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Workshop on Assessing the Future Role for Microgrids in California

Additional submitted attachment is included below.



July 30, 2020

California Energy Commission
Docket Office
1516 Ninth Street
Sacramento, CA 95814-5512

**RE: IEPR Commissioner Workshop on Assessing the Future Role for Microgrids in California
Docket 20-IEPR-04**

Dear Commissioners:

SDG&E respectfully submits the following comments in response to the three-session workshop hosted by the California Energy Commission (CEC) discussing the various benefits and future role of microgrids in California. Specifically, SDG&E has extensive experience working with our customers on microgrid design, testing, and commissioning. With that in mind we would like to encourage the CEC to:

1. For the sake of safety and reliability, not close off the types of technologies that can be used for microgrids, and
2. Maintain flexibility in microgrid design so IOUs can continue to work with their customers to customize and tailor microgrid solutions to meet the needs of their specific applications.

Along those lines we would like to would like to make note of the following points:

- First, SDG&E supports the safe deployment of microgrids and has pioneered various microgrids, with additional microgrid projects in progress to provide resiliency to customers during public safety power shutoffs (PSPS).
- Secondly, SDG&E supports the use of clean fuel sources as a resource within a microgrid and recognizes the customer safety benefit that multiple generation types provide in specific situations, for short term solutions as explained in our Wildfire Mitigation Plan (WMP).
- Third, SDG&E has extensive experience collaborating with our customers and communities on microgrids.
- Fourth, SDG&E would like to point out that many of the issues raised during the workshop sessions are currently being evaluated in ongoing proceedings at the California Public Utilities Commission (CPUC).
- Finally, SDG&E emphasizes the need to ensure adequate testing before commissioning of microgrid systems to ensure safe and reliable operation of the electric grid.

SDG&E microgrid projects provide resiliency. Permanent solutions, such as microgrids, to mitigate the impacts of PSPS are necessary where other alternatives, like traditional hardening or undergrounding, are either infeasible or financially prohibitive considering the time required to achieve mitigation of PSPS impacts. Distributed Energy Resources (DER), may provide resiliency services to the grid. Located in the right places, in the right amounts and with the necessary sensing and operational control functions in place, these DERs can be combined under a centralized dispatch regime to create a microgrid. SDG&E has already pioneered various

microgrids, including one in Julian and one in Borrego Springs. We have plans to develop additional microgrids to enhance the resiliency of communities that are susceptible to PSPS.

Since 2013, SDG&E has successfully used PSPS as a last resort, concisely targeted, wildfire risk mitigation tool for public safety and as part of a wide set of complementary wildfire mitigation measures. SDG&E has formed a PSPS Mitigation Engineering team of dedicated experts to conduct a segment-by-segment analysis of circuits prone to PSPS in the highest risk areas with the objective of developing short- and long-term solutions. The solutions SDG&E has and will continue to implement are expected to reduce the number of customers impacted by PSPS events and improvements will continue beyond that to protect customers and the communities we serve. Microgrids are but one tool we are using to achieve this goal.

Included in SDG&E's WMP are multiple microgrid locations to provide backup power and resilience to critical facilities and communities impacted by PSPS. SDG&E anticipates that through the deployment of microgrids and other mitigation measures, the number of customers impacted by PSPS events and the severity of those impacts will decrease over time. SDG&E is currently building four microgrids that upon completion will include solar and/or battery storage supporting critical customers and communities in and around the High Fire Threat District (HFTD) impacted by PSPS.

Fuel sources should not be a limiting factor for use in a microgrid. We need to get all technology options on the table and look for site and duration-specific solutions. For example, SDG&E has in its service territory customer-owned microgrids using natural gas as generation sources. However, there are many areas in the state without access to either natural gas infrastructure or storage. In the areas where traditional hardening or undergrounding are potential solutions, the design and permitting phase can be lengthy and span more than one fire season. To address these restrictions, temporary backup generation should be fuel source flexible so that these solutions are immediately available and can be relied on over an extended period of time. This ensures resiliency can be provided to reduce customer impacts of PSPS.

Some areas may also be remote and not feasible for traditional grid hardening or undergrounding solutions. In the cases where backup generation or a microgrid is the appropriate solution to ensure resiliency; deployed fuel sources for these resources can be dependent upon space availability, limited natural gas infrastructure or storage, cost-competitiveness, and timeliness of deployment among other things. Considering the various site-specific needs of critical facilities or communities is necessary when determining the appropriate fuel source for backup generation configurations. Collaboration with local governments and customers is a key part of this effort.

SDG&E has extensive experience collaborating with our customers and communities on microgrids. SDG&E works with its local governments, including tribal governments, to support their efforts to develop microgrids. We have provided support from a technical perspective, such as providing load information, we have provided endorsement letters in support of the government's pursuit of grant money and we help our government partners navigate the process required to establish new service.

Another example of our collaborative approach is the Borrego Springs Microgrid – the first utility-owned, community scale microgrid in America which demonstrates the capabilities of renewable and fossil-fueled generation, battery storage, and new technologies to enhance energy reliability. The microgrid can harness energy from its various fuel resources to power the entire community. SDG&E collaborated and conducted extensive outreach with the Borrego Springs community on the design and operation of the microgrid to support the needs of the community of approximately 2,800 people.

SDG&E also played an integral role in the development, testing and operation of MCAS Miramar's microgrid. The project required a high level of engineering focus and support on system protection to protect both the

SDG&E grid and MCAS Miramar's microgrid system. This included detailed coordination through the interconnection agreement. We coordinated rate support discussions to further the MCAS Miramar's understanding of the impact of each microgrid operational mode (normal, economic, test, or island mode) on their monthly gas and electric bills and Electric Distribution Operations for outages during high voltage cutovers during construction and on-going testing of the microgrid.

Additionally, UC San Diego (UCSD) has built one of the world's the most advanced microgrids with the support and collaboration of SDG&E. Through SDG&E's Demand Response and Load Shift programs and the Self Generation Incentive Program, UCSD was able to finance and improve their system. UCSD's microgrid is an important part of our system and going back as far as 2003 the campus microgrid was able to shift load to support SDGE during the severe fires that had interrupted major transmission lines of that fall.

Issues presented in the workshop are duplicative of ongoing CPUC proceedings. Various items were mentioned during the workshop sessions that are currently being evaluated in ongoing CPUC proceedings such as departing load charges, standby charges, and other rate-related topics. The CPUC recently issued a Staff Proposal in Track 2 of the Microgrid OIR (R.19-09-009) that includes options around rate design, including a proposal of creating a new microgrid tariff. SDG&E believes these issues are best addressed in the Microgrid OIR. Additionally, any discussion around resource adequacy payments for behind-the-meter resources is being addressed in the Resource Adequacy program proceeding (R. 19-11-009).

Safe and reliable operation of the grid should be of utmost importance. SDG&E would like to re-iterate points made during the workshop around testing, commissioning and operation of microgrids. We have learned quite a bit from several occasions where SDG&E disconnected its microgrid from the main grid and then reenergized the disconnected facilities. Specifically, there are challenges in seamlessly operating a microgrid while in island mode while incorporating customers' rooftop PV systems.

Additionally, SDG&E would like to caution against emulating the mobile home master meter configuration which includes non-utility owned infrastructure for microgrids. Utility ownership in mobile home complexes has been found to be safer than the landlord ownership configuration. In fact, as recently determined by the CPUC, the Mobilehome Park Utility Conversion Program has been successful in improving the safety and reliability of electric and gas utility service to mobilehome park residents and was approved to continue in D.20-04-004. Ensuring safety remains our top priority in delivery of reliable electric service.

SDG&E looks forward to ongoing conversations on ideas about microgrids and other technologies and how they can be integrated into the power grid. We appreciate the opportunity to provide these comments.

Sincerely,

