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March 25, 2016

VIA ELECTRONIC FILING

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: Motion to Intervene and Comments on California Independent System
Operator Corporation's ("CAISO") Distributed Energy Resource Provider
Initiative—Docket No. ER16-1085-000

Dear Secretary Collins:

This firm represents The Microgrid Resources Coalition ("MRC"). The MRC is pleased to submit its enclosed Motion to Intervene and Comments to CAISO's March 4, 2016, proposed tariff filing implementing its Distributed Energy Resource Provider Initiative.

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

Very truly yours,



C. Baird Brown
Attorney for the MRC

**BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

**California Independent System
Operator Corporation**

Docket No. ER16-1085-000

**Motion to Intervene and Comments of the Microgrid Resources Coalition
in Response to California Independent System Operator Corporation's
Distributed Energy Resource Provider Initiative**

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For the Microgrid Resources Coalition

March 25, 2016

1. Introduction

Pursuant to Rules 214 and 211 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission (“FERC” or “Commission”)¹, the Microgrid Resources Coalition (“MRC”) hereby moves to intervene and submits the below comments in connection with the California Independent System Operator Corporation’s (“CAISO”) tariff filing dated March 4, 2016 (“Filing”). The CAISO seeks to revise its tariff to implement its “Distributed Energy Resource Provider Initiative” (“Initiative”) to facilitate participation of aggregated distributed energy resources in the CAISO’s energy and ancillary markets.²

The CAISO states that the proposed tariff revisions are designed to enable aggregations of energy resources connected to distribution systems within its balancing authority area to participate in its wholesale energy and ancillary services markets.³ In addition to third party aggregators of distributed generation, the CAISO lists “micro-grids interconnected to distribution systems” as an example of types of entities whose participation in wholesale markets would be facilitated by the initial framework established by the Initiative.⁴

The MRC is a consortium of leading microgrid⁵ 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. In pursuing this objective, the MRC intends to remain neutral as to the technology deployed in microgrids and the ownership of the assets that

¹ 18 C.F.R. § 385.211, 214.

² Filing at 1.

³ *Id.* at 2.

⁴ *Id.*

⁵ 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 load on a non-emergency basis that (ii) is capable of operating either in parallel or in isolation from the electrical grid, and that (iii), when operating in parallel, can provide some combination of energy, capacity, ancillary or related services to the grid. Microgrids typically have advanced control systems that enable them to provide more, and more responsive, grid services than other distributed energy resources.

form a microgrid. The MRC's members are currently engaged in a variety of microgrid-related activities within the CAISO balancing authority area.⁶ The MRC submits its comments below to express its support for the Filing and to identify for the Commission some aspects of the proposed tariff revisions that may require further clarification.

2. General Support

In general, the MRC strongly supports the CAISO's Distributed Energy Resource Provider Initiative and the tariff revisions proposed in the Filing. The MRC believes that the proposed revisions make significant progress toward opening the CAISO's wholesale energy and ancillary services markets to distribution level, behind-the-meter energy resources.

CAISO's tariff revisions will facilitate deployment of microgrids and other distributed energy resources by reducing barriers to entry for distribution level energy resources able to meet CAISO product specifications and make competitive offers. In the MRC's experience, OATT provisions and implementing manuals often discriminate by omission against distribution level energy resources and are counterproductive to the development of more efficient and resilient control area management. Indeed, for certain products and services the performance of distribution level resources may be superior to traditional resources.⁷ Microgrids and other advanced distributed energy resources will benefit from equitable wholesale market access. Microgrid development has the potential to:

- empower customers to deploy distributed generation and energy management resources and achieve cleaner, more economic energy strategies; and

⁶ The Microgrid Resources Coalition is actively engaged in advancing the understanding and implementation of microgrids across the country, including within the CAISO balancing authority area. MRC members hold significant energy assets connected to the CAISO grid, provide energy generation and supply services, and are exploring microgrid construction and ownership in California. Members of the MRC include: Anbaric Transmission, ICETEC Energy Services, Concord Engineering Group Inc., NRG Energy, Inc., and Princeton University, and The International District Energy Association ("IDEA"). IDEA Members located in CA include California Institute of Technology, Stanford University, UC Irvine, UCLA, UC San Francisco, and UC Berkeley.

⁷ The provision of products such as frequency regulation and voltage support at the distribution level can gain performance via proximity to imbalances and avoidance of grid constraints.

- play a companion role in the revitalization of grid infrastructure to produce a more efficient and resilient grid that is self-healing.⁸

Accordingly, we encourage the Commission to approve the CAISO's tariff revisions but also encourage CAISO to continue to explore ways to open its markets to behind the meter resources.

The MRC particularly supports the treatment of distribution level energy resources on the same footing as other types of generation in terms of using direct metering as opposed to complex baseline calculations or other derived measurements for performance evaluations.⁹ Microgrids often employ state-of-the-art energy management tools, such as sophisticated building controls, advanced generator operating controls, and the flexibility to arbitrage among different types of generation and between current consumption and additions and withdrawals to or from both thermal and electric storage. In practice, those tools provide microgrid operators with the ability to manage their load profile precisely. Typical baseline calculations and other derived measurement techniques that ignore this variability tend to penalize sophisticated microgrids by failing to fully appreciate the flexibility inherent in their operation. Therefore, allowing distributed energy resources participating in a distributed energy resource aggregation to be metered and bid directly into the CAISO markets without having to resort to baseline calculations is crucial.

The MRC also strongly supports CAISO's proposed tariff provisions that permit distributed energy resource aggregations to provide a net response at the pricing node level as opposed to an individual distributed energy resource location in order to capture the value that the aggregation provides at the transmission-distribution interface.¹⁰ This appropriately allows distributed energy resources the flexibility to achieve a net delivered result even if particular

⁸ As the distribution system deploys more advanced and more autonomous local controls and better communication, local segments of the grid, taking advantage of local distributed resources, can become self-supporting and mutually supporting in emergencies, avoiding cascading failure.

⁹ See Filing at 16, n.7.

¹⁰ *Id.* at 12.

aggregated resources move in different directions. The MRC also believes that it is appropriate that distributed energy resource aggregations be allowed to provide multiple services, so long as they meet the CAISO requirements for each service to be provided.

3. **Remaining Open Questions**

While the MRC strongly supports CAISO's proposed tariff revisions and the Initiative as a whole, we respectfully raise two potential points for clarification left open by the Filing. First, the Filing is not clear as to precisely how the distinction between a distributed energy resource and a demand response resource is made. The MRC is in support if, as we understand the Filing, the determinative distinction is that distributed energy resources will be metered directly and their performance evaluated without reference to a calculated baseline or other prescribed and predictive measurement for performance evaluation, as opposed to demand response resources whose performance evaluation is currently made (and will continue to be under the proposed revisions) with reference to a baseline.¹¹ Such an approach would effectively allow distributed energy resources to avoid reference to baseline calculations, as required for demand response resources, even if the distributed energy resource is not making a net export of energy on to the grid.

The MRC optimistically interprets CAISO's filing in this way, but would encourage the Commission to press CAISO for clarification on this point. MRC members have experienced difficulty within the territory of other independent system operators where they face regulatory barriers to dividing and segmenting their behind-the-meter resources in ways that make economic and operational sense. We urge the Commission and the CAISO to continue to work toward flexible access for distributed energy resources to the CAISO's wholesale markets that allows microgrids and other advanced distributed resources to fully leverage their particular capabilities while both respecting and facilitating the safe and reliable operation of the distribution system. The movement to recognize behind-the-meter resources on a directly metered basis is a good start. However, there is still much work to be done to take advantage of the full potential of sophisticated distributed resources such as microgrids.

¹¹ See Filing at 16, 19.

Second, the Filing proposes to prohibit distributed energy resources that participate in a distributed energy resource aggregation from participating in a demand response aggregation or participating in markets individually.¹² However, the Filing is not clear as to what constitutes a “resource” for purposes of these prohibitions. For instance, it is unclear if under the CAISO’s proposal a distributed energy resource would be allowed to do any of the following:

- Use separate tranches of a single resource or different types of capability of a single owner of multiple resources to provide different services (with only the tranche or resource committed to the CAISO as a portion of distributed generation aggregation being subject to dispatch through the aggregator);
- Provide two compatible services (e.g. regulation and energy, where regulation is provided around the level of the required energy delivery); or
- Include more than one type of generation or response (as many advanced microgrids are capable of doing).

The MRC strongly supports accurate resource accounting. In our view there is a significant risk of under-counting or discounting of the value of services provided by advanced distributed energy resources like microgrids. Microgrids are capable of providing certain products as part of an aggregation at the same time they are individually providing other products to CAISO as well as locally tailored products to distributional utilities. As described above, in many locales microgrids currently cannot deliver all of the grid services that they are capable of delivering, solely because of regulatory barriers. In addition, we note that the Supreme Court’s recent decision in *FERC v. EPSA*, dismissed concerns about double counting as between retail rate savings and payment of locational marginal price.¹³ In FERC Order 888 and

¹² See Filing at 9 (“Among other requirements, the CAISO proposes that a distributed energy resource may not participate in more than one distributed energy resource aggregation, and a distributed energy resource participating in a distributed energy resource aggregation may not participate as a resource in the CAISO market separate from the distributed energy resource aggregation. These requirements are necessary to ensure the CAISO appropriately identifies the distinct and individual distributed energy resources that comprise a distributed energy resource aggregation, to prevent double counting or double enrollment, and to ensure the CAISO is not modeling distributed energy resources both as part of an aggregation and as a stand-alone resource.”)

¹³ *FERC v. Elec. Power Supply Ass’n*, 136 S. Ct. 760, 784 (2016).

its sequels¹⁴ the Commission has promoted open access for distribution level resources typically located on the utility side of the meter, and CAISO allows such resources to be segmented and owned by multiple parties or reallocated by contract for dispatch purposes. We submit that the reasoning of these orders extends equally to behind-the-meter resources, and that non-discriminatory access requires giving resources behind-the-meter the same flexibility of participation as other resources. To the extent that the Commission finds there to be inappropriate ambiguity in proposed tariff revisions, we respectfully request that the Commission encourage CAISO to work to resolve these issues in favor of flexibility for participation of distribution level, behind-the-meter resources.

4. Evolving Business Models

Finally, we concur with the CAISO that the proposed tariff is fully compatible with the evolution of utility business models.¹⁵ The MRC agrees that such an evolution is both necessary and desirable and congratulates FERC and the CAISO for beginning to address these issues on the distribution side. As described above, we believe that distributed energy resources should have unfettered access to wholesale markets whenever they are able to competitively provide products in accordance with the technical specifications of those markets or other system requirements. As utility business models continue to evolve, we also foresee these same resources providing locally customized products and services to distributional utilities positioned to coordinate and conduct a variety of distributed energy resources at the distribution level in order to advance the evolution of the grid to higher levels of efficiency and resiliency. In this way, the MRC sees the new utility business model centering on the role of distribution system as the “conductor” of the distributed energy resource orchestra. The orchestra is formed not only through tariffs but also through contracts between utilities and distribution level energy resources for products tailored to specific distribution system needs. This relationship is

¹⁴ *Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, Order No. 888, 61 Fed. Reg. 21,540 (May 10, 1996), FERC Stats. & Regs. ¶ 31,036 (1996), *order on reh'g*, Order No. 888-A, 62 Fed. Reg. 12,274 (March 14, 1997), FERC Stats. & Regs. ¶ 31,048 (1997), *order on reh'g*, Order No. 888-B, 81 FERC ¶ 61,248 (1997), *order on reh'g*, Order No. 888-C, 82 FERC ¶ 61,046 (1998), *aff'd in relevant part sub nom. Transmission Access Policy Study Group v. FERC*, 225 F.3d 667 (D.C. Cir. 2000), *aff'd sub nom. New York v. FERC*, 535 U.S. 1 (2002).

¹⁵ See Filing at 30.

additive, and should not be exclusive of, distribution level resources accessing RTO markets. The proposed CAISO tariff is a good beginning.

5. **Conclusion**

The MRC thanks the Commission for considering the above comments in response to CAISO's Filing. We hope the brief discussion of issues and initial feedback presented in these comments help to highlight some of the Commission's options to foster microgrid deployment within the CAISO's balancing authority area.