

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

Application of PACIFIC GAS AND ELECTRIC COMPANY (U39E) for Review of the Disadvantaged Communities – Green Tariff, Community Solar Green Tariff and Green Tariff Shared Renewables Programs.	Application 22-05-022
And Related Matters.	Application 22-05-023 Application 22-05-024

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

**I. Introduction**

The California Independent System Operator Corporation (CAISO) provides comments on the Administrative Law Judges Debbie Chiv and Kelly Hymes’ *Ruling Setting Aside Submission of the Record to Seek Comments on Aspects of Net Value Benefit Tariff (NVBT) Proposal* (Ruling).

The CAISO provides comments on attributes of resource adequacy (RA) capacity participating as supply-side resources and load-modifying resources that may offset load-serving entity (LSE) resource adequacy requirements. The Coalition for Community Solar Access (CCSA) NVBT proposal values generation capacity based on the Commission’s Avoided Cost Calculator, which includes long-term avoided generation capacity costs. The Ruling notes this compensation is significantly higher than most compensation provided through RA contracts.<sup>1</sup> If projects under the NVBT proposal

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<sup>1</sup> Ruling, Attachment 2, Question 3.

either count towards RA requirements as supply-side resources or reduce RA requirements as load-modifying resources, then these resources should consistently, coincidentally, and systematically contribute towards meeting or reducing LSEs' shares of coincident demand.

Under the NVBT proposal, projects are not sized to load nor designed to primarily serve onsite load. If resources export a significant amount of power onto distribution and transmission systems but are not visible to the CAISO, this will create operational and demand forecasting challenges for distribution operators and the CAISO. These challenges are exacerbated if projects regularly export without adequate incentives to operate consistently and aligned with grid needs.

The Commission recently determined to re-institute a one-megawatt project cap on exporting net energy metering (NEM) resources that interconnect directly to the transmission grid via Rule 21.<sup>2</sup> The Commission also determined that large, non-market participating exporting and load masking systems greater than one megawatt that backfeed onto the transmission system should provide operational data to the CAISO to help manage operational and forecasting issues.<sup>3</sup> The CAISO recommends the Commission establish similar requirements in this proceeding for potentially large exporting solar and storage projects, if such projects are not market-participating and thus not visible to the CAISO.

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<sup>2</sup> Decision (D.)22-07-001.

<sup>3</sup> D.22-07-001 and D.23-06-005 directed investor-owned utilities to provide telemetry data for exporting and non-exporting (load masking) generating facilities greater than one-megawatt interconnected directly to the transmission system under Electric Tariff Rule 21.

## **II. Responses to Questions**

### **A. Grid Reliability and Capacity Values**

The CAISO provides comments on attributes of RA capacity participating as supply-side resources, and load-modifying resources that may offset LSE resource adequacy requirements. The NVBT proposal values generation based on the Commission's Avoided Cost Calculator, which includes long-term avoided generation capacity costs. The Ruling notes that this compensation is significantly higher than most compensation provided through RA contracts.<sup>4</sup> The Commission should ensure that if projects under the NVBT proposal either count towards RA requirements as supply-side resources or reduce RA requirements as load-modifying resources, these resources should consistently, coincidentally, and systematically contribute to meeting or reducing LSEs' shares of coincident demand.

Supply-side RA resources participate in the CAISO market, and are generally shown on RA supply plans to the Commission and the CAISO. Supply-side RA resources count towards meeting RA requirements, have obligations to offer their RA capacity into the CAISO market, and are subject to CAISO RA rules including bid insertion, outage substitution, and the CAISO's resource adequacy availability incentive mechanism (RAAIM). The CAISO has operational control and visibility into supply-side resources and dispatches resources with full visibility into real-time system conditions. The CAISO dispatches supply-side resources via the CAISO market, optimizing resources schedules to serve load across the CAISO footprint at least cost. Local regulatory authorities including the Commission establish supply-side RA capacity

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<sup>4</sup> Ruling, Attachment 2, Question 3.

counting rules. The Commission has established RA counting rules for solar, storage, co-located, and hybrid configurations. Additionally, RA rules and requirements at the Commission and the CAISO ensure RA availability when and where supply or load curtailment is most needed.<sup>5</sup>

Load-modifying resources, on the other hand, can reduce LSEs RA requirements if they consistently, coincidentally, and systematically reshape and reduce coincident demand so that the historic demand values that drive RA requirements are consistently and systematically lower than what they would have been but for the load-modifying actions.

Question 4 of the Ruling asks:

*4. Should NBVT resources be accounted for in the California Energy Commission's (CEC's) load forecast, thereby reducing LSEs Resource Adequacy requirements by their pro rata load share?*

Load-modifying resources can offset the California Energy Commission (CEC) demand forecast and thus reduce LSE RA requirements if those load-modifying actions occur during those hours and times that would have otherwise set the peak demand for that year or month. Load-modifying resources do not participate in the CAISO market and the CAISO does not have operational control of these resources. If load-modifying resources demonstrably offset RA requirements by favorably reducing the metrics that drive RA requirements, then these load-modifying resources could reduce system capacity needs in lieu of procuring additional supply-side RA capacity.

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<sup>5</sup> Commission RA rules include qualifying capacity rules, Maximum Cumulative Capacity Buckets, and minimum availability requirements. CAISO RA rules include must-offer obligations, bid insertion, outage substitution, and the RAAIM.

However, the CAISO cautions that if load-modifying resources are not consistently used and dispatched coincident with the hours and times of peak demand and, therefore, do not favorably reshape and modify the demand that drives RA requirements, then avoiding RA and capturing RA savings will not be realized. There is risk associated with self-deployed load modifying resources, where resources may not be utilized when and where needed, resulting in potential inefficiencies and reliability issues if the deployment of load-modifying programs do not align with grid needs.

**B. Guardrails**

The Ruling asks for recommendations on potential guardrails, including limits on project or portfolio size of resources participating under the proposed NVBT. From an operational perspective, the CAISO has no issues regarding project or portfolio size for market-participating assets as the CAISO has full visibility and control of market resources. The CAISO has insight into the physical characteristics, capabilities, and operating costs of market-participating resources and sends dispatch instructions to these resources based on the results of the CAISO's market optimization.

Projects outside the CAISO market are not visible to the CAISO and can export energy, impacting flows on the distribution and transmission systems. This backfeed can disrupt CAISO real-time operations, demand forecasting, and market outcomes, and the impact of these issues correlate with the size of the underlying generation. These effects can be particularly challenging if projects are not sized to load or are not designed to serve onsite load and regularly export, and if projects are not incentivized to operate consistent with grid needs. In these cases, the CAISO supports potential guardrails including caps on individual project sizes.

The CAISO notes that parties discussed the same backfeed and visibility issues at length in R.11-09-011, and the Commission reinstated a one-megawatt project cap on exporting NEM resources that interconnect directly to the transmission grid via Rule 21.<sup>6</sup>

### **C. Interconnection**

9. *Is there a potential for the interconnection of multiple generating systems to the distribution grid to lead to “upstream” transmission level issues and concerns? Is Rule 21 appropriate for potential NVBT in-front-of-the-meter resources, if there are these potential safety and potential grid impacts on the Transmission system?*

In R.11-09-011, the CAISO emphasized that large exporting or load masking resources can impact the operation of the transmission system regardless of where they are located or how they are interconnected.<sup>7</sup> Resources that may export a significant amount of energy and backfeed to the transmission system and are not visible to the CAISO can create operational and demand forecasting challenges. As noted above, these challenges are exacerbated if projects are not sized to load or are not designed to serve onsite load and regularly export, and if projects are not incentivized to operate consistent with grid needs.

The Commission determined in R.11-09-011 that investor-owned utilities (IOUs) should provide operational data to the CAISO to help manage issues associated with large, non-market participating exporting and load masking systems.<sup>8</sup> The Commission directed IOUs to share telemetry data for large exporting systems to help mitigate safety

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<sup>6</sup> D.22-07-001.

<sup>7</sup> Opening Comments of the CAISO on ALJ’s Ruling Seeking Responses to Questions on Load Masking Workshop, R.11-09-011, March 3, 2023.

<sup>8</sup> Decisions (D.) 22-07-001 and D.23-06-005 directed investor-owned utilities to provide telemetry data for exporting and non-exporting (load masking) generating facilities greater than one megawatt interconnected directly to the transmission system, under Electric Tariff Rule 21.

and reliability risks on the transmission and distribution systems and negative impacts on the wholesale markets. The CAISO supported these decisions.

If NVBT resources are non-market participating, then the CAISO recommends the Commission establish similar data sharing requirements for large non-market projects.

Respectfully submitted,

**By: /s/ William H. Weaver**

Roger E. Collanton

General Counsel

William H. Weaver

Assistant General Counsel

California Independent System

Operator Corporation

250 Outcropping Way

Folsom, CA 95630

T – 916-608-1225

F – 916-608-7222

[bweaver@caiso.com](mailto:bweaver@caiso.com)

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