

DOCKETED

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Comments of the Sacramento Municipal Utility District on Staff Workshop Concerning the 2019 CALeVIP Projects Roadmap (Sacramento)

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Additional submitted attachment is included below.

**STATE OF CALIFORNIA
BEFORE THE CALIFORNIA ENERGY COMMISSION**

In the matter of:)	Docket No. 17-EVI-01
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California Electric Vehicle Infrastructure Project (Cal-eVIP) 2019 Roadmap)	Sacramento Project Roadmap Workshop held September 27, 2018
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)	October 12, 2018

**Comments of the Sacramento Municipal Utility District on Staff Workshop
Concerning the 2019 CALeVIP Projects Roadmap (Sacramento)**

The Sacramento Municipal Utility District (SMUD) appreciated the opportunity to participate in the staff workshop held on September 27, 2018: *2019 CALeVIP Projects Roadmap (Sacramento)* and would like to offer the following comments on the topics discussed at the workshop. Initially, we would like to commend the CALeVIP project team for choosing Sacramento as the next county that will receive these important incentives.

SMUD is committed to promoting a zero-emission transportation future to spur economic growth, fuel diversity and energy independence, ensure cleaner air, and to combat Climate Change. Specifically, our Board has adopted a strategic goal to advance innovation and clean transportation technologies in the community and will shortly adopt an integrated resources plan (IRP) that will include significant expenditures on transportation electrification. SMUD was one of the first utilities to offer a special EV charging rate for our customers and currently offers a \$599 bill credit for customers who purchase an Electric Vehicle (EV), thus allowing them to “charge free for two years.” We also offer incentive programs to encourage the installation of electric vehicle (EV) charging infrastructure, both for DC fast-charging (DC-FC) and for Level 2 charging infrastructure.¹

SMUD appreciates the California Energy Commission’s (CEC) efforts to facilitate the transformation of California’s clean transportation industry into a diverse supply chain of alternative fuels and innovative technologies that will be needed to attain the State’s overall Climate Change policies. We commend the CEC for allocating additional incentives for EV charging infrastructure in disadvantaged communities in order to provide equal, if not greater, access to cleaner and environmentally friendly EVs.

¹ SMUD is discussing incentivizing Level 1 chargers as well.

SMUD is committed to being a strong partner to work together with CEC's CALeVIP program to implement the targeted incentive projects by supporting a process that helps speed up the deployment of such technologies in SMUD's service territory both effectively and efficiently.

In these comments, SMUD recommends:

- 1. Alignment with the existing SMUD EV incentive programs to maximize customer benefits;*
- 2. Removing the requirement that every charging station be networked², and instead make this an optional "bonus" incentive;*
- 3. Inclusion of Level 1 charging stations in the program to create a balanced mix and to meet the needs of certain customers;*
- 4. Extending the timeline for application reservations to 24 months; and*
- 5. Allowing for Electric Vehicle Service Equipment (EVSE) manufacturers in the process of obtaining ENERGY STAR® certifications to participate in the program.*

1) Program Alignment and Synergies

Aligning CALeVIP program with SMUD's existing EV infrastructure incentive programs will help bridge the gap between the shared State/SMUD strategic vision for clean transportation and on-the-ground deployment that both parties have planned to carry out in Sacramento County. SMUD strongly believes that there are significant opportunities to streamline and integrate program requirements that will yield overall efficiency and effectiveness. For instance, SMUD currently offers an incentive to its Multifamily and Workplace Program customers of \$1,500 per Level 2 charging station. SMUD has experienced significant barriers to subscription of our incentives, particularly with multifamily charging. Supplementing our \$1,500 incentive with CALeVIP's incentive of \$5,000 per unit charging station would be a critical boost to our efforts. Moreover, barriers include more than cost, so alignment of the two programs would simplify the application process and thus would be helpful for both programs.

In addition, if we are able to combine the application processes from the two programs, significant efficiencies and process improvements could be achieved from an administrative perspective as well. SMUD hopes that advantages of alignment will lead to rapid deployment of EV infrastructure in Sacramento County.

Therefore, SMUD strongly recommends that we find ways to align the two programs by packaging and delivering these benefits together, using a simple and streamlined

² Our understanding of the Cal-EVIP definition of "networked" means connected to cloud-based management system, in contrast with locally or directly managed charging.

process for program recipients. If we are unable to achieve such alignment, potential program participants will have divided attention between choices and may be confused by the different processes, procedures and requirements, which may lead to lower participation and slower EV adoption.

2) Networked Level 2 Charging Station as an Optional Program Requirement

Pursuant to the PowerPoint presentation (Slide # 32) delivered during the public workshop, the program requirements for Level 2 EVSE must be networked for a minimum period of one year and must have remote diagnostics. SMUD recommends that the CALeVIP program should add an option to allow a single site, charge management or monitoring system, and/or a single SMUD meter for the purposes of measuring usage at the various locations and/or remote diagnostics. SMUD respectfully suggests that networking and remote diagnostics at the EVSE level will be costly without currently demonstrable benefits for all use cases. This is particularly the case for fleet charging where per kWh usage tracking per EV may be of little or no value. This may also be true for workplace charging programs, like SMUD's, that offer subscribers unlimited charging for a flat monthly fee, which is similar to the pricing structure of many cell phone plans. Requiring EVSEs to be individually networked with metrology may be considerably more expensive and therefore may create a barrier to widespread infrastructure deployment and promotion of EVs in Sacramento. If the host of a Level 2 charging station cannot realize the benefits of individually networked charging stations immediately, they are unlikely to be willing to invest in the extra cost, even with an additional \$5,000 incentive.

This perspective has been gained through many years of customer program experience, both by administering SMUD's incentive programs and by deployment of charging infrastructure with Level 1, Level 2 EVSE, and DCFC in our service territory.

In addition, SMUD has experience with its own EV workplace and fleet charging programs. Typically, SMUD will meter EV charging loads at an electrical panel that is dedicated for EV charging only. This master meter will collect 15 minute kW loads and kWh usage for a small or large group of EVSE that enables SMUD to view and analyze aggregate load profile data (kW over time) and aggregate utilization data (kWhs). SMUD finds this aggregate load and utilization data very helpful in understanding EVSE infrastructure sizing and cost reduction opportunities. When aggregate metering data is coupled with charging strategies that deploy EVSE sized to minimize electrical panel and transformer infrastructure, significant potential cost savings can be realized without having to invest in the extra cost of networking individual EVSE. Furthermore, if it is important to understand whether an individual EVSE is working, a centralized energy monitoring system at the electrical panel that tracks individual circuit performance with

remote access can provide this service at much less cost than building it into each EVSE.

SMUD has about 100 participants in its Workplace EV Charging Program who share 56 non-networked EVSE on the SMUD campus. They pay a flat fee of \$5 per pay period twice a month (~\$10/month) for unlimited charging throughout the day with no requirement to move their EV for others to use. This simple but effective program approach has received an enthusiastic reception from employees since it was introduced in 2014.

In 2017, SMUD-conducted a survey of its residential sector customers to explore preferences for EV workplace charging. The preferred program structure selected by customers consisted of:

- A flat monthly fee
- Level 1 charging
- No time limit on charging
- Plenty of charging stations
- Moderate distance to the building where they work

SMUD is using this feedback to inform the expansion of its own EV Workplace Charging Program. The proposed expansion plan is for a that consists of:

- 80% Level 1, non-networked EVSE with a flat fee per paycheck, and
- 20% Level 2 networked EVSE with per kWh pricing.

Similarly, SMUD's approach to fleet EV charging is to deploy non-networked, power-sharing EVSE with a master-meter to achieve lower cost installations. SMUD has deployed 28 power-sharing, non-networked EVSE to charge its fleet of 26 EVs. As SMUD procures more light-duty EVs with increased battery size and range, such as the Chevy Bolt, the need to charge every EV on a daily basis will substantially decline, thereby reducing the need for as many charging stations, which reduced the installed cost of EV infrastructure.

Therefore, SMUD recommends that the CALeVIP program should provide funding for a diversity of technologies and program approaches to learn how these different technology options, pricing options and customer needs impact EV adoption. Different use cases call for different implementation strategies and technology options. For example, optimizing workplace EV programs or Fleet EV Programs for businesses located in strip malls may look different from programs located at large destination shopping malls with large parking structures. EV adoption can best be served by a

funding approach that encourages the deployment of a wide variety of technologies and program approaches – that allows for unique solutions, optimized for a wide variety of use cases. Requiring an individual EVSE to be networked and capable of manual remote start may be costly and may hinder achievement of overall program deployment goals.

3) Inclusion of Level 1 EVSE

Experience shows that there is a clear need for a variety of lower-cost charging solutions in order to encourage EV adoption in all areas of Sacramento. SMUD recommends that the CEC allow funding for Level 1 charging stations to add to the mix of Level 2 EVSE and DCFC as part of the CALeVIP program. Broadening the program to include less expensive Level 1 EVSE will allow applicants to install many more EVSE and more quickly because it will allow development dollars to go further. A mix of Level 1 or a very low Level 2 EVSE in parking lots, garages, residential street-side parking, multifamily dwellings, disadvantaged communities and airport parking structures will allow for all-day charging approaches without the need for mid-day connector swapping. This avoids a major inconvenience that could be another barrier to adoption.

The City and County of Sacramento currently offer free EV charging at their public parking garages. Individually-networked EVSE with metrology does not make economic sense with these kinds of programs. The State of California offers free 120V outlets for EV charging for employees, another low-cost approach for EV workplace charging. Along with SMUD, the City, County and State programs are four of the largest EV workplace charging programs in Sacramento.

Mid-day “connector” or “port” swapping of Level 2 EVSE may not be scalable without an inordinate amount of costly and time-consuming coordination among workplace participants. In many cases, these participants must plan how to reserve one another’s parking stalls during a connector swapping event, which entails even further coordination. Mid-day connector swapping can be very time-consuming and inconvenient, and in many cases is simply not a practical or scalable solution to increased EV adoption.

SMUD strongly recommends that the CALeVIP program allow for a diversity of program approaches and technology mixes in order to learn as much as possible about the effectiveness of different program strategies and technologies for greater EV adoption.

4) Extension of Program Duration

Pursuant to the September 27th workshop presentation (Slide # 36), the program application completion deadline for DCFC or Combo installation is 15 months and a

deadline for Level 2 installation is 9 months. However, the presentation is unclear as to whether the application deadline or application reservations must occur within the overall program duration in Sacramento County, which is 12 months from the initial start date of February 2019 (Slide # 43). SMUD recommends that the installation reservation requirements should remain unchanged at 15 months for DCFC or Combo installation and 9 months for Level 2 installation, but extend the CALeVIP program deadline to February 2021, which would provide a full 24-month period from the initial start date of February 2019. This program extension would allow for additional time to find synergies, eliminate complexities, plan and make changes to align the CALeVIP and SMUD EV programs for an effective implementation and streamlined deployment in Sacramento County. This will also enable potential program participants to prepare and plan-ahead for more efficient implementation.

5) ENERGY STAR® Certifications

The workshop presentation indicates Level 2 charging equipment must be ENERGY STAR® certified. While recognizing that following a national standard such as ENERGY STAR® has many merits, which has proved it worth in the case of the energy efficiency industry, the EV industry is still evolving. SMUD understands that the ENERGY STAR® certification process generally involves a lengthy application process and certified products may come with a price premium, which may not be affordable to a broad diversity of consumer groups, particularly in disadvantaged communities. One way of providing flexibility would be to allow applicants to include EVSE models that have started the ENERGY STAR® certification process, and may still be in the queue for Energy STAR® certification, but require that by the time the installation is complete, ENERGY STAR® certification must be achieved in order to receive funds. Accordingly, SMUD suggests that CALeVIP allow for some flexibility of the Energy STAR® requirement for Level 1 and Level 2 EVSE to better match EVSE affordability with different use cases, especially in disadvantaged communities.

6) CONCLUSION

Given the ambitious goal of reducing statewide GHG emissions, and the Governor's goal of reducing petroleum use in cars and trucks by up to 50% by 2030, SMUD believes that the CEC and SMUD should move quickly to deploy as many EV charging stations as possible to alleviate public anxiety about the scarcity of public and workplace charging. SMUD believes that the best way to deploy the maximum number of charging stations expeditiously is a synergistic partnership and substantial flexibility to incentivize a wide variety of products that support diverse EV charging needs. Encouraging more EVSE suppliers with a broad offering of qualified EVSE characteristics is more likely to encourage installations in dissimilar communities. An example of an unnecessary

program element, which could add another barrier to rapid deployment, is the proposal for networking and remote diagnostics at the individual EVSE level. SMUD believes that a master meter approach for groups of EVSE can provide valuable aggregate load profile data and utilization data to the CEC. In contrast, perfect vision at the granular EVSE level could undermine the good that can and must be realized through swift positioning of large numbers of EV chargers throughout Sacramento. Building charging stations quickly supports the CALeVIP program goals and helps to fulfill the State's clean air/climate change goals and objectives. SMUD respectfully requests that CEC consider modifying the CALeVIP program to have maximum impact.

/s/

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cc: Corporate Files (LEG 2018-0444)