

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

Order Instituting Rulemaking Regarding
Microgrids Pursuant to Senate Bill 1339
and Resiliency Strategies.

Rulemaking 19-09-009
(Filed Sep. 12, 2019)

**COMMENTS OF
THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION
ON TRACK 2 STAFF PROPOSAL AND CONCEPT PAPER**

Roger E. Collanton
General Counsel
William H. Weaver
Senior Counsel
California Independent System
Operator Corporation
250 Outcropping Way
Folsom, CA 95630
T – 916-608-1225
F – 916-608-7222
bweaver@caiso.com

Attorneys for the California Independent
System Operator Corporation

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I. Introduction

Pursuant to the Administrative Law Judge’s July 23, 2020 ruling seeking comments, the California Independent System Operator Corporation (“CAISO”) hereby provides comments regarding the Track 2 microgrid and resiliency proposal (“Proposal”) and concept paper (“Concept Paper”) filed on July 23, 2020 by Commission Staff. The CAISO fully supports the Commission’s efforts to enable microgrids, enhance grid resiliency, and mitigate the impact of public safety power shutoffs (“PSPSs”). Having carefully examined Staff’s Proposal and Concept Paper, the CAISO anticipates that its tariff, study procedures, and market processes are well-situated to align with the Commission’s goals.

II. Comments

The CAISO appreciates the opportunity to comment and commends Staff on their thoughtful and well-written Proposal and Concept Paper. Staff clearly have tailored their Proposal to the specific issues microgrids can address in California today. The CAISO strongly supports Staff’s efforts to keep stakeholders mindful of current rules,

jurisdictional boundaries, and issues related to exporting beyond specific microgrids.

Although many microgrid generators may be smaller, distribution-connected, and focused on standby services, the Commission should be mindful that outside of outages, many microgrid generators will seek a variety of revenue streams. These revenue streams are almost certain to include resource adequacy and the wholesale markets. As such, the Commission should retain its focus on the distribution grid, but be mindful that wholesale distribution access tariffs (“WDATs”) and the CAISO tariff may require different standards than those proposed for microgrids alone. The CAISO recommends that Staff explore this issue in Track 2 workshops, and that microgrid pilot programs consider wholesale market participation in a sub-set of use cases. This will enable Staff, the CAISO, and stakeholders to explore potential barriers to entry and regulatory hurdles microgrid developers may face as they bring robust microgrid generators online.

To be sure, the CAISO does not propose that microgrid tariffs should require generators to meet WDAT and CAISO interconnection, metering, and participation standards. But microgrid tariffs may benefit developers where they reference WDAT and CAISO standards where relevant, similar to how many Commission-jurisdictional tariffs do today.¹ Future workshops can explore which standards may be the most helpful to reference for those microgrid generators that will seek to participate in the wholesale markets in addition to providing standby services.

The CAISO has included its comments on specific questions below.

¹ For example, the Rule 21 tariff states, “All Generating Facilities seeking Interconnection with Distribution Provider’s Transmission System shall apply to the California Independent System Operator (CAISO) for Interconnection and be subject to CAISO Tariff. . . . Generating Facility interconnections to Distribution Provider’s Distribution System that are subject to Federal Energy Regulatory Commission (FERC) jurisdiction shall apply under Distribution Provider’s Wholesale Distribution Tariff (WDT) whether they interconnect to Distribution Provider’s Distribution or Transmission System.” See PG&E Rule 21 tariff, Section B.1.

Proposal 2: Direct Utilities to Revise Rule 18/19 to Allow Microgrids to Serve Critical Customers on Adjacent Parcels

Question 4. What other considerations should the Commission give toward revising Rule(s) 18 and 19?

The CAISO believes it is critical for the Commission to state expressly that microgrid service is limited to a single transmission-distribution interface. In other words, during an outage, microgrid generators cannot use the transmission system to serve distribution grids that are otherwise separate. The CAISO believes that Staff's Proposal generally agrees with this direction in its reference to resources within a microgrid "to be electrically connected to each other during islanded operation."² The CAISO agrees with this characterization and further notes that a microgrid, regardless of its point of interconnection, must be limited to a distribution grid to be Commission-jurisdictional and avoid impacting the transmission system during an outage.

Proposal 3: Direct the Utilities to Develop a Standardized Tariff for Combinations of Rule 21 Compliant Technologies

Question 3: What other considerations should the Commission give in its consideration of developing a single, standardized rate schedule to govern microgrids and all their component technologies?

As described above, the Commission should ensure that microgrids and microgrid generators are mindful of the minimum requirements under any standardized tariff. The CAISO recommends the Commission adopt the Staff Proposal technology performance criteria under Proposal 4.³

Proposal 5: Direct the Utilities to Conduct Pilot Studies of Low Cost Reliable Electrical Isolation Methods

² Proposal at pg. 11.

³ *Id.* at pg. 19.

Question 5: What other considerations should the Commission give to support the development of a utility pilot program to evaluate low-cost, reliable electrical isolation methods?

The CAISO believes many developers will seek to keep customer costs low by seeking multiple revenue streams, including in the wholesale markets.⁴ The CAISO asks the Commission to require that one or more pilot studies involve the CAISO so the Commission, the CAISO, and stakeholders can understand any potential barriers to entry and any market impacts. If the CAISO needs to amend its tariff to better accommodate microgrid generators, this will provide the CAISO with the experience to do so.

Secondary Proposals: Public Utilities Code Section 8371(c)⁵

Question 3: Most interconnection issues will be addressed in the interconnection rulemaking (R.17-07-007) or its successor proceeding(s). Which, if any, specific interconnection issues for microgrids should be addressed in this rulemaking?⁶

The Staff Proposal notes that “Rule 21 is a CPUC jurisdictional tariff, implemented by an IOU, for interconnections to the distribution grid.” The CAISO agrees with this statement but has found this not to be true in practice. The CAISO is aware of instances where large net-energy-metering (“NEM”) resources have interconnected at the transmission level without sufficient notification or coordination with the CAISO. The Rule 21 tariffs, in fact, expressly allow generators of any size to interconnect directly to the transmission grid so long as they participate as NEM generators, regardless of any impact they may have on the operation of the transmission

⁴ Outside of outages.

⁵ “Develop guidelines that determine what impact studies are required for microgrids to connect to the electrical corporation grid.” Staff proposes that, at a minimum, the same impact studies that are required for other distributed energy resources are also required for microgrids. Proposal at pg. 30.

⁶ The CAISO also believes its comments respond to question four as well.

grid or their impact on wholesale market prices.⁷ This is an example of why proceedings must be coordinated across the Commission to identify the most appropriate proceeding for each issue. The CAISO agrees with the Staff Proposal and believes resources connecting under Rule 21 (such as NEM resources) should interconnect at the distribution grid. Otherwise these resources need to use the CAISO interconnection process to ensure there are no reliability impacts, market issues, or misallocated costs for customers. At a minimum, future Rule 21 working groups need to evaluate when the generating capacity and voltage interconnection level may impact the wholesale markets and reliable operation of the transmission grid regardless of whether the generator qualifies as a NEM resource. Stakeholders then must explore how and when the CAISO should be included in the interconnection study process, what upgrades should be put in place to mitigate harmful impacts, and what telemetry and metering measures are necessary to monitor the generator going forward.

Secondary Proposals: Public Utilities Code Section 8371(f)⁸

The CAISO does not have any specific comment on this issue at this time, but would appreciate the opportunity to be included in any resultant working groups.

⁷ See, e.g., Section B.1 of PG&E’s Rule 21 tariff: “This Rule describes the Interconnection, operating and Metering requirements for those Generating Facilities to be connected to Distribution Provider’s Distribution System *and Transmission System* over which the California Public Utilities Commission (Commission) has jurisdiction. All Generating Facilities seeking Interconnection with Distribution Provider’s Transmission System shall apply to the California Independent System Operator (CAISO) for Interconnection and be subject to CAISO Tariff *except for 1) Net Energy Metering Generating Facilities and 2) Generating Facilities that do not export to the grid or sell any exports sent to the grid (Non-Export Generating Facilities)*. NEM Generating Facilities and Non-Export Generating Facilities subject to Commission jurisdiction shall interconnect under this Rule regardless of whether they interconnect to Distribution Provider’s Distribution or Transmission System. Subject to the requirements of this Rule, Distribution Provider will allow the Interconnection of Generating Facilities with its Distribution or Transmission System” (emphases added).

⁸ Public Utilities Code § 8371(f) directs the CPUC, in consultation with the California Energy Commission and the CAISO to, “Develop a standard for direct current metering in the commission’s

Concept Paper

The CAISO generally agrees with the major issues Staff has laid out in the Concept Paper and appreciates the recognition that several matters cross between Commission and CAISO purviews. Of particular interest for the CAISO are the two technical issues discussed: Technical Barrier 2: Lack of Load Visibility to Distribution System Operators and Technical Barrier 4: Potential impacts of microgrids on broader grid stability. Although Technical Barrier 4 directly impacts the CAISO, Technical Barrier 2 also reflects some of the CAISO's challenges when operating a system with significant behind-the-meter generation. The CAISO looks forward to actively participating in these discussions in Track 3.

Respectfully submitted,

By: /s/ William H. Weaver

Roger E. Collanton
General Counsel
William H. Weaver
Senior Counsel
California Independent System
Operator Corporation
250 Outcropping Way
Folsom, CA 95630
T – 916-608-1225
F – 916-608-7222
bweaver@caiso.com

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Electric Rule 21 to streamline the interconnection process and lower interconnection costs for direct current microgrid applications.” Staff proposes that alternative pathways are now available to fulfill the purpose of this requirement and that the public interest is best served through use of the alternative pathway and by monitoring DC metering standards development activities already underway. Proposal at pg. 34.