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Microgrid Workshop Comment from Alliance for Desert Preservation

Additional submitted attachment is included below.



May 9, 2017

Efiled at: https://efiling.ca.gov/Ecomment/Ecomment.aspx?docketnumber=16-EPIC-01 Mr. Mike Gravely Research and Development Office California Energy Commission Dockets Office, MS-4 Re: Docket No. 16-EPIC-01 1516 Ninth Street, Sacramento, Calif. 95814-5512

Re: <u>Roadmap for Commercializing Microgrids in California (Docket</u> <u>No. 16-EPIC-01</u>)

Dear Mr. Gravely,

The Alliance for Desert Preservation is a nonprofit mutual-benefit corporation formed to protect the environmental and economic well-being of the High Mojave Desert and to support a sustainable future, while safeguarding against activities that may harm the High Mojave Desert. We support the effort to facilitate the proliferation of microgrids in this state through the above proceeding. With the able guidance of the CEC and CPUC, microgrids can become valuable tools in the drive to reach our state's RPS and GHG-reduction goals, while also reducing the need for further utility-scale renewable energy generation and associated transmission infrastructure.

A key task, at this early stage of the proceeding, is defining precisely what a microgrid is, and is not. To begin with, the definition must be crafted in a way that distinguishes microgrids from utility-scale renewable energy projects. Without such a clear delineation, this proceeding could promote microgrids that are, in essence, the functional equivalents of utility-scale renewables, thereby fostering the mode of large-scale, centralized generation that several California counties are working to reign in¹; it would also conflict with initiatives at the federal

¹ San Bernardino County, for instance, is drafting a Renewable Energy and Conservation Element (the "RECE") for its General Plan that, as reflected in the final discussion draft of the RECE released last month, bans utility-scale renewable energy generation outside of a small handful of seriously degraded areas.

The RECE is not by any means the first time that San Bernardino County has spoken on the subject. Previously, in its February 17, 2016 Resolution (No. 2016-20) addressed to the

and state level – such as the DRECP and RETI 2.0 – which seek to plan for and regulate utility-scale renewables and related grid resources.

The presentation materials for the April 25, 2017 workshop reflect that participants are grappling with how to define microgrids by sifting through existing definitions put out by government and industry. These definitions agree in one respect: microgrids should be "islandable," i.e., able to function independently of the grid for the direct benefit of local consumers. But should microgrids also be used to provide services beyond the microgrid, i.e. to export power to the grid? Navigant would answer this question in the affirmative, according to presentation materials for the April 25, 2017 workshop. In that same vein, Navigant suggests that microgrids be "modeled as a flexible wholesale resource."

How then would energy-exporting microgrids be differentiated from utility-scale renewables? If, for example, a large-sized, PV solar-powered microgrid is ostensibly built to supply electricity to one or more adjacent communities -- but actually winds up selling a significant portion of its output on the grid -- it would end up being the functional equivalent of a utility-scale renewable energy generation project and, like any utility-scale facility that draws on extensive fields of ground-mounted solar PV panels, consume a great deal of acreage and impose associated burdens on adjacent human and natural communities.² Or an export-oriented utility-scale renewable energy project could dole out some of its output directly to an adjacent community and then claim that it must therefore be incentivized as a microgrid. This proceeding certainly should not be used to facilitate the establishment of ersatz and outsized "microgrids" of that ilk.

This issue will become increasingly pressing as the nameplate capacities of microgrids steadily increase. The pioneer community-scale microgrid in the tiny Low Desert community of Borrego Springs – population 3,429 – has a 37 MW capacity, according to the April 25, 2017 presentation materials. If a solar PV powered microgrid were to be installed to serve a town with only twice that population – and if that microgrid were to have twice the capacity of the Borrego Springs system (i.e., 74 MWs) -- the microgrid would consume **592** acres (ground-mounted solar PV requires approximately 8 acres per MW of output according to current technology). Such a

BLM, the Board of Supervisors unanimously voiced the position that, when and to the extent that utility-scale projects are truly needed, they should be confined to five seriously degraded areas. In its February 3, 2015 Position Paper with respect to the Draft DRECP/Draft EIS/EIR, the County articulated similar values. Further, James Ramos, as Chairman of the County Board of Supervisors, directed a letter to the CEC, dated July 29, 2016, taking issue with RETI 2.0's ignoring of the County's "plainly-stated preferences" against utility-scale renewables.

² PV solar already accounts for 45% of total peak capacity among the 120 microdgrids in California that are currently on-line, under development or proposed (energy storage accounts for 11.6%), according to Navigant's April 25, 2017 presentation materials. It is quite likely that PV solar will become the generation technology of choice for microgrids.

microgrid --- indeed, any microgrid of that size -- would have enormous negative impacts on the environment and on adjacent communities that would be identical to that of any similarly-sized utility-scale project. Various federal, state and local proceedings have given attention to conservation in their planning for renewable energy, all of which – however inadequate it might be -- becomes useless if microgrids are allowed to slip through the planning process without meaningful environmental review.

In order to differentiate microdgrids from grid-oriented utility-scale renewables, we suggest a definition along the following lines: a microgrid is a locally-controlled, community-oriented and "islandable" power generation and distribution system that: (1) is powered by distributed energy resources; (2) is located immediately adjacent to the institution or community that it is built to serve; (3) is sited in a location approved by that institution or community (and by all other required governmental bodies); and (4) has an output capacity proportioned to satisfy the energy needs of the institution or community to which it is dedicated, plus such additional capacity as is needed to provide for reasonably anticipated short-term future growth and for recovery of costs associated with the installation and operation of the microgrid. This suggested definition is most definitely a work-in-progress, but it reflects the frequently-stated premise that microgrids are to be truly community-oriented, rather than grid-oriented.

Protocols must also be established as to where microgrids can and cannot be sited, both in terms of preserving the environment and in terms of protecting the quality of life for adjacent human communities. But, while siting criteria for utility-scale renewables have received extensive scrutiny (in the RECE, DRECP and RETI 2.0), there appears to be no similar initiative with respect to microgrids, even though their size and scope will in some cases rival that of utility-scale renewables. Indeed, the presentation materials for the April 25, 2017 workshop – particularly a document entitled "A Roadmap for Commercializing Microgrids in California" (the "Roadmap") -- suggest that the CEC and CPUC would like to leave it to the IOUs to identify "optimal locations for distributed energy resources."³ The Roadmap also suggests that the IOUs' location analysis – particularly in a "companion effort" undertaken by a working group called "More than Smart" – is meant to ensure that "assumptions made in the transmission planning process of the types, amounts, and locations of distributed energy resources are included in distribution planning," rather than to ensure that microgrids are sited in a way that does not degrade the very communities they are supposed to be serving.⁴

³ As stated in the first sentence of the Roadmap, the "IOUs are currently developing Distribution Resource Plans as directed by the CPUC to fulfill a requirement of Assembly Bill 327. These plans will identify the optimal locations for distributed energy resources, including energy storage, on the distribution system."

⁴ This is further confirmed by a perusal of the Distribution Resource Plan submitted by Southern California Edison. As can best be discerned from this lengthy and complicated document, Edison and the other IOUs have developed a "Locational Net Benefits Methodology" linked in some respect to scenarios posited in maps depicting "Maximum DER Potential." No analysis of impacts on local communities or the environment appears to be incorporated in this methodology.

In short, the formulation of comprehensive siting criteria for microgrids is of critical importance, and input must be invited from all interested parties.

Finally, emphasis should be placed on developing microgrids that employ DERs located in the adjacent built environment, such as rooftop and parking lot solar PV. This is a vast and still largely untapped resource that greatly reduces the burdens imposed on surrounding communities by large-scale, ground-mounted PV solar projects.

We greatly appreciate your time in considering all of the foregoing, and we look forward to continuing our vigorous and productive engagement in this process.

Very Truly Yours,

ALLIANCE FOR DESERT PRESERVATION