

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**Russell City Energy  
Center LLC**

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**Docket No. ER19-2800-000**

**MOTION TO INTERVENE AND COMMENTS OF THE  
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

The California Independent System Operator Corporation (CAISO) respectfully files this motion to intervene and comments pursuant to Rule 214 of the Commission’s Rules of Practice and Procedure<sup>1</sup> and the Commission’s September 13, 2019, Notice of Combined Filings, in this proceeding. The CAISO strongly supports acceptance of the Black Start Agreement between the CAISO and Russell City Energy Center LLC (Russell City). The CAISO also supports Russell City’s request that the Commission issue an order accepting the Black Start Agreement on shortened time.

The Black Start Agreement will facilitate installing a battery electric storage system at the Russell City Energy Center (RCEC), which is an existing combined cycle power plant. This battery system will support the provision of black start service by RCEC for a five-year term. This capability will significantly improve system restoration capabilities in Northern California, especially in the San Francisco Bay Area, thereby saving life and property and mitigating the potential for catastrophic economic disruption to the region in the event of a system-wide power outage.

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<sup>1</sup> 18 C.F.R. § 385.214 (2018).

The CAISO selected RCEC to provide black start service through a competitive solicitation process in 2017 based on a number of factors, including technical criteria and Russell City's indicative price bid. The parties have spent considerable time negotiating the terms and conditions for black start service based on CAISO tariff requirements and the North American Electric Reliability (NERC) mandatory reliability standards. Russell City's proposed rate to provide black start service is based on cost-of-service inputs and assumptions. The CAISO has reviewed and evaluated these costs with the assistance of an independent consultant. Although Pacific Gas and Electric Company (PG&E) is not a party to this agreement, PG&E supports acceptance of the agreement.<sup>2</sup> PG&E will incorporate RCEC into its system restoration plan as a black start resource through operating procedures to be developed by the CAISO, Russell City, and PG&E.<sup>3</sup>

## **I. DESCRIPTION OF THE PROCEEDING**

On September 13, 2019, Russell City submitted, pursuant to Section 205 of the Federal Power Act, an agreement to provide the CAISO with black start service from RCEC. The CAISO is a party to the Black Start Agreement. By its notice on September 13, 2019, the Commission established October 3, 2019, as the date for motions to intervene.

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<sup>2</sup> Given PG&E's status as a debtor in possession under Chapter 11 of the United States Bankruptcy Code, the parties decided to proceed without PG&E as a signatory to the agreement.

<sup>3</sup> Requirement 11 of NERC Reliability Standard EOP-005-03 provides in part, <https://www.nerc.com/pa/Stand/Reliability%20Standards/EOP-005-3.pdf>:

"Each Transmission Operator and each Generator Operator with a Blackstart Resource shall have written Blackstart Resource Agreements *or mutually agreed upon procedures or protocols*, specifying the terms and conditions of their arrangement." (emphasis added)

## II. DESCRIPTION OF THE CAISO AND COMMUNICATIONS

The CAISO is a non-profit public benefit corporation organized under the laws of the State of California with its principal place of business at 250 Outcropping Way, Folsom, California 95630. The CAISO is the Balancing Authority Area Operator responsible for the reliable operation of the electric grid consisting of the transmission systems of a number of utilities, including PG&E, as well as the coordination of the day-ahead and real-time energy and ancillary services markets in California. The CAISO is also a Transmission Operator and must also comply with the NERC mandatory reliability standards applicable to balancing authority areas, including Reliability Standard EOP-005-3 that requires the CAISO to maintain a system restoration plan. Pursuant to Rule 203(b)(3) of the Commission's Rules of Practice and Procedure,<sup>4</sup> the CAISO respectfully requests that the all communications and notices concerning this motion and this proceeding be provided to:

Anthony Ivancovich\*  
Deputy General Counsel  
California Independent System  
Operator Corporation  
250 Outcropping Way  
Folsom, CA 95630  
Tel: (916) 608-7135  
Fax: (916) 608-7222  
[aivancovich@caiso.com](mailto:aivancovich@caiso.com)

Andrew Ulmer\*  
Director, Federal Regulatory Affairs  
California Independent System  
Operator Corporation  
250 Outcropping Way  
Folsom, CA 95630  
Tel: (916) 608-7209  
Fax: (916) 608-7222  
[aulmer@caiso.com](mailto:aulmer@caiso.com)

## III. CAISO INTEREST

As the Balancing Authority Area Operator and Transmission Operator responsible for maintaining reliability of PG&E's transmission system that is part of the CAISO Controlled Grid, and as a party to the Black Start Agreement with Russell City, the CAISO has a unique interest in any Commission proceeding that affects this Black

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<sup>4</sup> 18 C.F.R. § 385.203(b)(3).

Start Agreement. Accordingly, the CAISO has a direct and substantial interest in this proceeding and requests that it be permitted to intervene with full rights as a party.

Because no other party can adequately represent the CAISO's interests in this proceeding, the CAISO's intervention is in the public interest and should be granted.

#### **IV. COMMENTS**

The CAISO strongly supports acceptance of the Black Start Agreement filed by Russell City. Acceptance of the agreement will facilitate the installation of black start capability at RCEC and will enhance grid resilience in Northern California, in particular the San Francisco Bay Area, by enhancing system restoration in the CAISO system.

##### **A. Background**

In 2016, as part of its efforts to review its system restoration plan and in consultation with participating transmission owners, the CAISO determined additional black start capability was necessary to ensure service restoration time in the San Francisco Bay Area is reasonably consistent with that of other major population centers in California. Although the NERC mandatory reliability standards do not specify a restoration time during a black start event, the current restoration time for the San Francisco Bay Area far exceeds restoration times for other major metropolitan areas in California. As such, a need exists for additional black start support.

Recognizing that it might need to procure additional black start capability and that such procurement would create costs, the CAISO clarified the rules for allocating the costs of black start procurement costs. The CAISO tariff provides that it will allocate costs associated with procuring incremental black start capability to the participating transmission owner (PTO) in which the black start generator is located as Reliability

Services Costs.<sup>5</sup> The PTO will then recover these costs from transmission customers under its Reliability Services transmission owner tariff on file with the Commission.<sup>6</sup> Even though PG&E is not a party to this Black Start Agreement, it is obligated under the Transmission Control Agreement to comply with the CAISO's tariff and make payments for the costs of black start capability that Russell City will install at RCEC.<sup>7</sup>

**B. Additional Black Start capability will enhance system restoration times in the San Francisco Bay Area**

Additional black start capability is necessary to ensure service restoration times in the San Francisco Bay Area during a black start event are reasonably consistent with that of other major population centers in California. Currently, the restoration times in San Francisco Bay Area are approximately twice as long as in the Los Angeles and San Diego areas. Obtaining black start service from RCEC will dramatically reduce the time to restore service in the event of a widespread system outage.

The CAISO and PG&E's current system restoration plans for the San Francisco Bay Area rely on black start capability from distant facilities on PG&E's hydroelectric system. If a widespread system outage were to occur that requires implementing a black start procedure in compliance with NERC mandatory reliability standards, the CAISO would need black start capability to restart other generation and restore power to the grid. Restoring generation and load requires a controlled process that balances

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<sup>5</sup> *Cal. Indep. Sys. Operator Corp.*, 161 FERC ¶ 61,116 (2017).

<sup>6</sup> CAISO tariff section 11.4.2; *see also* Appendix A to CAISO tariff, definition of Reliability Services Costs.

<sup>7</sup> See section 16 of the Amended and Restated Transmission Control Agreement among the CAISO and Transmission Owners. A copy of this agreement is posted on the CAISO's website at <http://www.caiso.com/Documents/TransmissionControlAgreement.pdf>, and is also available as a CAISO Rate Schedules on file within the Commission's eTariff system.

the addition of generation with the addition of load. This process takes a longer time if a black start resource is located remotely from other resources and loads. In the case of the San Francisco Bay Area, the restoration process requires additional facilities to be restored prior to energizing a 230 kV electric bus on the backbone 230 kV substation loop within the San Francisco Bay Area. By securing black start capability closer to this 230 kV substation loop (e.g., RCEC), the CAISO and PG&E will greatly improve system restoration times in the San Francisco Bay Area so they are comparable with other major metropolitan areas within the CAISO system. Any event that requires the CAISO to implement a black start procedure to restore load in the San Francisco Bay Area would have an exceedingly high, adverse impact on public safety and welfare. Reducing the amount of time needed to restore the electric system under these conditions would save lives and property and mitigate the potential for catastrophic economic disruption within the San Francisco Bay Area and Northern California as a whole.

**C. The CAISO selected RCEC to provide black start service based on multiple factors**

Based on the need for black start capability to support system restoration during a black start event within the San Francisco Bay Area, the CAISO conducted a competitive solicitation process to assess the capability of generators to provide black start service and obtain indicative bids for the cost of providing this service. The CAISO identified technical requirements to determine whether the resource could qualify to provide black start capability by energizing a dead transmission bus within a targeted timeframe and maintaining operation to facilitate the restoration of the 230 kV substation loop.

The CAISO received several proposals and applied multiple selection factors, including, among others, estimated service commencement date, locational diversity within a specified electrical area, and estimated cost-of-service and capital costs. The CAISO completed a comparative analysis and issued a report identifying the resources that qualified to provide black start service to meet the identified need. The CAISO selected two resources – RCEC and another resource located within the San Francisco Bay Area – as best suited to provide this service.<sup>8</sup> These resources have the ability to help restart the system and also have different electrical locations within the San Francisco Bay Area providing alternative paths to restore the San Francisco Bay Area 230 kV substation loop. A copy of the CAISO’s report that details its technical criteria and selection factors is available on the CAISO website at <http://www.aiso.com/Documents/GreaterBayAreaBlackStartServiceProviderFinalSelectionReport.pdf>.

**D. The CAISO tariff and mandatory reliability standards serve as the basis for the provision of black start service under the Black Start Agreement**

For Russell City to provide black start capability from RCEC to support the CAISO and PG&E’s system restoration plans, it must comply with a number of CAISO tariff requirements<sup>9</sup> and NERC Reliability Standard EOP-005-03. These requirements include, among others, starting during a black start event without any support from the CAISO system, energizing a dead transmission bus within a target timeframe, maintaining minimum operating times, maintaining specified reactive power and voltage control capabilities, and implementing communications equipment and protocols. In

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<sup>8</sup> The CAISO is continuing to negotiate with that resource’s owner to secure black start service.

<sup>9</sup> See *generally* Appendix D of the CAISO tariff pertaining to Black Start Generating Units.

addition, black start resources must meet specific testing and training requirements, which are all required under NERC Reliability Standard EOP-005-3. These requirements formed the basis for the technical specifications in the Black Start Agreement negotiated by Russell City and the CAISO. These requirements also underpin the capital investment Russell City must make and the operating and maintenance practices it will implement at RCEC.

**E. The CAISO assessed project costs under the Black Start Agreement by engaging an independent evaluator**

In addition to examining supporting documentation for Russell City's project and development costs to install a battery electric storage system and related equipment, the CAISO engaged the services of a consultant to assess the costs of equipment and labor required to install black start service under the Black Start Agreement. The CAISO's consultant reviewed various cost components, including the costs set forth in Russell City's engineering procurement and construction contracts, Russell City's estimated development costs, and proposed contingency costs. From the CAISO's consultant's point of view, the project represents a non-standard, highly-integrated application of battery storage. As explained in Russell City's filing, the battery system will be custom designed to start-up RCEC during a black start event and will solely be used to add the provision of black start capability from RCEC. The design of the battery system will maintain a full charge, enabling it to provide black start service when needed. In addition, the battery system will not be located on a new site but must be constructed and integrated at the existing power plant site. Given the project design and need to integrate the battery system into the existing RCEC facility, the CAISO's consultant developed a bottoms-up cost estimate to assess the project costs. The



CAISO's consultant determined that the overall project cost is in the upper end of the cost range it developed. However, given the complexity of this project and the fact that it is being custom designed for RCEC, the CAISO's consultant determined that the capital and development costs under the parties' Black Start Agreement remain within a reasonable range.

## **V. CONCLUSION**

The Commission should accept the Black Start Agreement between the CAISO and Russell City. The agreement will facilitate efforts to enhance system restoration efforts in the San Francisco Bay Area in the event of a wide-spread power outage that requires the CAISO to implement a black start procedure consistent with NERC Reliability Standard EOP-005-3. The terms and conditions of the Black Start Agreement are based on the CAISO's tariff requirements for black start service and NERC mandatory reliability standards for black start resources. In addition, the agreement reflects a negotiated rate based on cost-of-service principles. For all of these reasons, the Commission should accept the Black Start Agreement.

Dated: October 3, 2019

Respectfully submitted,

By: /s/ Andrew Ulmer

Roger E. Collanton

General Counsel

Anthony Ivancovich

Deputy General Counsel

Andrew Ulmer

Director, Federal Regulatory Affairs

California Independent System

Operator Corporation

250 Outcropping Way

Folsom, CA 95630

Tel: (916) 608-7209

Fax: (916) 608-7222

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

## CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing document upon all of the parties listed on the official service list for the captioned proceeding, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Folsom, California, this 3<sup>rd</sup> day of October, 2019.

/s/ Grace Clark  
Grace Clark