



**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

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Order Instituting Rulemaking to consider policy and implementation refinements to the Energy Storage Procurement Framework and Design Program (D.13-10-040, D.14-10-045) and related Action Plan of the California Energy Storage Roadmap.

Rulemaking 15-03-011
(Filed March 26, 2015)

**REPLY COMMENTS OF SAN DIEGO GAS & ELECTRIC COMPANY (U 902-E) ON
CALIFORNIA PUBLIC UTILITIES COMMISSION AND CALIFORNIA
INDEPENDENT SYSTEM OPERATOR ENERGY STORAGE ISSUE PAPER**

E. Gregory Barnes
Attorney for
SAN DIEGO GAS & ELECTRIC COMPANY

8330 Century Park Court, CP32D
San Diego, California 92123
Telephone: (858) 654-1583
Facsimile: (619) 699-5027
Email: gbarnes@semprautilities.com

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Pursuant to the April 22, 2016 *Administrative Law Judge’s Ruling Noticing Workshop, Jointly Led by the California Independent System Operator [“CAISO”] and the California Public Utilities Commission [“CPUC”] and Setting a Comment Schedule* (“Ruling”), San Diego Gas & Electric Company (“SDG&E”) submits this reply to comments filed May 13, 2016. Because of the large number of issues addressed in comments, SDG&E limits this reply to certain issues related to energy storage systems, specifically station power and multiple-use applications (“MUA”).¹

I. STATION POWER

As parties’ opening comments and the underlying workshops demonstrate, there are differing views as to what electrical loads at a storage facility are end-use retail consumption (“station power”) and what loads are wholesale. However, while differences exist, most parties

¹ Opening comments were filed by California Energy Storage Alliance (“CESA”), California Hydrogen Business Council, Calpine Corp., Green Charge Networks, Green Power Institute, Independent Energy Producers Ass’n, LS Power, MegaWatt Storage Farms, NRG Energy, Pacific Gas and Electric Company (“PG&E”), Powertree Services, Inc., SDG&E, SolarCity, Southern California Edison Company (“SCE”), Stem, Inc., TeMix, Inc., and The Utility Reform Network (“TURN”). Comments are cited “[party] comments at [page number(s)].”

agree that at least *some* loads at an energy storage facility are retail in nature.² Further, several parties acknowledge that there should be consistent treatment of wholesale and end-use consumption across all resource types.³ To the extent that an energy storage device provides the same market services to the CAISO as conventional generating resources, the playing field between each technology type must be level. SDG&E does not support creating resource-specific approaches to station power or end-use consumption.

To this end, SDG&E recommends adopting a guiding principle for station power as it relates to energy storage: electric energy that (i) is consumed during the specific time periods when the storage facility is charging or discharging, or synchronized to the grid in response to a market award or self-schedule, and (ii) is required to operate electrical equipment that is “directly integrated” with the charging and/or discharging function is end-use load subject to retail rates. A guiding principle that draws a clear line between retail and wholesale load based on when the storage device is physically charging, discharging or otherwise “in the market”⁴ parallels the application of the existing station power tariff to conventional generators. If a conventional generator is off-line between production intervals, its start-up loads are assessed the applicable retail rate. Similarly, if a conventional generator is off-line for maintenance, all of the on-site electricity use is treated as end-use retail load. Additionally, all power used to run electrical equipment that is not directly integrated with charging and discharging functions will be considered end-use load subject to retail rates (*e.g.*, lighting, office equipment including air

² Only Calpine and NRG argued that *all* station load should be wholesale.

³ *See e.g.*, PG&E comments at 17-18, SCE comments at 3, IEP comments at 3-4, and SDG&E comments at 5.

⁴ For example, in response to a spinning or non-spinning award. In this instance, the resource could be idle – that is, neither charging nor discharging – however, directly integrated loads during this period would be considered wholesale because the resource is idle in response to an obligation awarded by the market to provide reserves in a contingency event.

conditioners, electric water and space heaters, computers, co pumps, maintenance equipment, power tools, charging of back-up battery systems, alarms, electric security gates, security systems, signage, *etc.*).

Precisely defining what loads are “directly integrated” with charging and discharging functions will vary significantly by technology. If the above principle is adopted, these variations can be addressed contractually.

II. ADDITIONAL WORKSHOP(S) SHOULD BE SCHEDULED TO DISCUSS MULTIPLE-USE APPLICATION (“MUA”) CASES

PG&E, SCE, Calpine and TURN each voiced concerns about behind the meter resources potentially being compensated twice for providing the same service.⁵ SDG&E shares these concerns and believes that additional information is required before the CPUC adopts policies that may promote or encourage behind-the-meter MUAs. While Stem, Solar City, and Advanced Microgrid Systems each gave workshop presentations that generally described two approaches to behind the meter MUAs, no presentation directly addressed the “double compensation” issue, and none clearly defined how these approaches create incremental value or benefits.⁶ Additionally, dispatch signal conflicts and dispatch priority issues must be addressed. The risk of a resource not being available for the lessor priority as determined by a financial/profit driver or optimization algorithm must be examined before MUAs are permitted.

⁵ See, PG&E comments at 12, SCE at 9, SDG&E at 11-12, Calpine at 2-3, and TURN at 5-6.

⁶ In each variation, these companies help customers finance and install storage on the customer’s premises with the primary intent to charge and discharge the storage to obtain retail bill savings – typically, to minimize the customer’s exposure to retail demand charges or time of use rates. They then aggregate storage devices from multiple customers to provide services to utilities or load serving entities in the form of either: 1) enabling the deferral conventional distribution infrastructure investments, or 2) providing resource adequacy (“RA”) capacity to the purchasing utility.

As a guiding principle, a behind-the-meter storage device may provide multiple services, but it should not be paid twice for the same service. Before adopting policies that may encourage particular applications or use cases, it is critical that the record reflect a common understanding among parties as to where *incremental* value is (or perhaps is not) created in behind-the-meter MUAs. This current record does not reveal where or whether incremental value is created. To further inform the record on this critical issue, SDG&E suggests scheduling additional workshop(s) that take a focused, detailed look at behind-the-meter MUAs, and scrutinize how the operational profiles of behind-the-meter resources interact with and possibly provide incremental value to customers, utilities and wholesale markets.

SDG&E recommends that the CPUC select one specific, well-defined use case to examine in detail. This will allow parties to flesh out the benefits and risks of the use case rather than adopting policies for a wide range of different and nuanced use cases which may have unique issues.

III. CONCLUSION

SDG&E respectfully requests that the CPUC adopt the above guiding principles and recommendations.

Respectfully submitted,

/s/ E. Gregory Barnes

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Attorney for

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