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<tr>
<td><strong>Document Title:</strong></td>
<td>Presentation - Panel 3 Pat Saxton CEC V2B Workshop</td>
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<tr>
<td><strong>Description:</strong></td>
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<td><strong>Filer:</strong></td>
<td>Ben Wender</td>
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<td><strong>Organization:</strong></td>
<td>CPUC</td>
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Vehicle-to-Building for Resilient Backup Power

Policy Context and Opportunities to Accelerate Deployment

California Energy Commission
January 25, 2021

Patrick Saxton
Senior Utilities Engineer, Resiliency and Microgrids
CPUC Guiding Principles and Goals

• Ensuring just and reasonable rates for participating and non-participating customers
  • Avoid shifting costs between ratepayers
• Maintaining safety and reliability of electric grid – physical and cybersecurity
• Supporting deployment of distributed energy resources in locations where they provide the greatest benefits
• Reduce impacts of public safety power shutoffs on critical facilities, vulnerable customers, and disadvantaged communities in high fire threat districts
• Improve both reliability and resiliency of electric grid
• Accelerate the use of VGI for resiliency purposes
CPUC Interconnection Proceeding

• R.17-07-007 Order Instituting Rulemaking to Consider Streamlining Interconnection of Distributed Energy Resources and Improvements to Rule 21
  • D.20-09-035 adopted multiple proposals to support V1G, V2G-DC, V2G-AC
  • V1G with no discharge capability is a load, not generation – Rule 21 does not apply
  • V2G-DC EVSE limited to operating in charge-only mode and meeting requirements can interconnect under Rule 21
    • In future, with permission to operate from the utility, bidirectional mode could be enabled
  • V2G-AC system pilots to be exempt, on a temporary basis, from Rule 21 smart inverter requirements
CPUC Vehicle Electrification Proceeding

- R.18-12-006 Order Instituting Rulemaking to Continue the Development of Rates and Infrastructure for Vehicle Electrification
  - D.20-12-027 requires IOUs to annually expend up to 20% of LCFS holdback proceeds on resiliency projects (if not spent on equity projects) that will benefit future or current EV drivers in California
  - D.20-12-029 adopted accelerating use of EVs for bi-directional non-grid-export power and PSPS resiliency and backup as a non-SB 676 VGI strategy
  - D.20-12-029 requires IOUs to report on efforts to accelerate use of VGI for resiliency purposes
CPUC Microgrids Proceeding

- R.19-09-009 Order Instituting Rulemaking Regarding Microgrids Pursuant to Senate Bill 1339 and Resiliency Strategies
  - D.21-01-018 requires IOUs to define criteria and evaluation process to assess safety and reliability of low-cost electrical isolation technologies for backup power applications
  - Staff concept paper section 7.5 discusses barriers to integration of EVs within a microgrid: EVs as controlled load, V2G, V2B or V2H During Power Failure/PSPS
    - If V2B or V2H can occur when microgrid in grid connected mode or within an in-front-of-meter microgrid, likely same requirements as V2G-DC and V2G-AC
    - In single-customer microgrid, where the entire island is behind one utility meter, where grid isolation is achieved by equipment independent of the EV or EVSE (e.g., break-before-make transfer switch), and V2B or V2H can only occur during island mode, it is likely some requirements will not be applicable