

184 FERC ¶ 61,164
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Willie L. Phillips, Acting Chairman;
James P. Danly, Allison Clements,
and Mark C. Christie.

California Independent System Operator Corporation Docket No. EL22-62-000

ORDER ON SHOW CAUSE PROCEEDING

(Issued September 21, 2023)

1. On July 28, 2022, the Commission issued an order in Docket No. EL22-62-000 (Show Cause Order),¹ pursuant to section 206 of the Federal Power Act (FPA),² in which the Commission required California Independent System Operator Corporation (CAISO) to show cause as to why its currently effective tariff remains just and reasonable and not unduly discriminatory or preferential in the absence of a mark-to-auction collateral requirement or comparable alternative for financial transmission rights (FTR)³ within its credit policies.⁴ On October 26, 2022, CAISO filed a response to the Show Cause Order. As discussed below, we find that CAISO's currently effective tariff remains just and reasonable. Accordingly, we terminate the proceeding instituted under section 206 of the FPA in Docket No. EL22-62-000.

¹ *Cal. Indep. Sys. Operator Corp.*, 180 FERC ¶ 61,049 (2022) (Show Cause Order); Notice of Institution of Section 206 Proceeding and Refund Effective Date, Docket No. EL22-62-000, et al., issued July 28, 2022 (Notice) (establishing, pursuant to section 206(b) of the FPA, that the refund effective date in each of Docket Nos. EL22-62-000, EL22-63-000, EL22-64-000, and EL22-65-000 will be the date of publication of the Notice in the *Federal Register*). The Notice was published in the *Federal Register* on August 3, 2022.

² 16 U.S.C. § 824e.

³ In this order, we use the term FTRs generically to refer to a functionally identical instrument that goes by different names in each relevant market. In CAISO, they are called Congestion Revenue Rights (CRR).

⁴ Show Cause Order, 180 FERC ¶ 61,049 at PP 21, 31.

I. Background

A. FTRs

2. FTRs are financial contracts that entitle the holder to day-ahead hourly congestion revenue over a specific transmission path for a specific period of time, which can run from one month to more than a year and varies by regional transmission organization and independent system operator (RTO/ISO). The value of an FTR is determined by the number of megawatts (MW) and the difference between the day-ahead congestion price at the point of delivery (sink) and the point of receipt (source) of the FTR. FTRs allow organized wholesale electric market participants to hedge against the costs of transmission congestion in the RTO's/ISO's day-ahead market or can be purchased by speculative financial market participants in FTR auctions.⁵

3. For any specific transmission path from one point on the system to another point on the system, there may be both prevailing flow and counterflow FTRs. A prevailing flow FTR follows historical transmission patterns, running from a source in a generation-rich location to a sink in a load-heavy location. A counterflow FTR follows the opposite pattern, running from a source in a load-heavy location to a sink in a generation-rich location. However, planned or unplanned generation or transmission outages can alter or even reverse historical transmission patterns. Available contract paths for FTRs differ across the RTO/ISO markets but all share a common path-based market design.⁶

4. FTRs play important roles in organized wholesale electric markets by returning some congestion revenue to load, enabling hedging for all market participants, and supporting forward market activity. FTRs were designed to serve as the financial equivalent of firm transmission service and play a key role in ensuring open access by providing the opportunity to all market participants to acquire congestion hedges.⁷ Sound FTR credit policy is essential in protecting the integrity of the FTR markets and reduces the likelihood of events that could frustrate the realization of their associated benefits.

B. Show Cause Order

5. On July 28, 2022, the Commission issued an order in Docket Nos. EL22-62-000, EL22-63-000, EL22-64-000, and EL22-65-000, pursuant to section 206 of the FPA, instituting investigations into whether the existing open access transmission tariffs

⁵ See FERC, *Energy Primer: A Handbook of Energy Market Basics*, at 66-68 (Apr. 2020).

⁶ *Id.*

⁷ *PJM Interconnection, L.L.C.*, 158 FERC ¶ 61,093, at P 27 (2017).

(OATT) of CAISO, ISO New England Inc. (ISO-NE), New York Independent System Operator, Inc. (NYISO), and/or Southwest Power Pool Inc. (SPP) are unjust, unreasonable, unduly discriminatory or preferential, or otherwise unlawful, and to establish a refund effective date.⁸ Specifically, the Commission was concerned that these OATTs do not contain certain credit risk management practices intended to ensure that market participants in FTR markets administered by these market operators maintain sufficient collateral to reduce mutualized default risk, i.e., the risk that a default by one market participant is unsupported by collateral and therefore must be socialized among all market participants.⁹

6. In the Show Cause Order, the Commission acknowledged that although the record developed through its technical conference¹⁰ concerning credit risk management in organized wholesale electric markets highlighted numerous different approaches to managing credit risk, it believed that two specific practices may be particularly critical to effectively managing credit risk for FTRs: the use of a mark-to-auction mechanism and a volumetric minimum collateral requirement for FTRs.¹¹ The Commission stated that such mechanisms may be critical to managing FTR credit risk and, in turn, maintaining just and reasonable rates.¹² The Commission recognized, however, that there are meaningful differences between the various organized wholesale electric markets' FTR markets such that a one-size-fits-all approach to mitigating credit risk may not be appropriate.¹³ Therefore, while the Commission stated that it believed mark-to-auction and volumetric minimum FTR collateral requirements address the concerns identified in the Show Cause Order (discussed in more detail below), it recognized there may be alternative solutions to address such concerns.¹⁴

7. The Commission found that: (1) the CAISO and SPP OATTs may be unjust and unreasonable due to the lack of a mark-to-auction collateral requirement or comparable alternative for FTRs within their respective credit policies; and (2) the CAISO, ISO-NE,

⁸ *See supra* note 1.

⁹ Show Cause Order, 180 FERC ¶ 61,049 at P 1.

¹⁰ *See* Supplemental Notice of Technical Conference, *RTO/ISO Credit Principles and Practices*, Docket No. AD21-6-000, et al. (Feb. 10, 2021).

¹¹ Show Cause Order, 180 FERC ¶ 61,049 at P 16.

¹² *Id.*

¹³ *Id.* P 30.

¹⁴ *Id.*

and NYISO OATTs may be unjust and unreasonable due to the absence of a volumetric minimum collateral requirement for FTRs within their respective credit policies.¹⁵ Pursuant to FPA section 206, the Commission directed each of the identified RTOs/ISOs to either: (1) show cause as to why its OATT remains just and reasonable and not unduly discriminatory or preferential; or (2) explain what changes to its OATT it believes would remedy the identified concerns if the Commission were to determine that its OATT has in fact become unjust and unreasonable and, therefore, proceeds to establish a replacement rate.¹⁶

8. As relevant to CAISO, the Commission explained that a mark-to-auction mechanism mitigates the risk of default by updating collateral requirements to reflect the most recent valuation of the FTR position.¹⁷ Specifically, the mechanism requires that participants maintain sufficient collateral to support the change in value of the FTR positions they hold based on the most recent auction prices for those FTRs. This method ensures that collateral requirements are updated to reflect the evolving risk of a portfolio and can help mitigate excessive risk taking by allowing the RTO/ISO to make a collateral call if auction prices reveal that a market participant's FTRs acquired in a prior auction are declining in value. The Commission found that mark-to-auction collateral requirements help ensure that the collateral required for a portfolio more accurately reflects the risk of the portfolio, which helps mitigate the risk of defaults and potential mutualization of costs from any defaults that are not supported by collateral. The Commission expressed concern that organized wholesale electric markets that lack a mark-to-auction collateral requirement may under-collateralize FTR risks when historic congestion or system conditions deviate significantly from future congestion or system conditions.¹⁸

9. The Commission noted that since the GreenHat default in 2018,¹⁹ PJM Interconnection, L.L.C. (PJM), ISO-NE, Midcontinent Independent System Operator, Inc. (MISO), and NYISO have revised their OATTs to implement mark-to-auction FTR collateral requirements, while CAISO and SPP have not adopted similar mark-to-auction

¹⁵ *Id.* PP 21, 30.

¹⁶ *Id.* PP 21, 31.

¹⁷ *Id.* P 17.

¹⁸ *Id.* P 24.

¹⁹ In June 2018, GreenHat, a financial participant in PJM's FTR markets, defaulted on numerous FTR obligations with resulting losses of approximately \$179 million to non-defaulting market participants. See *GreenHat Energy, LLC*, 177 FERC ¶ 61,073, at PP 62-64 (2021).

measures.²⁰ The Commission found that the lack of a mark-to-auction mechanism or a comparable alternative in CAISO's and SPP's OATTs may be unjust and unreasonable because they do not incorporate updated FTR portfolio valuations. Without a mark-to-auction mechanism or comparable alternative, the Commission found that CAISO's and SPP's current FTR collateral requirements may be unjust and unreasonable because they do not incorporate the increased risk of default that results from an FTR portfolio that declines in value.²¹

10. As relevant to CAISO, the Commission explained that implementing volumetric minimum collateral requirements for FTRs ensures that a market participant is required to post a minimum amount of collateral to cover potential defaults, even when the market participant has offsetting positions.²² The Commission stated that in some RTOs/ISOs, market participants are allowed to net FTRs with negative collateral requirements against FTRs with positive collateral requirements within the market participant's portfolio, which can lead to large, risky FTR portfolios that require little or no collateral. The Commission found that this may be a problem when future congestion is significantly different than historical congestion because the collateral held by the RTO/ISO may be insufficient for a portfolio's risk. The Commission pointed out that at the time of its default, GreenHat had only \$559,447 on deposit as collateral with PJM despite its portfolio growing to approximately 889 million MWh.²³ The Commission stated that in order to minimize the costs of the socialized defaults and ensure just and reasonable rates, it is important to ensure market participants post sufficient collateral relative to their portfolio's risk, because the cost of any defaults that do occur in organized wholesale electric markets are typically socialized among non-defaulting members.²⁴

11. The Commission stated that mechanisms that ensure some minimal level of collateral support, such as a volumetric minimum FTR collateral requirement, can help address the risk from under-collateralized portfolios, particularly for FTR portfolios that are structured to minimize their collateral requirements without correspondingly reducing their risk.²⁵ The Commission explained that volumetric minimum FTR collateral

²⁰ Show Cause Order, 180 FERC ¶ 61,049 at P 18.

²¹ *Id.* P 26.

²² *Id.* P 19.

²³ *See supra* note 19.

²⁴ Show Cause Order, 180 FERC ¶ 61,049 at P 27.

²⁵ *Id.* P 28 (citing *PJM Interconnection, L.L.C.*, 164 FERC ¶ 61,215, at P 13 (2018) ("Specifically, we agree that the \$0.10/MWh minimum credit requirement for FTRs helps address the specific risks to market participants due to large FTR portfolios

requirements act as a floor, ensuring that an FTR portfolio's collateral requirement cannot be reduced below the applicable \$/MWh threshold.²⁶ In other words, these requirements require collateral to scale with the size, and in most cases risk, of an FTR portfolio. The Commission stated that such requirements act as an important backstop and ensure all FTR portfolios maintain some minimum level of collateral support that increases as portfolios grow larger. Without explicit \$/MWh volumetric minimum FTR collateral requirements, the Commission expressed concern that market participants may be able to minimize their collateral requirements without a corresponding reduction in risk.

12. The Commission stated that since the GreenHat default in 2018,²⁷ three RTOs/ISOs have implemented a \$/MWh volumetric minimum collateral requirement for FTRs: PJM has implemented a \$0.10/MWh minimum requirement; SPP has implemented a \$0.10/MWh minimum requirement; and MISO has implemented a \$0.05/MWh minimum requirement.²⁸ The Commission also noted that while CAISO, ISO-NE and NYISO establish minimum capitalization and participation requirements, they appear to lack any volumetric minimum collateral requirement that scales with a participant's FTR portfolio to ensure participants cannot minimize their required collateral without correspondingly reducing their risk. The Commission expressed concern that, without a measure to ensure some minimum amount of collateral for FTR portfolios, CAISO's, ISO-NE's and NYISO's OATTs may be insufficient to ensure just and reasonable rates, given the potential increased default risk posed by large and/or risky undercollateralized portfolios.²⁹ Additionally, the Commission noted that CAISO, ISO-NE and NYISO allow for some limited offsetting of collateral requirements to reduce the overall collateral requirement of an FTR portfolio.³⁰ The Commission stated

that may be under-collateralized”).

²⁶ *Id.* P 28.

²⁷ *See supra* note 19.

²⁸ Show Cause Order, 180 FERC ¶ 61,049 at P 20 & nn.27-29.

²⁹ *Id.* P 27.

³⁰ *Id.* P 29 (citing CAISO, CAISO eTariff, § 12.6.3 (Credit Requirements for the Holding of CRRs) (5.0.0) (allowing limited netting for “Offsetting CRRs”); ISO-NE, ISO New England Inc. Transmission, Markets and Services Tariff, Ex. IA (ISO-NE Financial Assurance Policy) (27.0.0), § VI (allowing for netting of FTRs with the same or opposite path, same contract month and type); NYISO, Manual 03 Transmission Congestion Contracts Manual, § 3.4.6 (allowing participants to lower collateral requirements using offsetting positions)).

that while allowing for some offsetting is consistent with prudent risk management practice, it was concerned that, without appropriate backstops like a volumetric minimum collateral requirement, CAISO, ISO-NE and NYISO market participants may be able to structure their FTR portfolios to minimize their collateral requirements without correspondingly reducing their risk.³¹

II. CAISO's Response to the Show Cause Order

13. CAISO states that section 12.6.3 of its tariff already incorporates mark-to-auction valuation and a volumetric credit requirement.³² CAISO explains that its approach is based on (1) the CRR Auction Price, which has a mark-to-auction valuation, plus (2) a separate Credit Margin to reflect the potential for the CRR Holder to face future payment obligations in excess of the expected CRR value associated with low positively valued and negatively valued CRRs.³³ CAISO argues that its approach is superior to an approach that relies exclusively on mark-to-auction for portfolio valuation or a flat volumetric collateral requirement, and therefore does not require any further changes to address the policy concerns identified in the Show Cause Order.³⁴

14. In response to the Commission's concern regarding CAISO's lack of an explicit \$/MWh volumetric alternative minimum collateral requirement, CAISO explains that the CRR collateral holding requirements consist of two components: the Financial Security required for the CRR portfolio based on the value of the portfolio, plus an additional CRR Credit Margin that must be non-negative.³⁵ CAISO argues that this Credit Margin is a superior alternative to a flat \$/MWh requirement and is weighted to produce an amount that imposes a higher Financial Security requirement on negative and low positively valued CRRs compared to high positively valued CRRs.³⁶ CAISO explains that this Credit Margin is designed such that, in the case of default, the probability that the CRR collateral requirement cannot fully cover the financial loss does not exceed five percent; further, all CRRs receive a Credit Margin that cannot have a negative value. CAISO explains that the Credit Margin is intended to reflect the potential for the CRR

³¹ *Id.* P 29.

³² CAISO Response at 2.

³³ *Id.* at 4.

³⁴ *Id.* at 3.

³⁵ *Id.* at 18; CAISO, CAISO eTariff, § 12.6.3 (Credit Requirements for the Holding of CRRs) (5.0.0), § 12.6.3.4.

³⁶ CAISO Response at 18.

holder to face future payment obligations in excess of the expected CRR value associated with low positively valued and negatively valued CRRs, which was a key concern the Commission mentioned in the Show Cause Order.³⁷

15. CAISO also explains that the overall collateral requirement for CRRs is calculated on a portfolio basis.³⁸ If the collateral requirement for a single CRR is positive, the amount is added to the total CRR collateral requirement; if this amount is negative, the total CRR collateral requirement is not reduced.³⁹ CAISO argues that because the total CRR collateral requirement cannot be reduced and limited offsetting only occurs in the context of CRR allocations, the Commission's concern that "market participants may be able to structure their FTR portfolios to minimize their collateral requirements without correspondingly reducing risk" does not exist.⁴⁰

16. Regarding mark-to-auction valuation, CAISO states that its tariff imposes the Financial Security requirement equal to the negative of the most recent Auction Price or the Historical Expected Value, whichever is lower, plus the Credit Margin for that CRR.⁴¹ For all CRRs, the Credit Margin equals the Expected Congestion Revenue minus the Fifth Percentile Congestion Revenue for the CRR.⁴² CAISO provides a hypothetical example of a 10 MW CRR with an Auction Price of negative \$1,000/MW, a Historical Expected Value of negative \$800/MW, and a Credit Margin of \$400/MW; the collateral requirement for this CRR would be \$1,000/MW plus the \$400/MW Credit Margin multiplied by 10 MW.⁴³ CAISO explains that while the auction clearing price is one estimate of the expected market obligation, CAISO will also use the Historical Expected Value when this would result in additional collateral being required.⁴⁴ CAISO argues that its approach is superior to relying solely on a mark-to-auction mechanism because such a mechanism may fail to capture the risk of auction results diverging significantly from historical outcomes. Further, CAISO notes that it may adjust the collateral

³⁷ *Id.* at 15.

³⁸ *Id.* at 11-12.

³⁹ *Id.* at 12.

⁴⁰ *Id.* at 12 n.37 (citing Show Cause Order, 180 FERC ¶ 61,049 at P 29).

⁴¹ *Id.* at 13.

⁴² *Id.* at 10.

⁴³ *Id.* at 11.

⁴⁴ *Id.* at 15.

requirements, not less than monthly, and may reevaluate “more frequently than monthly if necessary.”⁴⁵

17. CAISO also asserts that a few key differences in its CRR market design reduce the overall risk as compared to other FTR markets.⁴⁶ First, CAISO explains that its position terms for CRRs are shorter than other markets. The only types of CRRs available in CAISO’s auction are (1) Monthly CRRs and (2) Seasonal CRRs that have a term of three months. Long-term CRRs are only available as allocated CRRs. This results in a maximum open position of no more than three months in CAISO, which imposes significantly less risk than other markets where the maximum open position can be up to three years. Second, CAISO notes that CRRs may only be purchased for paths associated with physical supply delivery, which is likely to make CRRs less risky.⁴⁷

III. Notice and Responsive Pleadings

18. Notice of the Show Cause Order was published in the *Federal Register*, 87 Fed. Reg. 47,409 (Aug. 3, 2022), with interventions in any of Docket Nos. EL22-62-000, EL22-63-000, EL22-64-000, and EL22-65-000 due within 21 days of the date of issuance of the Show Cause Order. Timely motions to intervene in Docket No. EL22-62-000 were filed by DC Energy, LLC, NRG Power Marketing LLC, Pacific Gas and Electric Company, Public Citizen, Inc., Electric Power Supply Association, Calpine Corporation, PJM, SPP, Southern California Edison Company, Modesto Irrigation District, California Department of Water Resources State Water Project, and Northern California Power Agency. On August 19, 2022, City of Santa Clara filed a motion to intervene out-of-time in Docket No. EL22-62-000. On October 19, 2022, Financial Marketers Coalition⁴⁸ filed a motion to intervene out-of-time in Docket No. EL22-62-000.

⁴⁵ *Id.* at 16; CAISO, CAISO eTariff, § 12.6.3 (Credit Requirements for the Holding of CRRs) (5.0.0), § 12.6.3.1(c).

⁴⁶ CAISO Response at 7.

⁴⁷ *Id.* at 8.

⁴⁸ Financial Marketers Coalition states that it is comprised of financial market participants participating in the various RTO/ISO markets, including those operated by CAISO, SPP, NYISO, and ISO-NE.

IV. Discussion

A. Procedural Matters

19. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2022), the timely, unopposed motions to intervene serve to make the entities that filed them parties to this proceeding.

20. Pursuant to Rule 214(d) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214(d), we grant City of Santa Clara's and Financial Marketers Coalition's late-filed motions to intervene given their interest in the proceeding, the early stage of the proceeding, and the absence of undue prejudice or delay.

B. Substantive Matters

21. We find that CAISO's currently effective tariff remains just and reasonable because the existing measures in CAISO's tariff address the Commission's concerns in the Show Cause Order. Specifically, we find that CAISO's tariff effectively uses a mark-to-auction valuation to address the risk that a CRR portfolio may decline in value over time. We also find that CAISO's existing volumetric alternative minimum collateral approach ensures that market participants maintain some minimal level of collateral that scales with the size of their CRR portfolio and cannot minimize their required collateral without correspondingly reducing their risk.

22. We find that CAISO's currently effective tariff uses a mark-to-auction mechanism that sufficiently requires collateral to cover the risk of a CRR portfolio as the value changes over time through the Financial Security requirement. The risk of a CRR portfolio changing over time is captured by incorporating the most recent CRR auction results as part of the Financial Security requirement calculation.⁴⁹ As noted in CAISO's response, this approach incorporates a mark-to-auction mechanism and captures risks that emerge when auction results diverge materially from historical outcomes. We find that this approach mitigates the default risk of an FTR portfolio that declines in value by updating collateral requirements to reflect the most recent valuation of the CRR position.

23. We agree with CAISO that there are several other factors that reduce overall risk in the CAISO CRR market. As CAISO explains in its response, CRRs are only offered with a maximum open position of no more than three months and CRRs may only be purchased for paths associated with physical supply delivery, which is likely to limit the risk and impacts of defaults associated with CRRs.⁵⁰ We find that CAISO's updating of

⁴⁹ CAISO Response at 16.

⁵⁰ *Id.* at 7.

collateral based on the most recent auction price provides sufficient protection when considered alongside other features of CAISO's CRR collateral requirements and market design. Specifically, we agree with CAISO that risk in the CRR market is significantly reduced compared to other markets due to CAISO offering CRRs with a maximum term of three months. We also find that the limited set of CRRs available for auction in CAISO, which limits auctioned CRRs to paths associated with physical delivery, also reduces the overall risk in CAISO's CRR market.⁵¹

24. The Commission in the Show Cause Order stated that CAISO appears to lack any volumetric minimum collateral requirement that scales with a participant's CRR portfolio to ensure participants cannot minimize their required collateral without correspondingly reducing their risk. Based on CAISO's response, we find that CAISO's existing approach satisfies this concern. CAISO's tariff does include a weighted volumetric collateral requirement that imposes a relatively higher collateral requirement on the riskier lower-valued and negatively valued CRRs compared to a lower volumetric requirement imposed on the less-risky, higher-valued CRRs.⁵² It accomplishes this through the "Credit Margin" outlined in its tariff, which covers the difference between "the expected value of the congestion revenue" and "the fifth percentile value of the congestion revenue" of the CRR.⁵³ While this approach is different than the collateral requirements in PJM, MISO, or SPP—all of which require a flat \$/MWh amount on FTR portfolios—CAISO nonetheless requires a volumetric value to be posted as collateral that is weighted to produce a \$/MWh amount, which imposes a higher requirement on negative or low positively valued CRR portfolios. While the mechanics of CAISO's collateral requirement function differently than other markets, we find that it adequately ensures that a market participant cannot minimize its CRR collateral without correspondingly reducing its risk.

25. Accordingly, we terminate the section 206 proceeding in Docket No. EL22-62-000.

⁵¹ *Id.* at 8.

⁵² *Id.* at 3.

⁵³ *Id.* at 18; CAISO, CAISO eTariff, § 12.6.3 (Credit Requirements for the Holding of CRRs) (5.0.0), § 12.6.3.4.

The Commission orders:

The proceeding in Docket No. EL22-62-000 is hereby terminated, as discussed in the body of this order.

By the Commission.

(S E A L)

Kimberly D. Bose,
Secretary.