DrinkerBiddle&Reath LLP

C. Baird Brown
215-988-3338 Direct
215-988-2757 Fax
baird.brown@dbr.com

Law Offices
One Logan Square, Ste. 2000
Philadelphia, PA
19103-6996

(215) 988-2700 phone
(215) 988-2757 fax
www.drinkerbiddle.com

CALIFORNIA
DELAWARE
ILLINOIS
NEW JERSEY
NEW YORK
PENNSYLVANIA
WASHINGTON D.C.
WISCONSIN

June 30, 2016

VIA ELECTRONIC FILING

California ISO
Attn: Kristina Osborne
250 Outcropping Way
Folsom, CA 95630
initiativecomments@caiso.com

Re: California ISO—Comments in Response to Stakeholder Initiative—Review Transmission Access Charge Wholesale Billing Determinant

Dear Secretary Collins:

This firm represents The Microgrid Resources Coalition ("MRC"). The MRC is pleased to submit its enclosed Comments in Response to the California ISO's ("CAISO's") initiative, Review Transmission Access Charge Wholesale Billing Determinant.

Please feel free to contact me directly at the telephone number above.

Very truly yours,

C. Baird Brown
Attorney for the MRC

Established 1849

CALIFORNIA
INDEPENDENT SYSTEM OPERATOR

COMMENTS BY THE MICROGRID RESOURCES COALITION IN RESPONSE TO CALIFORNIA INDEPENDENT SYSTEM OPERATOR'S STAKEHOLDER INITIATIVE, REVIEW TRANSMISSION ACCESS CHARGE WHOLESALE BILLING DETERMINANT

C. Baird Brown
Drinker Biddle & Reath LLP
One Logan Square, Suite 2000
Philadelphia, PA 19103-6996
Baird.Brown@dbr.com

Christopher B. Berendt
Drinker Biddle & Reath LLP
1500 K Street, N.W.
Washington, D.C. 20005-1209
Christopher.Berendt@dbr.com

Kimberly E. Diamond
Drinker Biddle & Reath LLP
1177 Avenue of the Americas, 41st Floor
New York, NY 10036-2714
Kimberly.Diamond@dbr.com

For the Microgrid Resources Coalition

Dated: June 30, 2016

1. Introduction

The Microgrid Resources Coalition ("MRC") hereby files its comments in connection with the California Independent System Operator ("CAISO") Issue Paper: "Review Transmission Access Charge Wholesale Billing Determinant." To put our comments in context, we provide a brief summary of our work in support of microgrids.

The MRC is a consortium of leading microgrid[1] owners, operators, developers, suppliers, and investors formed to advance microgrids through advocacy for laws, regulations and tariffs that support their access to markets, compensate them for their services, and provide a level playing field for their deployment and operations.[2] In pursuing this objective, the MRC does not favor particular technologies deployed in microgrids or ownership structures for the assets that form a microgrid. The MRC's members are actively engaged in developing and operating microgrids in many regions of the United States.[3]

2. Microgrids Empower Customers

First and foremost, microgrids empower customers. Customers have multiple energy needs, including high-quality, reliable, low-cost electricity, but also heating, cooling, hot water, and steam for specialized processes. They have choices of energy sources, including gas, electricity, geothermal, solar, and biomass, and through thermal and electric storage and equipment optionality (such as steam vs. electric chillers) can optimize among those sources. Customer decisions about usage of other utilities, such as water and sewer services, are often

---

[1] The MRC defines a microgrid as a local electric system or combined electric and thermal system that (i) includes retail load and the ability to provide energy and energy management services needed to meet a significant proportion of the included loan on a non-emergency basis, (ii) is capable of operating either in parallel or in isolation from the electric grid, and (iii) can provide some combination of energy, capacity, ancillary or related services to the grid when operating in parallel.

[2] We previously provided comments in support of CAISO's tariff revisions relating to aggregated distributed generation. *See Motion to Intervene and Comments of the Microgrid Resources Coalition in Response to California Independent System Operator Corporation's Distributed Energy Resource Provider Initiative*, filed in Federal Energy Regulatory Commission Docket No. ER16-1085-000, March 25, 2016.

[3] The MRC is actively engaged in advancing the understanding and implementation of microgrids across the country. MRC members hold significant energy assets connected to the electric grids, provide energy generation and supply services, and are exploring microgrid construction and ownership in different locations throughout the country. MRC members include: Anbaric Transmission, ICETEC Energy Services, Concord Engineering Group, Inc., NRG Energy, Inc., Princeton University, and The International District Energy Association ("IDEA").

integrated in the decisions about energy use. Those uses may soon expand to include wide use of electric or plug-in hybrid vehicles. Customers also frequently have non-monetary goals, such as decreasing their carbon footprint. Customers generally are the only ones that can effectively make integrated choices between energy sources, between modes of operation, and between monetary and non-monetary goals for their energy usage. Microgrids can be deployed in a wide variety of configurations capable of providing a range of services that can be tailored to customer requirements.

3. Microgrid Performance

Microgrids achieve energy efficiency levels far superior to conventional generation thanks to their ability to employ sophisticated and flexible technology in response to specific load configurations. Using cogeneration to serve balanced electric and thermal loads, microgrids can achieve generation efficiencies above 80%, compared to around 30% to 50% for conventional generation. In addition, including renewable energy allows microgrids to undertake flexible hybrid generation operations. Using electric and thermal storage capabilities, a microgrid can provide local management of variable renewable generation, particularly on-site solar. By "smart" management of thermal loads, microgrids can effectively use buildings themselves as thermal storage to manage load shape. These and similar efficiency and energy management strategies not only save money but also significantly reduce the environmental impact of providing energy services.

Additionally, customers whom microgrids serve typically make substantial investments in energy efficiency. They adopt passive measures that reduce energy consumption such as more efficient HVAC as well as other systems that, when coupled with sophisticated controls, allow them to manage their load shape as well as further reduce load. These investments are made to operate in tandem with their generating and thermal generating systems. The microgrid context makes them economic.

4. California Promotes Distributed Energy Resources

Under California Assembly Bill 327 ("AB 327"),[4] California's electric utilities are required to open their systems to distributed energy resources ("DERs") by developing distribution resource plan ("DRP") proposals that identify optimal locations for DERs deployment, to enable DERs to help and bolster the electric distribution system. California Public Utilities Commission ("CPUC") has implemented AB 327 by requiring all California electric utilities to undertake integrated distribution planning ("IDP") for DER growth. The IDP process identifies locations on the existing distribution system where DERs can contribute to the operation of the grid.[5] As part of the IDP process, by July 2015, all utilities provided online interconnection maps, which assist the design and implementation of a more open, flexible network system—rather than a centralized, linear, closed system—that enables seamless DER integration.

Through its Rulemaking 14-10-003 (the "IDER Proceeding"), led by Commissioner Michel Florio,[6] CPUC has also led efforts to find the best approach to third party DG ownership. These efforts have included a proposed DERs pilot program, public workshops, and robust discussions for understanding more clearly the financial motivations and other forces that will collectively optimize circumstances conducive to electric utilities' supporting more DERs. The IDER Proceeding has also focused on developing a regulatory framework that will clarify the development process, incentivize electric utilities' pursuit and adoption of DERs, enable these utilities to achieve equivalent financial results to wires solutions through encouraging third party DG ownership.

---

[4] According to Governor Edmund G. Brown Jr.'s message explaining why he signed AB 327 into law, AB 327 requires electric utilities to develop infrastructure plans to ensure that ratepayer dollars are used in the most efficient way possible. *See* https://www.gov.ca.gov/docs/AB_327_2013_Signing_Message.pdf. Under Section 769(a), DERs are defined as "distributed renewable generation resources, energy efficiency, energy storage, electric vehicles, and demand response technologies." *See* CAL. PUB. UTIL. CODE, DIV. 1, PART 1, Ch. 4, art. 3, §769(a) (2013) (Amended by Stats. 2014, Ch. 71, § 151. Effective Jan. 1, 2015).

[5] *See, e.g.*, Kevin Fox, "New Proactive Planning Strategy Proposed for Distributed Generation," May 30, 2013, at http://www.irecusa.org/2013/05/new-proactive-planning-strategy-proposed-for-distributed-generation/. *See also* The Interstate Renewable Energy Council, Inc. ("IREC") and Sandia National Laboratories ("Sandia")'s May 2013 report "Integrated Distribution Planning Concept Paper".

[6] The official name of R.14-10-003 (filed October 2, 2014) is "Order Instituting Rulemaking to Create a Consistent Regulatory Framework for the Guidance, Planning, and Evaluation of Integrated Distributed Energy Resources".

5. Microgrids Provide Services to the Distribution and Transmission Grid

The same flexibility that provides benefits to their hosts makes microgrids uniquely suited to create efficiencies for the grid. Microgrids moderate power prices and grid congestion by efficiently shifting load to times of lower demand and pricing, and by locating generation closer to loads. Microgrids can make it economically feasible to place generating capacity in congested areas of the grid and, from a planning perspective, can reduce contingencies that threaten grid stability. Microgrids regularly provide standardized products, such as energy (including demand response), capacity and ancillary services to organized power markets. Through fine tuning its own generation and load, a microgrid can shape its system profile to create a wide variety of customizable load and generation modification services ("Profile Products"). Profile Products can be tailored to solve specific distribution grid (station to circuit) problems, providing local distribution utilities with tools to achieve reliable and self-healing operations.

High performance microgrids employing multiple energy management technologies can simultaneously provide multiple services using multiple dynamic objective functions. Microgrid resources make the operation of the grid more competitive and provide distribution utilities with advanced capabilities to ensure overall system and distribution network reliability and service quality. In sum, microgrids are uniquely suited to provide the grid support AB 327 contemplates, due to the great flexibility they offer in how they respond.

6. Multi-Customer Microgrids

While most existing microgrids each respectively serve a single customer behind that customer's meter, many communities and developers are working to deploy microgrids that serve multiple customers. Given California's restrictions on distribution of electricity across streets or multiple property lines, a multi-customer microgrid would generally be deployed through a partnership with the local distribution utility. The utility would own and maintain its wires and interconnect any included generation in the microgrid as it would any other generation, taking into account the overall controls the microgrid provides. The utility meters and bills its customers and serves its customers in ways that do not fundamentally change with the superposition of the microgrid, except when the microgrid is in island mode. In grid connected mode, individual customers within the microgrid may self-provide generation and provide excess

power to the utility or the ISO under existing mechanisms such as the aggregation mentioned above. A microgrid's existence essentially leaves this unchanged. In island mode, a microgrid also essentially allows for no change, insofar as the utilities' wires still provide the distribution function.

The San Diego Gas and Electric ("SDG&E") demonstration project at Borrego Springs, California provides a useful example.[7] The Project integrates behind the meter rooftop solar systems and electric vehicles as its DERs with in front of the meter battery storage and diesel generation.[8] Among its attributes, the Project can island (isolate) itself and continue to support the over 600 customers in the microgrid, transition seamlessly in and out of island mode without impacting customer service quality, and reduce peak load on the circuit by 15 percent or more.[9] The final Report for the Project states that microgrids using DERs and their control strategies can provide benefits to California ratepayers that include system reliability and the ability to provide consumer cost reductions by enabling consumers to manage their electricity use and integrate renewable energy into the grid.[10]

As the Project illustrates, multi-customer microgrids provide numerous advantages. The MRC anticipates an increase in the number of microgrids in the future, including the proliferation of multi-customer microgrids. This projected growth in market participation among multi-customer microgrids should factor into the formulation of policies regarding how microgrids are and will be assessed for transmission access charge ("TAC") going forward. Currently, TAC is assessed differently for single-customer microgrids and multi-customer microgrids. CAISO should adopt the Clean Coalition's proposal to assure that TAC is assessed equally across all microgrids, rather than discriminating between single-customer microgrids and multi-customer microgrids.

---

[7] *See* San Diego Gas & Electric, *Borrego Springs Microgrid Demonstration Project: Final Project Report,*" October 2013 (hereafter, the "Report"), at 1, 4; U.S. Department of Energy, Microgrids at Berkeley Lab, "Borrego Springs," at https://building-microgrid.lbl.gov/borrego-springs (hereafter, "Berkeley Lab").
[8] *See* Report at 3, 15.
[9] Report at 3. The 500 kW/1500 kWh battery located at the substation played a crucial role in helping to achieve peak load reduction. *Id.*; Berkeley Lab.
[10] Report at 3.

7. Responses to Questions regarding the Clean Coalition Proposal

The Clean Coalition has submitted a proposal regarding how the TAC should be assessed. The following are the MRC's answers to the questions that CAISO has asked relating to such proposal:

Question #1. ***At this point in the initiative, do you tend to favor or oppose Clean Coalition's proposal? Please provide the reasons for your position***.

Answer #1*:* The MRC favors Clean Coalition's proposal. The MRC desires to see a level playing field for all DERs.

Question #2. ***Clean Coalition states that TED is better aligned with the "usage pays" principle than EUML is because load offset by DG does not use the transmission system. Do you agree? Please explain your reasoning.***

Answer #2: Yes, the MRC concurs with Clean Coalition. TED is better aligned with the "usage pays" principle than EUML for the reasons Clean Coalition articulates. Collaborative microgrid efforts between utilities and customers and communities such as this should be encouraged. The MRC advocates for a level playing field for all DERs.

Question #3. ***Clean Coalition states that using TED will be more consistent with the "least cost best fit" principle for supply procurement decisions, because eliminating the TAC for load served by DG will more accurately reflect the relative value of DG compared to transmission-connected generation. Do you agree? Please explain your reasoning.***

Answer #3: Yes, the MRC agrees with Clean Coalition. As discussed above regarding the services that microgrids can supply to the distribution system, the MRC favors procurements on behalf of utilities that support the most creative, least cost solutions.

Question #4. ***Clean Coalition states that changing the TAC billing determinant to use TED rather than EUML will stimulate greater adoption of DG, which will in turn reduce the need for new transmission capacity and thereby reduce TAC rates or at least minimize any increases in future TAC rates. Do you agree? Please explain your reasoning.***

Answer #4: Yes. For the reasons provided above relating to the Project, the MRC agrees with Clean Coalition.

Question #5. ***In the issue paper and in the stakeholder conference call, the ISO pointed out that the need for new transmission capacity is often driven by peak load MW rather than the total MWH volume of the load. This would suggest that the load offset by DG should get relief***

from TAC based on how much the DG production reduces peak load, rather than based on the total volume of DG production. Please comment on this consideration.

Question #6. Related to the previous question, do you think the ISO should consider revising the TAC billing determinant to utilize a peak load measure in addition to or instead of a purely volumetric measure? Please explain your reasoning.

Answer #5 and #6: Changing TAC to include peak load is not necessary to eliminate the current discrimination. The Clean Coalition's proposed solution to fix TAC is straightforward. The MRC favors fair payment for all services, on a cost/causation basis, irrespective of whether CAISO elects to undertake a long-term effort to consider adding a separate peak load demand charge. We note that several RTOs, including PJM, do impose a peak component of their transmission charge, and that by managing their load profiles, microgrids are able to reduce or avoid this charge entirely.

Question 7. Do you think adopting the TED billing determinant will cause a shift of transmission costs between different groups of ratepayers? If so, which groups will pay less and which will pay more? Please explain your reasoning, and provide a numerical example if possible.

Answer #7: The MRC does not have an *a priori* reason to believe that TED will cause shifts of transmission costs between different groups of ratepayers located in one place or another. As discussed above, the Project and other multi-customer microgrids provide examples of places where people pay less for their energy due to the avoided costs associated with the additional expansion of the transmission system.

Question 8. Do you think a third alternative should be considered, instead of either retaining the status quo or adopting the TED billing determinant? If so, please explain your preferred option and why it would be preferable.

Answer #8: The MRC does not propose a third alternative at this time. In the long run, the MRC favors a process of disaggregating services and costs, as well as a process where each customer pays their fair share of costs.

Question 9. Do you think that ISO adoption of TED by itself will be sufficient to accomplish the Clean Coalition's stated objectives (e.g., incentives to develop more DG)? Or will some corresponding action by the CPUC also be required? Please explain.

Answer #9: As stated above, the MRC encourages the adoption of a solution that will enable all microgrids to be assessed similarly, on a level playing field.

Question 10. What objectives should be prioritized in considering possible changes to the TAC billing determinant?

Answer #10: CAISO should consider payments for DERs that actually reduce transmission system congestion.

Question 11. What principles should be applied in evaluating possible changes to the TAC billing determinant?

Answer #11: The MRC encourages CAISO to apply principles that will level the playing field for DERs, as compared to wire solutions.

Question 12. Please add any additional comments you'd like to offer on this initiative.

Answer #12: No additional comments.

8. Conclusion

The MRC thanks CAISO for considering our comments in respect to the TAC billing determinant.