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On Microgrid Roadmap

Additional submitted attachment is included below.



California Clean Energy Committee

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November 13, 2017

California Energy Commission
Dockets Office, MS-4
Re: Docket No. 16-EPIC-01
1516 Ninth Street
Sacramento, CA 95814-5512

Re: Comments on Draft Microgrid Roadmap

To Whom It May Concern:

The following are comments on behalf of the California Clean Energy Committee (CCEC) for the Microgrid Roadmap proceeding.

We would suggest that the proposed roadmap include greater focus on the resource adequacy value of grid-connected microgrid systems. For example, we have recently evaluated data from Glendale Water & Power (GWP), a municipal utility with a peak load of 350 MW. To meet resource adequacy requirements, GWP must assume the simultaneous failure of a 100 MW import transmission line and a 71 MW combined-cycle gas turbine, which is a total of 171 MW of resources. Resource adequacy requires that GWP construct and maintain, 171 MW of generation beyond its peak load of 350 MW to meet peak demand in the event those two resources concurrently fail.

According to Lazard's Levelized Cost of Energy Analysis (Dec. 2016), the capital cost of peaking gas generation ranged from \$800 to \$1000 per kWh. So the capital cost of the 171 MW of standby generation required to meet resource adequacy ranges between \$136 and \$180 million. In addition, the utility bears the expense of maintaining and operating this equipment over a useful life of 40 years.

Since microgrids by definition have the capacity to disconnect from the larger grid and continue independent operation in the event of a black-out, it serves no useful purpose to treat them as load that must be served in the event of equipment failure. For example, the University of California at San Diego microgrid performed exceptionally well during the 2011 blackout that affected San Diego, southern Orange County, Imperial Valley, and parts of Arizona.

Consequently, there is no need to provide back-up power beyond the microgrid itself to ratepayers who are served by a microgrid because the microgrid is capable of disconnecting from the larger grid and continuing to provide electric service during a power failure. Due to its capability of relying on either internal or external resources, a microgrid is more reliable than the ordinary electric service.

In a number of places the draft Microgrid Roadmap refers to the reliability benefits of microgrids and it refers to exploring additional revenue streams that recognize value created by microgrids. However, in the list of Roadmap actions, we believe that it would be beneficial to be more specific about the resource adequacy value of microgrids. So in the Planning Action Items, the third item is "Develop and validate new benefit metrics for system resiliency that are provided by microgrids."

We suggest that the words "3. Develop and validate new benefit and valuation metrics for system resiliency and resource adequacy obligations applicable to load serving entities that are provided by microgrids." be expressly included. We are attaching the edits inserted into the draft Roadmap from October 2.

Recognizing the resource adequacy value of microgrids has the potential to make a significant improvement in project economics and in the reduction in the need for new gas-fired peaking plants.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Eugene S. Wilson". The signature is fluid and cursive, with the first name "Eugene" being more prominent.

Eugene S. Wilson
California Clean Energy Committee