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Public Advocates Office Comments on CEC DER Integration Technical Assessment Roadmap

Additional submitted attachment is included below.



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COMMENTS OF THE PUBLIC ADVOCATES OFFICE
ON THE CALIFORNIA ENERGY COMMISSION
DISTRIBUTED ENERGY RESOURCES INTEGRATION TECHNICAL ASSESSMENT
ROADMAP REVIEW MEETING ON MARCH 25, 2019
Docket: 19-MISC-01

The Public Advocates Office at the California Public Utilities Commission is the state's independent consumer advocate with a mandate to obtain the lowest possible rates for utility services, consistent with reliable and safe service levels, and the state's environmental goals. At the California Energy Commission's (CEC) March 25th Review Meeting, the CEC solicited parties' comments on the Distributed Energy Resources (DER) Integration Technical Assessment Roadmap (Roadmap). The purpose of the Roadmap is to identify the potential use cases, metrics, and barriers to DER integration with the grid.

The Public Advocates Office submits the following four recommendations for consideration:

1. The Roadmap should identify the policy drivers leading to the need for DERs and the need for DER integration, both in the executive summary and in a new first section within the Roadmap. These policy drivers are listed in the CEC annual update *Resource Flexibility Tracker*.¹ To ensure a successful Roadmap, it is important to have a traceable link from the identified need to the proposed research activity that might provide a solution for that defined need. In addition, the Public Advocates Office recommends the Roadmap includes more defined impacts that the following drivers have on DER integration.
2. The Introductory Section of the Roadmap should clearly define the strategic goals that DER providers can achieve by integrating DERs onto the distribution grid, as well as the action items and associated tasks that support the achievement of a successful outcome. Defining the drivers will allow all stakeholders to have a clear picture of the specific issues to be addressed with DERs. For example, integrating renewables with the current target of 100% by 2045 and the 2020 requirement that all new houses be built with solar will drive the need for new distribution grid services. These new services can be supplied by DERs which will require research and development of advanced technologies and processes.
3. Each of the remaining sections in the Roadmap that cover DER Functional Technology and DER Enabling Technology should begin by listing applicable federal and state laws, regulatory policies, and rulemaking as they relate to the section under discussion. While the current Roadmap includes a section that lists some current CPUC proceedings and applicable laws, the Roadmap will be better served if these laws, policies, and rulemakings

¹ *Resource Flexibility Tracker*, California Energy Commission (November 2018).
https://www.energy.ca.gov/renewables/tracking_progress/documents/resource_flexibility.pdf

were the guiding focal point of each section. Tying each section's discussion back to the system needs for addressing renewables overgeneration and dispatchable flexible resources and how each functional technology or enabling technology can fulfill a defined need and what, if implemented, Research and Development projects will contribute to solving that need.

4. Below is a suggested outline template for the report:

- 1) Current and emerging federal and state laws, regulatory policies, and rulemakings as they relate to Renewable Policy Standards and DER adoption.
 - a. Emerging grid needs due to increasing renewables on the grid
 - b. Total number of distribution-connected photo voltaic solar (PV) installations being added annually
 - c. Assessment of the potential for DERs to address the Duck Curve.²
 - i. Time of day load shaping including energy sources and sinks
 - ii. Flexible ramping
- 2) New processes for integrating DERs to provide grid services:
 - a. Distribution grid services that DERs can provide including:
 - i. Capacity Deferral
 - ii. Flexible Ramping
 - iii. Voltage Support
 - iv. Reactive Power Support
 - v. Resiliency and Reliability
 1. Microgrid
 2. Islanding
 3. Cold start
 4. Back-tie feeder connection
 - b. Identifying DER types including:
 - i. Energy Storage Units
 - ii. Demand Response Load Shaping Assets
 - iii. Electric Vehicles
 - c. Characterizing and qualifying DER functionality
 - d. Organizing and operating DERs
 - e. Modeling and planning tools for DER integration
 - i. Impact of operating a one-way distribution system with two-way power flow
- 3) DER technical needs that include:
 - a. Performance requirements

² CAISO Draft Flexible Capacity Needs Assessment, 2019.
www.aiso.com/Documents/2019DraftFlexibleCapacityNeedsAssessment.pdf

- i. Greater capacity and energy at lower cost
 - ii. Longer duration operation
- b. Safety and reliability standards and requirements
- c. Visibility and monitoring requirements
- d. Communication interface standards and interoperability requirements
- e. Field implementation certifications
- f. Cybersecurity requirements

Please contact Jerry Melcher, Utilities Engineer, at Jerry.Melcher@cpuc.ca.gov or (415) 730-1923 with any questions regarding these comments.