



California ISO

California Independent System Operator Corporation

March 28, 2025

The Honorable Debbie-Anne A. Reese
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: Compensation for Reactive Power Within the Standard Power Factor Range

Docket No. ER25-____-000

Compliance Filing of the California Independent System Operator Corporation in Compliance with Order No. 904

Dear Secretary Reese:

The California Independent System Operator Corporation (CAISO) submits this filing in compliance with Commission Order No. 904.¹ This order requires jurisdictional transmission providers to change their tariffs to eliminate compensation to generators for providing reactive power within a standard power factor range, or show how their tariff already meets these requirements. The CAISO tariff's longstanding provisions on reactive power compensation foreclose payment to generators for providing reactive power within a standard range. The CAISO thus respectfully requests the Commission find the CAISO already complies with Order No. 904.

I. Background

The Commission opened this docket on November 18, 2021 with publication of a Notice of Inquiry.² The Notice of Inquiry noted that it had been approximately 20 years since the Commission recommended use of the method employed in *American Electric Power Service Corporation* to establish a rate for providing reactive power.³ In the Notice of Inquiry, the Commission sought comment on a

¹ *Compensation for Reactive Power Within the Standard Power Factor Range*, 189 FERC ¶ 61,034 (2024) (Order No. 904).

² *Reactive Power Capability Compensation*, 177 FERC ¶ 61,118 (2021).

³ *Am. Elec. Power Serv. Corp.*, Opinion No. 440, 88 FERC ¶ 61,141 (1999) (Opinion No. 440).

variety of questions relating to reactive power compensation, with most questions focusing on whether the *AEP* methodology remained an appropriate default reactive power compensation methodology.

The Commission followed the Notice of Inquiry with a Notice of Proposed Rulemaking, published on March 21, 2024.⁴ The Notice of Proposed Rulemaking proposed to require transmission providers to revise their tariffs to deny compensation to generators for providing reactive power within the standard power factor range (*i.e.*, the deadband) defined in the generator's interconnection agreement.

Order No. 904, issued on October 17, 2024, adopted the proposal identified in the Notice of Proposed Rulemaking. Specifically, the Commission amended Schedule 2 of the *pro forma* OATT, section 9.6.3 of the *pro forma* LGIA, and section 1.8.2 of the *pro forma* SGIA to eliminate compensation to generators for providing reactive power within the standard power factor range defined in a generator's interconnection agreement.⁵

The order requires transmission providers to make corresponding amendments to their tariffs. For transmission providers that believe their tariffs already meet these requirements, the order requires a compliance filing demonstrating how that is the case.⁶ In evaluating compliance filings from regional transmission organizations (RTO) and independent system operators (ISO), the order states "the Commission will apply the 'consistent with or superior to' standard to deviations from the adopted *pro forma* Schedule 2 and the 'independent entity variation standard' to deviations from the *pro forma* LGIA and *pro forma* SGIA."⁷

II. Compliance with Order No. 904

The CAISO's comments filed on February 22, 2022, in response to the Notice of Inquiry explained the CAISO's historical approach to reactive power compensation has been not to compensate generators when providing reactive power within the deadband defined in their interconnection agreements. That approach has not changed since filing those comments. For that reason, the CAISO believes it already meets the requirements of Order No. 904.

The *pro forma* interconnection agreements in the CAISO tariff that the Commission has already approved contain defined deadbands based on the type of

⁴ *Compensation for Reactive Power Within the Standard Power Factor Range*, 186 FERC ¶ 61,203 (2024).

⁵ The order did not, however, obligate adjustments to the existing definitions of those power factor ranges.

⁶ Order No. 904, at P 206.

⁷ *Id.* citing Order No. 888, FERC Stats. & Regs. ¶ 31,036 at 31,760-63; Order No. 2003, 104 FERC ¶ 61,103 at PP 822-27; Order No. 2006, 111 FERC ¶ 61,220 at PP 546-50.

generator (*i.e.*, synchronous vs. asynchronous), consistent with Commission Order 827,⁸ and the vintage of generator. In general, the interconnection agreements require *synchronous* generators to provide reactive power within a deadband of .95 lagging to .90 lagging at the generating unit terminals and *asynchronous* generators to provide reactive power within a deadband of .95 lagging to .95 leading at the high voltage side of the substation transformer for the generator.⁹ The CAISO tariff also includes a specific statement about the requirements for asynchronous generators¹⁰ and a catch-all provision for generators not operating under an interconnection agreement.¹¹ Further, the CAISO's pending filing in compliance with Commission Order 2023 consolidates the requirements for synchronous generators in new *pro forma* large and small generator interconnection agreements in Appendices LL and MM, respectively.¹²

The CAISO tariff also states the CAISO is "entitled to instruct Participating Generators to operate their Generating Units at specified points within their power factor ranges" and the generators "*shall receive no compensation for operating within these specified ranges.*"¹³ Under tariff section 8.3.8, generators must provide reactive power outside their defined deadband and when they do, per tariff section 11.10.1.4, they are compensated based on the opportunity cost of the foregone sales of real power.

III. Communications

Under Rule 203(b)(3),¹⁴ the CAISO respectfully requests that all correspondence and other communications about this filing be served upon:

⁸ *Reactive Power Requirements for Non-Synchronous Generation*, 155 FERC ¶ 61,277 (2016).

⁹ The currently effective *pro forma* interconnection agreements and the relevant reactive power requirements are provided in Appendix EE and Appendix FF of the CAISO tariff. See CAISO tariff Appendix EE, section 9.6.1 (large generator interconnection agreement for interconnection requests processed under the generator interconnection and deliverability allocation procedures); CAISO tariff Appendix FF, section 1.8.1 (small generator interconnection agreement for interconnection requests processed under the generator interconnection and deliverability allocation procedures).

¹⁰ CAISO tariff section 25.4.1 ("Asynchronous Electric Generating Facility or Asynchronous Electric Generating Unit, as applicable, will maintain a composite power delivery at continuous rated power output at the high-side of the generator substation at a power factor within the range of 0.95 leading to 0.95 lagging").

¹¹ CAISO tariff section 8.2.3.3 ("For Generating Units that do not operate under one of these agreements, the minimum power factor range will be within a band of 0.90 lag (producing VARs) and 0.95 lead (absorbing VARs) power factors").

¹² *Cal. Indep. Sys. Operator Corp.*, Tariff Amendment to Comply with Order No. 2023, FERC Docket No. ER24-2042-000 (May 16, 2024).

¹³ CAISO tariff section 8.2.3.3 (emphasis added).

¹⁴ 18 C.F.R. § 385.203(b)(3).

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IV. Service

The CAISO has served copies of this filing on the CPUC, the California Energy Commission, and all parties with scheduling coordinator agreements under the CAISO tariff. In addition, the CAISO has posted a copy of the filing on the CAISO website.

V. Conclusion

The CAISO respectfully requests the Commission find the CAISO tariff complies with Order No. 904 and that no tariff revisions are necessary to ensure the CAISO complies with the order's requirements.

Respectfully submitted,

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