partners that may have longer lead times.
- ***How can we encourage projects that keep charging rates low, especially for DAC/LIC residents?*** Existing performance data shows that higher charger utilization leads to lower prices. In order to keep charging rates low, including for DAC/LIC residents, Cruise recommends the CEC more meaningfully incorporate charger utilization as a metric for success, which will in turn leverage market forces to keep charging rates lower.

## **Conclusion**

Cruise welcomes the opportunity to provide these comments to the CEC. L2 charging - and associated programs like CHILL-2 - will serve as important pillars to advance more comprehensive charging availability for California’s electrification goals, including for both personal vehicles and fleets. Cruise thanks the Energy Commission and staff for their continued support and engagement on this topic - critical to achieving a cleaner and more inclusive transportation future for California.

Sincerely,



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Cruise, LLC