

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

Order Instituting Rulemaking on the Commission's Own Motion to improve distribution level interconnection rules and regulations for certain classes of electric generators and electric storage resources.

Rulemaking 11-09-011  
(Filed September 22, 2011)

**COMMENTS OF THE  
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

**I. Introduction**

The California Independent System Operator Corporation ("CAISO") hereby provides comments regarding the workshop slides and additional data published in this proceeding on February 3, 2022 regarding the number and capacity of resources seeking to interconnect to Pacific Gas & Electric Company's ("PG&E") high-voltage transmission grid via Rule 21. The CAISO believes these interconnections were never contemplated by the legislation or Commission proceedings that resulted in Rule 21 and the net energy metering ("NEM") tariffs, and the Commission should act expeditiously to close this loophole before such resources proliferate. The CAISO continues to support the Commission's efforts to examine the impact of large and transmission-connected resources interconnecting under Rule 21 and participating under NEM tariffs.<sup>1</sup> These resources can have a significant impact on reliability and the wholesale markets.

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<sup>1</sup> The CAISO uses the term "resource" or "generator" for simplicity to refer to all supply resources, including conventional generation, variable energy resources, energy storage resources, etc., and excluding demand response resource or energy efficiency programs that do not export energy to the grid.

## II. Comments

The data on transmission-level interconnections via Rule 21 are substantial cause for concern. The original data presented in the workshop show a resource over 100 MW is currently planning to interconnect to the transmission grid via Rule 21 and participate as a NEM resource.<sup>2</sup> Nine other resources, each ranging from 9 to 41 MW, also plan to do the same. The CAISO believes that neither the Commission nor the original parties to this proceeding anticipated such large resources would use Rule 21 to interconnect directly to the transmission grid and then participate under a NEM tariff. No party in this proceeding has argued otherwise. Although interconnecting to the transmission grid was expressly allowed, the original NEM tariffs had a hard cap on generator capacity at 1 MW.<sup>3</sup> As the Commission has noted in this proceeding, since the removal of that cap much larger resources have used Rule 21 to interconnect both to the distribution grid and directly to the transmission grid, which has created challenges and complexities that must be addressed imminently.

As the CAISO has noted previously, large resources' participation under NEM tariffs creates its own set of unique operational and market challenges. To participate under a NEM tariff a resource must be a net consumer over the relevant billing period, which in many cases is a full calendar year. But the CAISO has observed that many of these resources are very large solar PV arrays co-located with smaller loads. Over a year, the customer's demand may barely exceed its generation because the demand runs all day *and* all night. However during the day, the generation can significantly exceed onsite

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<sup>2</sup> ALJ Ruling Seeking Comment Regarding Workshop Slides And Additional Data, R.11-09-011, Slide 10 (Feb. 3, 2022).

<sup>3</sup> See CPUC, "Net Energy Metering," <https://www.cpuc.ca.gov/nem/>.

demand, causing the generator to export large amounts of energy every day from sunrise to sunset. Because the generator participates under a NEM tariff, the CAISO has no forecasting, telemetry, or metering regarding it. This means the generator itself is invisible to the CAISO but injecting energy onto the grid. Moreover, interconnecting large resources to the transmission system via Rule 21 circumvents the CAISO's interconnection studies and operational requirements.

The impact of these issues, correlates with the capacity of the generator. It is unavoidable that a large resource directly interconnected to the transmission grid will impact the line flows where it interconnects and nearby transmission lines. These impacts will then affect local reliability; CAISO wholesale prices in the area; and the deliverability of nearby generators that were procured by load serving entities, approved by the Commission, and studied by transmission planners to provide energy deliverable to load during peak conditions. As the Commission can see, the data shows these are not small resources with negligible impacts. A 100 MW resource will have a significant impact. The CAISO believes that neither Rule 21 nor the NEM tariffs were intended to facilitate such interconnections or allow resources to circumvent CAISO interconnection requirements. The CAISO recommends the Commission either (1) close this loophole by prohibiting transmission-level interconnections under Rule 21 or reinstating a capacity cap, or (2) amend Rule 21 to address the sizable impacts such resources have on the transmission grid and the wholesale markets. The CAISO recommends option (1), but

previously detailed the initial measures it believes the Commission should take if it elects not to prohibit transmission-level interconnections or reinstitute the capacity cap.<sup>4</sup>

Respectfully submitted,

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<sup>4</sup> See CAISO Response to ALJ's Ruling Reopening Record, R.11-09-011, pp. 6-7 (April 23, 2021), available at <http://www.caiso.com/Documents/Apr23-2021-Response-to-ALJ-Ruling-Reopening-Record-DistributionLevelInterconnection-ElectricGeneratorsandStorageR11-09-011.pdf>.