DOCKETED	
Docket Number:	23-ERDD-01
Project Title:	Electric Program Investment Charge (EPIC)
TN #:	262546
Document Title:	CalETC Comments - CalETC's Comments on EPIC Scoping Workshop on EV Charging with Solar Microgrids
Description:	N/A
Filer:	System
Organization:	CalETC
Submitter Role:	Public
Submission Date:	4/1/2025 4:51:25 PM
Docketed Date:	4/1/2025

Comment Received From: CalETC
Submitted On: 4/1/2025
Docket Number: 23-ERDD-01

CalETC's Comments on EPIC Scoping Workshop on EV Charging with Solar Microgrids

Additional submitted attachment is included below.

April 1, 2025
California Energy Commission
Docket No. 23-ERDD-01
715 P Street
Sacramento, CA 95814

Submitted electronically to https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=23-ERDD-01

Re: EPIC Scoping Workshop on EV Charging with Solar Microgrids

The California Electric Transportation Coalition (CalETC) appreciates the opportunity to provide comments on the EPIC Scoping Workshop on EV Charging with Solar Microgrids ("Workshop"). CalETC would like to thank the CEC for all your hard work on developing the proposed concepts and your steadfast commitment to investing in innovative technology that can speed up installation and reduce the cost of charging infrastructure.

CalETC supports and advocates for the transition to a zero-emission transportation future to spur economic growth, fuel diversity and energy independence, contribute to clean air, and combat climate change. CalETC is a non-profit association committed to the successful introduction and large-scale deployment of all forms of electric transportation. Our Board of Directors includes representatives from: Los Angeles Department of Water and Power, Pacific Gas and Electric, Sacramento Municipal Utility District, San Diego Gas and Electric, Southern California Edison, Southern California Public Power Authority, and the Northern California Power Agency. In addition to electric utilities, our membership includes major automakers, manufacturers of zero-emission trucks and buses, electric vehicle charging providers, and other industry leaders supporting transportation electrification.

CalETC supports the proposed concepts and the CEC's approach by creating multiple solicitations with focused goals for each solicitation. We greatly appreciate the CEC's focus on innovative technologies like flexible service connections and load control management systems. Leveraging these new technologies and processes will be critical to meet the high demand for EV charging and shorten energization timelines.

Here are CalETC's responses to the questions in the presentation package. Please do not hesitate to contact us if you have any questions.

Questions from Slide 38 DER Maximized EV Charging

- What level of funding would be required for this concept?
    - CalETC estimates around $10M per project.
- What verifications are needed to ensure power control systems' interoperability with IOUs and coordination with customer energy management systems?

- CalETC recommends end-to-end cybersecure communications consistent with applicable standards, including the "Future LCMS" configuration presented on Slide 32 by Southern California Edison at the Workshop, and a configuration that goes directly from the utility's DERMS to the facility's CSIP certified gateway (no 3rd party cloud provider). CalETC also supports IEEE 1547 and IEEE 1547.1, approved protocols for aggregators, with additional protocols as shown in the attached diagram from the Smart Electric Power Alliance.

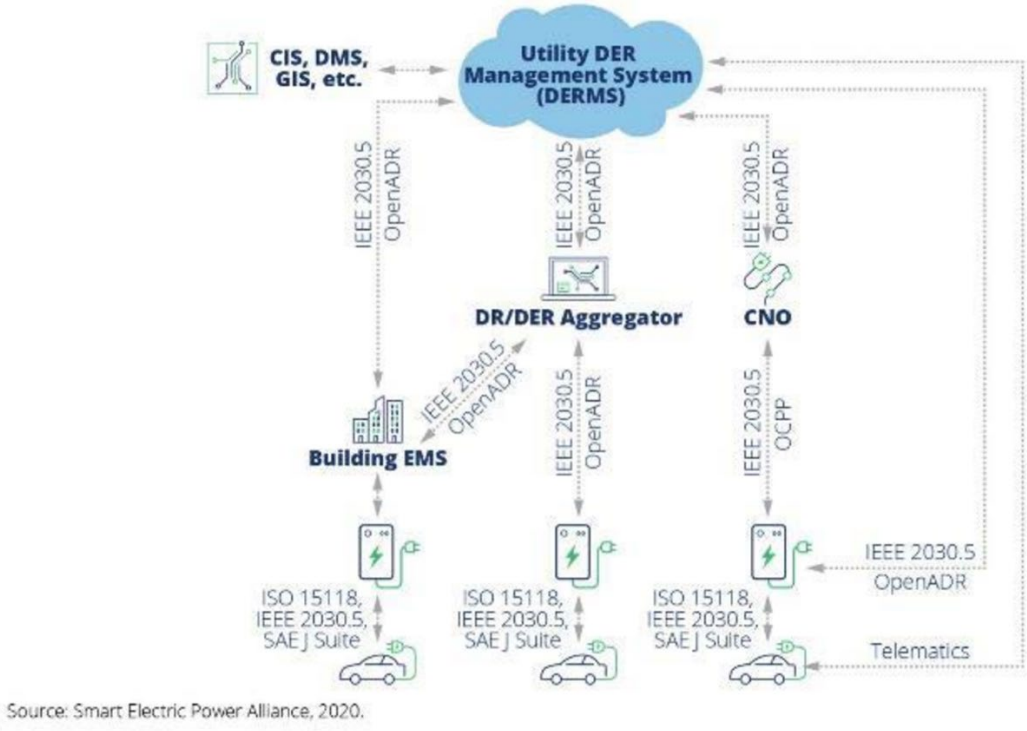

Figure II.59. Relationship between Key EV Communications Messaging Protocols.

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- What kinds of data/measurements should be collected to align with goals of IOU flexible service pilots?
  - The CEC recently completed a Request for Information on a Flexible Demand Appliance Standard for EV charging equipment. We are supportive of the CEC's goal to enable shifting the time and rate of vehicle charging to enhance grid reliability, lower GHG emissions, and save consumers money. This goal will continue to become more and more important as light-, medium-, and heavy-duty EVs continue to grow in popularity. It is critical that all the CEC's standards and regulations dovetail together into a coherent and predictable framework so the industry can plan product lines and implement standards with sufficient runway and certainty that the whole industry is headed in the same direction. If an FDAS is created for EV chargers that complements existing standards, such a standard could greatly enhance the ability of IOUs to effectively qualify equipment for safety and

interoperability. Similarly, an FDAS could enhance the charging ecosystem by creating broadly compatible systems which can be included in standardized DERMS use cases.

- How can the projects create DER valuation frameworks to inform additional incentives or shared savings models for self-generation distribution upgrade deferrals?
    - CalETC recommends using the California Public Utilities Commission's (CPUC) Avoided Cost Calculator, which serves as a solid foundation to base valuation frameworks. We recommend the CEC work with the CPUC and interested stakeholders to consider additions to the calculator that could focus on quantification of value and create appropriate incentive models and related shared savings structures.
- Should there be a minimum size for the integrated solar microgrid (e.g. 1.5 MW solar, 3MWh storage)?
    - Given the anticipated growth in corridor and large charging plazas where these technologies will deliver their greatest benefits, CalETC recommends the CEC create load-based categories that correlate to capacity-appropriate metrics for funding eligibility. Using a formula-based approach would enable urban and rural sites to be treated equitably, regardless of the size of the project.

Questions from Slide 41: DC Power System Integration

- What DC components need to be advanced to enable more efficient integration of EVSE with DER generation?
    - CalETC believes that seamless transitions between grid-connected and islanded operations must be standardized so that individual types of DERs can be predictably configured to operate in both modes. DC power systems will need to be certified to UL3141 or UL1741SB, and potentially UL1741SC or SCIP.
- What is the current TRL of these DC power system components (e.g. DC-DC power converters, solid-state transformers, controllers to manage various functions, communications, protections)?
    - CalETC recommends that minimum requirements be TRL5-6 with mandatory inclusion of grid-interoperable site-level control, ESS and SST technologies.
- What are the interoperability considerations for pairing DC power systems with automated load management systems, solar and storage, and other DER energy management systems?
    - CalETC recommends ensuring cybersecurity and certification standards are established to set a level playing field. CalETC recommends the minimum requirement should include compliance with IEEE 1547.1 cybersecurity requirements under the published NIST Cybersecurity Framework and prevailing PKI certification methods. e-MSP entities should also have certification requirements.
- What level of funding should be dedicated to DC power system verification and integration?

- CalETC believes it would be reasonable to require 25% of the award be dedicated to verification and integration. CalETC recommends prioritizing safety and interoperability, while ensuring that participation in these programs is not limited because of 3rd party verification that is overly burdensome.

Questions from Slide 44: Utility Coordination

- How do we verify support from IOUs in the application phase? Letters of support?
  - CalETC recommends that the solicitations require at least one IOU to be named as a supporter of the project or have the IOU issue a Letter of Support.
- Is it feasible for IOUs to treat these projects as combined systems, alleviating the need for separate energization and interconnection requests?
  - Yes, and CalETC encourages the CEC to incentivize projects as combined systems. We also encourage applicants to have supplemental or companion funding from Federal or other sources, if available.
- How should the CEC coordinate with IOU staff to align research goals? Are there additional considerations for the scope of work?
  - CalETC recommends the CEC, CPUC, and IOUs continue to work together to align prioritization of EPIC funding and continue to hold public workshops to inform stakeholders of progress.

Questions from Slide 47: Use Cases

- What kinds of sites would benefit most from solar microgrid-integrated EVSE? Where are they located? Who do they serve?
  - CalETC recommends allowing both corridor and urban sites and a range of sizes because all will be needed to reach our charging goals. The CEC could consider allowing sites that would be dedicated to EV charging only, and sites that would be part of a community, campus, or regional zone that could be islandable.
- How is the value of load management, DC power system and solar microgrid integration maximized here?
  - CalETC believes there are two schools of thought: 1) price-driven grid optimization applying either MIDAS or GET pricing data or 2) bill management that leverages rates and program participation awards. We believe that either could be applied to these solicitations.
- How should "grid-constrained" be defined?
  - CalETC supports the Vehicle Grid Integration Council's comments on the CEC's Draft Scoping Order for the 2025 Integrated Energy Policy Report, which suggests that grid constrained is a site that would otherwise need an upgrade to reach its full desired capacity.[1]

[1] VGIC's Comments on the CEC's Draft Scoping Order for the 2025 Integrated Energy Policy Report, 2025, Available at https://efiling.energy.ca.gov/GetDocument.aspx?tn=261749.

- How should the creation of a value framework comparing the ratepayer cost of distribution grid upgrades to the alternative of on-site generation be approached? Is the necessary data for such a model accessible?
    - As mentioned above, CalETC believes that this should be based on the principles of the CPUC's Avoided Cost Calculator and expanded to treat value of the use cases on a specific standardized value framework basis.[2] CalETC also recommends the CEC leverage the history of each of the IOUs Avoided Cost Calculator annual reports.

Thank you for your consideration of our comments. Please do not hesitate to contact me at kristian@caletc.com if you have any questions.

Kind regards,

Kristian Corby, Deputy Executive Director
California Electric Transportation Coalition

[2] CPUC's DER Cost Effectiveness, Avoided Cost Calculator, Available at https://www.cpuc.ca.gov/dercosteffectiveness.