

165 FERC ¶ 61,085
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Neil Chatterjee, Chairman;
Cheryl A. LaFleur and Richard Glick.

California Independent System Operator Corporation Docket No. ER19-26-000

ORDER ACCEPTING TARIFF REVISIONS

(Issued November 9, 2018)

1. On October 2, 2018, pursuant to section 205 of the Federal Power Act (FPA),¹ the California Independent System Operator Corporation (CAISO) submitted proposed tariff revisions to implement changes to its Congestion Revenue Rights (CRR) process. Specifically, CAISO proposes to pay CRR holders for their CRR entitlements only to the extent the CAISO collects sufficient revenue through day-ahead market congestion revenues and other sources to fund those entitlements. In this order, we accept CAISO's proposed tariff revisions for filing, effective January 1, 2019, as discussed below.

I. Background

2. CAISO states that the primary purpose of CRRs is to facilitate long-term contracting by load-serving entities (LSE) and suppliers by permitting them to hedge congestion costs incurred in the day-ahead market.² CRRs are financial contracts that entitle CRR holders to be paid or require them to pay for congestion on a defined transmission path between two points and for a defined period of time during the term of the contract. CRRs achieve this by giving a CRR holder the right to be paid an amount equal to the difference in the congestion component of the day-ahead locational marginal price (LMP) between a source and a sink, up to the quantity of megawatts (MW) that defines the CRR.³ A prevailing flow CRR is expected to be positively valued, meaning

¹ 16 U.S.C. § 824d (2012).

² CAISO Transmittal at 2, 7; *see also Cal. Indep. Sys. Operator Corp.*, 163 FERC ¶ 61,237 (2018) (Track 1A Order).

³ For example, if in a certain hour the day-ahead LMP at Point A (the sink) was \$50/MWh with a congestion component of \$20 and the LMP at Point B (the source) was

that the stream of revenues to which the holder is entitled is a positive value given the expected difference between the day-ahead congestion price at the sink point of the CRR and the day-ahead congestion price at the source. A counterflow CRR is expected to be negatively valued.

3. CAISO's CRR release process has three time scales: (1) long-term; (2) annual; and (3) monthly. CAISO releases CRRs representing up to 60 percent of its transmission capacity in the long-term time scale, up to 65 percent in the annual time scale, and up to 100 percent in the monthly time scale.⁴ CAISO releases its long-term CRRs through allocation to LSEs. For the annual and monthly processes, CAISO allocates CRRs to LSEs and then auctions off non-allocated capacity up to the percentage allowed for that time scale. In all time scales, CAISO allocates CRRs to LSEs based on their nominations and historic load.⁵

4. CAISO determines the quantity of CRRs available in the annual and monthly CRR allocations and auctions using a CRR model (the allocation/auction model) that is based on the most up-to-date direct current full network model.⁶ This model is intended to reflect, as closely as possible, transmission constraints and network topology expected in the day-ahead market. The allocated CRR nominations are cleared against a percentage of the transmission system capacity in the full network model. After the allocation process, CRRs corresponding to the remaining transmission capacity are made available in the auction process to all eligible market participants. If, for example, after the annual allocation process, 60 percent of transmission system capacity has been allocated to LSEs, the remaining five percent is made available for the annual auction process. In

\$30/MWh with a congestion component of \$0, the difference in congestion would be \$20 per MW, and a 1 MW CRR from Point B (the source) to Point A (the sink) would generate \$20 of revenue for the CRR holder in that hour. CAISO Transmittal at 7-8.

⁴ *Id.* at 9. CAISO releases CRRs representing 100 percent of system transmission capacity minus a pre-determined de-rate factor which generally limits the available system capacity to approximately 82.5 percent. CAISO Filing, Attachment C, CRR Auction Analysis Report, at 21 (Nov. 21, 2017) (CRR Auction Analysis Report).

⁵ CAISO Transmittal at 8-9.

⁶ *Id.* at 9.

addition, the allocated CRR holders can make their CRRs available for sale in the auction.⁷

5. CAISO maintains a CRR balancing account in which it collects day-ahead congestion revenues, payments from counterflow CRRs, and CRR auction revenues. This account is used to pay positively-valued CRRs. Any deficit (or surplus) in the CRR balancing account is charged (or paid) to measured demand⁸ on a pro rata basis and settled daily.⁹ CAISO explains that because CRR holders are guaranteed payment of their CRR's full MW entitlement value, or notional value,¹⁰ measured demand effectively underwrites the risk of deficits in the balancing account.

6. CAISO launched a stakeholder process in 2017 to assess CRR auction efficiency, including the issues of auction revenue shortfall¹¹ and CRR revenue insufficiency. CAISO has divided the process to improve CRR auction efficiency into four tracks. As CAISO explains, Track 0 focused on CRR auction enhancements that CAISO could implement within its current tariff authority (i.e., that do not require tariff changes),¹²

⁷ *Id.* at 8-9 (describing the allocation and auction processes and noting that market participants can also trade those CRRs through secondary market transactions).

⁸ *Id.* at 10. Measured demand includes metered demand within the CAISO footprint plus exports. *Id.* at 4.

⁹ CAISO, Fifth Replacement FERC Electric Tariff, Settlement of Day-Ahead Market Transactions, CRR Settlements, § 11.2.4.4.1.

¹⁰ CAISO defines the notional CRR value as the day-ahead LMP difference between the CRR's source and sink multiplied by the MW quantity of the CRR. CAISO Transmittal at 4; *see also* CAISO Filing, Attachment A, Proposed CAISO Tariff, Appendix A, Master Definition Supplement (proposing a new defined term of "Notional CRR Value").

¹¹ CAISO states that with an efficient CRR auction, prices of auctioned CRRs are expected to generally reflect market participants' expectations of congestion exposure in the day-ahead market, as adjusted for risk premium, time value of money, and hedge value. However, CAISO notes that this has not been the case in recent years as the discount in auction prices relative to CRR payouts far exceeds any reasonable risk premium and time value of money adjustment.

¹² CAISO Transmittal at 10. These included greater transparency on transmission outage reporting performance, CAISO process improvements, and reviewing current modeling criteria. *Id.*

which CAISO has implemented. In the Track 1A tariff changes, which the Commission accepted on June 29, 2018,¹³ CAISO made revisions to address the auction revenue shortfall issue by: (1) limiting the paths that are available through the CRR auction to only delivery paths, i.e., paths comprised of source and sink pairs that are associated with supply delivery to load; and (2) updating the reporting requirement for transmission outages to better align that reporting process with the CRR auction timeline.

7. On July 17, 2018, the CAISO filed revisions to its CRR process to: (1) eliminate full funding of CRRs and instead scale CRR payouts, on a constraint-by-constraint basis, up to the extent that CAISO collects sufficient revenue through the day-ahead market congestion charges and charges to counterflow CRRs (July scaling proposal); and (2) decrease the percentage of transmission system capacity available in the annual CRR allocation and auction processes from 75 percent to 65 percent (capacity release reduction proposal). In an order issued on September 20, 2018 (Track 1B Order), the Commission rejected CAISO's July scaling proposal while accepting its capacity release reduction proposal.¹⁴ The Commission rejected CAISO's July scaling proposal because CAISO's proposal did not take a symmetric approach; rather, it "treat[ed] prevailing and counterflow CRRs differently such that the holder of a prevailing flow CRR from A to B cannot offset that obligation by holding a CRR from B to A."¹⁵ CAISO proposed to scale payments to prevailing flow CRRs while not scaling the payments due from counterflow CRRs. The Commission rejected the July scaling proposal "without prejudice to CAISO refiling a proposal that allows CRR holders to consistently net prevailing and counterflow CRRs against each other as in other ISO and RTO markets."¹⁶ CAISO's instant filing proposes an alternative scaling proposal in response to the Commission's Track 1B Order.

II. CAISO's Filing

8. CAISO characterizes its instant filing as "essentially the same methodology it submitted" in its July scaling proposal with "important modification to address the Commission's concern in its September 20 Order."¹⁷ CAISO's proposal is meant to address revenue insufficiency in its CRR process, which occurs when congestion revenue

¹³ Track 1A Order, 163 FERC ¶ 61,237 at PP 1, 62-76.

¹⁴ *Cal. Indep. Sys. Operator Corp.*, 164 FERC ¶ 61,209 (2018).

¹⁵ *Id.* P 51.

¹⁶ *Id.* P 53.

¹⁷ CAISO Transmittal at 17.

(including congestion charges and payments from counterflow CRRs) is not sufficient to fund payments to CRR holders.¹⁸ CAISO states that the primary cause of revenue insufficiency is differences in transmission modeling between the CRR full network model and the day-ahead market model.¹⁹ CAISO further states that under the existing tariff, the CAISO collects day-ahead market congestion revenue, charges it makes to counterflow CRR holders, and CRR auction revenue in the CRR balancing account.²⁰ The CAISO uses the CRR balancing account to pay positively valued CRRs. CAISO states that it then allocates total shortfalls and surpluses in the CRR balancing account to measured demand, which is metered demand within the CAISO balancing authority area plus exports.²¹ Thus, CAISO, states that measured demand, through load-serving entities, effectively underwrites the risk of these congestion charges because CRR holders are guaranteed payment of their CRR's full value even when a corresponding amount of power is not scheduled in the day-ahead market because of market model changes between the annual CRR process and the day-ahead market.²²

9. CAISO's instant proposal, like its July scaling proposal, is intended to alleviate the current burden placed on load-serving entities for CRR revenue insufficiency, regardless of their CRR holdings' association with the insufficiency.²³ Specifically, CAISO proposes to eliminate the current full funding of CRRs held by market participants, and instead scale CRR payouts on a constraint-by-constraint basis in the amount needed to eliminate revenue insufficiency.²⁴

10. CAISO argues that its proposal, like its July scaling proposal, more equitably allocates the CRR revenue insufficiency compared to its current CRR market rules. CAISO states that under the proposal, LSEs will only be responsible for the revenue insufficiency in proportion to the CRRs they hold. Accordingly, CAISO states, LSEs would bear responsibility for 60 percent of the revenue insufficiency under the

¹⁸ *Id.* at 13-14.

¹⁹ *Id.* at 14.

²⁰ *Id.* at 4.

²¹ *Id.*

²² *Id.*

²³ *Id.* at 5.

²⁴ *Id.* at 16.

proposal.²⁵ CAISO also argues that its proposal more equitably allocates the revenue insufficiency among LSEs because under the proposal, if a binding constraint generates less congestion revenue than is required to pay CRR holders, only those LSEs who hold CRRs with implied flow on that constraint would bear the CRR revenue insufficiencies.²⁶

11. CAISO also asserts that its proposal, like its previous proposal, will bring its methodology for allocating CRR revenue insufficiency more closely in line with other regional transmission organizations (RTO) or independent system operators (ISO). Specifically, CAISO notes that PJM Interconnection, L.L.C. (PJM), ISO New England Inc. (ISO-NE), Midcontinent Independent System Operator, Inc. (MISO), and Southwest Power Pool, Inc. (SPP) each compare congestion revenues with the amounts due to financial transmission rights (FTR) holders,²⁷ albeit on an aggregated basis, and allocate any revenue insufficiencies or surpluses pro rata to FTR holders, up to the levels of their target FTR values. CAISO notes that the New York Independent System Operator, Inc. (NYISO) allocates congestion revenue insufficiencies in its day-ahead market on a constraint-by-constraint basis. CAISO explains that NYISO differs from other RTOs in that it allocates net congestion revenue insufficiencies on a monthly basis to transmission owners.²⁸

12. However, CAISO notes that while the July scaling proposal did not allow CRR holders to net prevailing and counterflow CRRs within a CRR holder's portfolio, the revised scaling proposal in the instant filing includes a methodology to ensure that a CRR holder with a prevailing flow CRR from A to B can offset its obligation by holding a counterflow CRR from B to A.

13. CAISO's revised scaling proposal continues to take a constraint-specific approach. CAISO states that its approach starts with a revised netting methodology that nets the modeled flow a market participant's CRRs place in the prevailing and counterflow directions on a particular constraint.²⁹ CAISO states that it can trace the MW quantity to the modeled flow those CRRs have on constraints on the CAISO system

²⁵ *Id.* at 20.

²⁶ *Id.* at 21.

²⁷ FTRs are the equivalent financial product to CRRs in other RTOs/ISOs.

²⁸ CAISO Transmittal at 29.

²⁹ *Id.* at 21.

and net any prevailing or counterflow positions they place on a particular constraint. CAISO states that a CRR holder's prevailing flow and counterflow CRRs will offset.

14. CAISO explains that it will settle the CRRs based on the net modeled CRR flow, which is the net MW quantity from CRR obligations within a CRR holder's portfolio that CAISO models as flowing over a particular binding transmission constraint.³⁰ CAISO states that for each hour of the day-ahead market, it will compare the congestion revenue attributable to each constraint to the payments that the day-ahead market would have to make to CRR holders due to that constraint based on the CRR holder's net modeled CRR flow. CAISO states that it will then scale that portion of all CRR holders' payments attributable to the constraint until the total payment is no greater than the congestion revenue generated by the day-ahead market due to that constraint plus payments received from net counterflow positions held by CRR holders due to that constraint.³¹

15. CAISO states that the scaling of CRRs begins by calculating the revenue available to fund CRRs available on a constraint-by-constraint basis. CAISO states that it will determine the hourly constraint-specific CRR congestion revenue funds that will be determined by adding: (1) the portion of the total day-ahead market congestion revenue CAISO received due to the specific constraint, as opposed to the other constraints on the CAISO system; (2) charges collected from CRR MW quantities that have a net implied counterflow within a CRR holder's portfolio on the constraint; and (3) any revenue adjustment associated with that constraint made under the existing "CRR clawback" rule or under the circular trade rules.³²

16. According to CAISO, it will compensate CRR holders holding prevailing flow on a constraint from these funds. CAISO states that it will pay these CRR holders from the constraint-specific congestion revenue funds based on the ratio of the CRR holder's prevailing net modeled CRR flow over the constraint as compared to the sum of all CRR holders' prevailing net modeled flow over that constraint.

17. CAISO states that if it determines that a CRR holder's net modeled flow over a binding constraint is in the counter-flow direction, CAISO will charge the CRR holder

³⁰ *Id.* at 22. See also CAISO Filing, Attachment B, Marked Tariff, at 14 (proposing the definition for "Net Modeled CRR Flow" in the CAISO tariff Appendix A).

³¹ CAISO Transmittal at 22.

³² *Id.* at 23. The CRR clawback rule rescinds CRR payments that may be inflated by virtual bids submitted by the same market participant. The circular trade rules adjust CRR payments for entities that engage in prohibited circular scheduling at the interties.

the congestion-supported value equal to the net modeled CRR flow multiplied by the shadow price of that binding constraint.³³ CAISO will therefore not scale payments due from CRR holders with net counterflow positions.

18. CAISO states that it will not pay a CRR holder in excess of the CRR holder's net modeled flow multiplied by the shadow price of the binding constraint. CAISO explains that the shadow price of the constraint captures the congestion cost differential between two sides of the constraint.³⁴ CAISO states that this captures the notional value of the CRR MWs flowing over a particular constraint. It is therefore possible that there may be a revenue surplus remaining after CAISO has credited all CRRs for their notional value as to that constraint in a given hour. To minimize reductions in CRR payments due to scaling, CAISO proposes to hold these revenue surpluses in constraint-specific congestion revenue funds and use them to provide make-whole payments to CRR holders. CAISO will provide make-whole payments for each day and at the end of each month, and by constraint each time. CAISO proposes for a CRR's daily settlement to be the sum of its revenue-supported CRR values across the hours of that day, plus any daily CRR make-whole payment. CAISO states that daily make-whole payments are important to avoid unnecessarily exposing market participants to the CAISO credit requirements, which trigger daily. However, CAISO explains that each CRR will only have a claim to surplus revenues if it had implied flow on the constraint in the hour that CAISO collected the surplus.³⁵ Any funds remaining in a daily constraint-specific CRR congestion revenue fund after the daily settlement will roll over to a monthly constraint-specific CRR congestion fund. CRRs for which the sum of daily CRR settlement values on a constraint for the month are less than the sum of CRR notional values on a constraint over that month are eligible for a monthly offset to the scaled payments. As in the daily settlement, CAISO will credit CRR holders up to the notional value from the whole month, to the extent the constraint-specific fund has sufficient revenue reserved. CAISO

³³ *Id.* at 24.

³⁴ *Id.*

³⁵ CAISO provides an example where in one hour a single CRR (CRR₁) has a modeled flow over a constraint, and in the next hour two different CRRs (CRR₂ and CRR₃) have a modeled flow over the same constraint. If CAISO collects excess congestion revenue on that constraint in the first hour, then that revenue would be reserved for CRR₁ in that hour to offset any amounts CAISO scales that same CRR in other hours. CRR₂ and CRR₃ would not have access to the first hour surplus revenues. *Id.* at 25.

states that it will settle any amount remaining in the monthly constraint-specific CRR congestion fund to monthly measured demand.³⁶

19. CAISO states that it chose a constraint-specific approach for allocating the cost of CRR revenue insufficiency rather than a broad approach, for several reasons.³⁷ First, according to CAISO, stakeholders argued that, in valuing CRRs, they could better estimate the risk of transmission outages if CAISO uses constraint-specific scaling than they could estimate their potential share of the overall pool of CRR revenue insufficiency under a broader allocation approach. Second, CAISO states that the constraint-specific approach is expected to reduce incentives to target CRRs that receive payments based on congestion prices that were not reflected in the auction due to modeling differences between the auction and the day-ahead market. According to CAISO, these CRRs contribute to both revenue insufficiency and the auction revenue shortfall. Third, CAISO asserts that a broad approach allocating revenue insufficiency in proportion to overall CRR payments, rather than a constraint-specific approach, could inequitably affect CRRs purchased in the auction at a higher price relative to their payout compared to CRRs purchased at a lower price. Under a broad approach, CRRs purchased at a lower price could still have a profit after being allocated the share of revenue insufficiency while CRRs purchased at a higher price relative to their payout would be less able to absorb the revenue insufficiency charge. Fourth, CAISO argues, a constraint-specific approach more equitably allocates revenue insufficiencies among allocated CRR holders because it does not burden a CRR holder that has been allocated a CRR involved in one portion of the CAISO system with day-ahead market CRR revenue insufficiencies incurred in a portion of the system in which it is not involved.

III. Notice and Responsive Pleadings

20. Notice of CAISO's filing was published in the *Federal Register*, 83 Fed. Reg. 50,914 (2018), with interventions and protests due on or before October 12, 2018. The California Public Utilities Commission filed a notice of intervention. Timely motions to intervene were filed by Modesto Irrigation District, NRG Power Marketing LLC, Northern California Power Agency, and the California Department of Water Resources State Water Project. Timely motions to intervene and comments or protests were filed by Alliance for Retail Energy Markets (AREM), American Public Power Association (APPA), CAISO's Department of Market Monitoring (DMM), California Municipal Utilities Association (CMUA), Pacific Gas and Electric Company (PG&E), the City of Santa Clara, California (Santa Clara), the Cities of Anaheim, Azusa, Banning, Colton, Pasadena, and Riverside, California (Six Cities), DC Energy, LLC (DC Energy) and Vitol Inc. (Vitol), and Western Power Trading Forum (WPTF). On October 15,

³⁶ *Id.*

³⁷ *Id.* at 17-18.

2018, Calpine Corporation (Calpine) and Southern California Edison Company (SoCal Edison) filed motions to intervene out-of-time.

A. Protests and Comments

21. Several parties express support for CAISO's filing. APPA argues that the proposal will mitigate the costs imposed on load for funding CRRs.³⁸ DMM also supports the filing, arguing that the proposal will create some protections for transmission ratepayers.³⁹ DMM recommends that CAISO continue considering CRR auctions based on willing buyers and sellers during Track 2 of this initiative. Santa Clara states that CAISO's proposal should provide immediate relief for LSEs from the burden of funding CRRs purchased at auction that later become infeasible.⁴⁰ PG&E supports CAISO's revised proposal and agrees with CAISO that such change properly addresses the Commission's concern that the prior proposal treated prevailing and counterflow CRRs held by a participant differently.⁴¹ CMUA also supports CAISO's proposal and urges the Commission to accept it.⁴²

22. Six Cities states that it supports CAISO's proposal. Six Cities states that while CAISO is not required to show that the existing tariff provisions are unjust and unreasonable, Six Cities argues that the record developed during the stakeholder process demonstrates that CAISO's existing tariff provisions are unjust and unreasonable.⁴³ Six Cities states that CAISO's existing tariff provisions violate the cost causation principle because the uplift burden resulting from CRR revenue insufficiency that currently falls entirely on CAISO Measured Demand has the effect of undermining congestion cost hedges of LSEs.⁴⁴

23. Some parties, however, oppose CAISO's filing. WPTF argues that CAISO has not addressed the symmetry concern raised by the Commission in the Track 1B Order.

³⁸ APPA Comments at 4

³⁹ DMM Comments at 2.

⁴⁰ Santa Clara Comments at 8.

⁴¹ PG&E Comments at 2.

⁴² CMUA Comments at 3-4.

⁴³ Six Cities Comments at 3.

⁴⁴ *Id.* at 6.

WPTF states that if a scheduling coordinator holds a counterflow CRR without an offsetting prevailing flow CRR the counterflow would not be allocated a revenue insufficiency credit and would have to pay the full value due from the counterflow CRR.⁴⁵ WPTF states that the overarching result is that CRRs held in certain portfolios are worth more than CRRs held in other portfolios. WPTF states that the portfolios of a generator and an LSE could no longer be leveraged to ensure hedged delivery risk because the CRRs would no longer be additive.⁴⁶

24. WPTF also argues that CAISO's revised proposal fails to resolve the fact that the proposal will collect from CRR holders more than the sum of the revenue insufficiency.⁴⁷ WPTF states that CAISO's proposal to close-out on a monthly basis will not allow the revenue insufficiency allocation to smooth out across months, in contrast with other mechanisms in PJM and SPP.⁴⁸ WPTF also states that CAISO's failure to apply surpluses from congestion related to settlement intervals where there is no imputed CRR impact will further increase the tendency that CRR holders will be allocated revenue insufficiency beyond annual CAISO-wide revenue insufficiency.⁴⁹ WPTF further argues that CAISO's proposal to calculate a CRR holder's net impact on a constraint-by-constraint basis further biases settlement toward over-collection of revenue insufficiency from CRR holders.

25. Next, WPTF takes issue with CAISO's stakeholder process leading to this filing and asserts that the rushed process did not provide for meaningful input from the stakeholders. According to WPTF, stakeholders only had four-days' notice prior to the one stakeholder meeting CAISO held on its proposal and did not have sufficient time to fully participate or provide feedback. WPTF argues that the rushed process, inferior proposal, and inadequate market simulation mean that the market participants who will be bidding in the upcoming annual CRR auction will include substantially higher risk

⁴⁵ WPTF Protest at 4-5.

⁴⁶ *Id.* at 6.

⁴⁷ *Id.*

⁴⁸ *Id.* at 7 (citing Amended and Restated Operating Agreement of PJM Interconnection, LLC, Schedule 1, § 5.2.6 (Distribution of Excess Congestion Charges) and Market Protocols for SPP Integrated Marketplace, Revision 61 § 4.5.8.18 (Transmission Congestion Rights Annual Closeout Amount) (Latest Revision Oct. 1, 2018) (“On Operating Day March 1, of every year, SPP will uplift the annual residual amount with a Miscellaneous Adjustment to the Asset Owners.”)).

⁴⁹ *Id.*

premiums in their bids, and that will translate directly to lower bid prices and the potential for auction revenue shortfall. WPTF further argues that the harm of the proposed revenue insufficiency allocation goes beyond auctioned CRRs and will also affect the value of CRRs that are allocated to LSEs in the CRR nomination process.⁵⁰

26. According to WPTF, CAISO's proposal unnecessarily disrupts the 2019 annual CRR process. In support, WPTF asserts that the information in CAISO's own filing demonstrates that the risk of CRR revenue inadequacy has been decreasing and, in most recent months, CRRs have been over-funded at 120 percent in July and 140 percent in August. WPTF further asserts that any historic trends in CRR revenue insufficiency are irrelevant because of the various CRR process improvements CAISO has recently implemented or plans to implement for 2019. WPTF argues that CAISO's public reports on market performance show that LSEs received a net payment from the CRR balancing account in 2018 and given the impacts of the CRR Track 0 modeling improvements, Track 1A outage practice improvements, and the Track 2 proposal to reduce to 65 percent the capacity released in the annual CRR process, CAISO's supposition that LSEs face an undue CRR revenue insufficiency risk in 2019 is unsupported.⁵¹

27. Next, WPTF asserts that CAISO's report on its CRR process demonstrates that the revenue insufficiency problem is largely caused by transmission owners failing to report outages in time for inclusion into the CRR modeling process, as well as other modeling inconsistencies. WPTF argues that in contrast, CRR holders cannot, by any change in their behavior, remedy the mismatch between the number of CRRs that CAISO issues and the number of CRRs that the CAISO grid can support. Therefore, WPTF renews its objection to CAISO's scaling proposal on the grounds that it is not consistent with cost causation.⁵²

28. WPTF suggests that if the Commission accepts CAISO's proposal, despite WPTF's arguments, it should set the effective date to January 1, 2020, to allow CRR participants to gain a full understanding of how the CRRs will be settled and funded prior to seeking allocation or bidding in the auction. WPTF requests that the Commission direct CAISO to report in mid-2019 on the overall health of the CRR process, including on the levels of auction revenue deficiencies and revenue inadequacy, as well as the robustness of the energy market. WPTF further requests that CAISO make a new FPA section 205 filing that is informed by the outcomes and practices to date and, to the extent that the proposal includes an auction shortfall allocation, to include some level of

⁵⁰ *Id.* at 10-12.

⁵¹ *Id.* at 13-14.

⁵² *Id.* at 14-15.

allocation to transmission owners for poor transmission outage reporting. Finally, WPTF requests that if the Commission accepts the requested effective date for the pending proposal, that it direct CAISO to make a compliance filing to implement an annual CRR balancing account that balances across the year and encompasses all excess congestion rents.⁵³

29. AREM argues that CAISO has not addressed the symmetry concern which led the Commission to reject CAISO's filing in the Track 1B Order. AREM states that it does not support CAISO's CRR tariff amendments that change CRR valuations or eliminate full funding of CRRs.⁵⁴ AREM notes that it supports the protest filed by WPTF.

30. DC Energy and Vitol state that CAISO's revised proposal has advantages over CAISO's initial Track 1B proposal in that it recognizes the properties of CRRs and treats equivalent CRR portfolios the same. DC Energy and Vitol also state that they agree, in concept, that allocating day-ahead revenue insufficiency to CRR holders on a constraint-by-constraint basis could be a just and reasonable approach to CRR revenue insufficiencies.⁵⁵ However, DC Energy and Vitol contend that CAISO's proposed allocation of congestion revenue insufficiencies and surpluses is unjust and unreasonable, as filed. DC Energy and Vitol explain that CAISO's proposed allocation prevents congestion revenue surpluses from offsetting closely related congestion revenue insufficiencies on shared transmission elements. They also state that CAISO's requirement that an underfunded CRR must have implied flow on the constraint during the hours that experience a surplus in order to be allocated surplus congestion revenue prevents surplus congestion revenue from offsetting revenue insufficiencies to the maximum extent possible. In addition, DC Energy and Vitol argue that sending surplus congestion revenue directly to measured demand during hours when there is no implied flow from a CRR is inconsistent with the goal of fully funding CRR obligations where possible.⁵⁶

31. DC Energy and Vitol state that CAISO's proposal to close out congestion revenue insufficiencies on a monthly basis is unjust and unreasonable because it will lead to larger congestion revenue insufficiencies than it would after a longer period. They explain that the proposed close out period prevents one month's constraint level surplus from funding another month's revenue insufficiency. DC Energy and Vitol state that this is contrary to

⁵³ *Id.* at 15-16.

⁵⁴ AREM Protest at 5.

⁵⁵ DC Energy and Vitol Protest at 2.

⁵⁶ *Id.* at 5-7.

the practice in PJM and SPP where the close out period is 12 months. DC Energy and Vitol contend that a longer close out period would minimize the need to uplift congestion revenue insufficiencies and lead to hedges that pay out closer to target allocations while still ensuring that load serving entities do not pay the uplift costs associated with CRR revenue insufficiencies. Finally, DC Energy and Vitol urge the Commission to issue an order by November 9, 2018 so that CRR auction participants have full knowledge of how CRRs will be settled and funded prior to submitting bids in the 2019 Annual CRR Auction.⁵⁷

B. CAISO Answer

32. In its answer, CAISO argues that its revised scaling proposal has responded to the sole basis the Commission provided for rejecting its original scaling proposal.⁵⁸ Specifically, CAISO notes the Commission's Track 1B Order rejected the prior scaling proposal to eliminate full funding of CRRs "without prejudice to CAISO refile a proposal that allows CRR holders to consistently net prevailing and counterflow CRRs against each other as in other ISO and RTO markets."⁵⁹

33. CAISO states that it is opposed to the proposal by WPTF to allow market participants to net prevailing flow and counterflow CRRs held by different market participants. CAISO states that this will reduce the funds available to resolve revenue insufficiencies. CAISO also notes that DC Energy and Vitol do not support the netting of CRRs held by different market participants and that the Commission declined to require this approach in the Track 1B Order when WPTF argued for this approach in the prior proceeding.⁶⁰

34. CAISO states that WPTF does not explain why different portfolios should be additive. CAISO states that any hypothetical inefficiency due to the lack of netting across CRR portfolios held by different market participants under the WPTF examples would likely be very small and is certainly far outweighed by the significant adverse impacts of demonstrated CRR auction revenue insufficiency.

35. CAISO states that DC Energy and Vitol's proposal to net CRR revenue shortfalls against surpluses on a different constraint if they share the same derated transmission

⁵⁷ *Id.* at 8-10.

⁵⁸ CAISO Answer at 3.

⁵⁹ *Id.* (citing Track 1B Order, 164 FERC ¶ 61,209 at P 53).

⁶⁰ *Id.* at 3-4.

element is at odds with the constraint-by-constraint approach that DC Energy and Vitol claim to support.⁶¹ CAISO states that it defines each constraint as a combination of a contingency element and a monitored element. CAISO states that DC Energy and Vitol ignore the possibility that flows on the same transmission line can be caused by very different contingency conditions which would be evaluated in different ways by the market optimization process.⁶²

36. CAISO notes that DC Energy and Vitol argue that CAISO's proposal further impedes offsetting shortfalls with surpluses by requiring that an underfunded CRR have an implied flow impact on a constraint in the hour when CAISO collected the surplus. CAISO states that its proposal allows CRRs with implied flow on constraints to have their portion of surpluses accrued on each such constraint, because those CRRs are shown to have relied in some way on the revenues associated with the constraint in that hour to hedge their day-ahead congestion charges, and therefore those CRRs are closely associated with that constraint in that hour.⁶³ CAISO states that there is no justification for departing from the constraint specific proposal by netting surpluses across CRRs unrelated to the constraint they are intended to hedge.

37. CAISO notes that WPTF argues that CAISO's proposal is inconsistent with cost causation principles. CAISO states that its proposal is consistent with Commission precedent which recognizes that holders of financial transmission rights are best situated to manage the risks associated with congestion revenue insufficiency and that they, rather than load, should bear the risk that financial transmission rights may not be funded fully.⁶⁴

38. CAISO notes that AREM is opposed to any tariff amendment that changes CRR valuations or eliminates full funding of CRRs. CAISO states that most other ISOs and RTOs do not guarantee full funding, pointing out that PJM, ISO-NE, MISO, and SPP each compare congestion revenues with the target values of FTRs.⁶⁵ CAISO notes that shortfalls or surpluses based on those comparisons over the defined periods are allocated

⁶¹ *Id.* at 6.

⁶² *Id.* at 6.

⁶³ *Id.* at 7.

⁶⁴ *Id.* at 7-8 (citing *PJM Interconnection, L.L.C.*, 163 FERC ¶ 61,165, at P 30 (2018)).

⁶⁵ *Id.* at 8.

pro rata to the rights holders, up to the levels of their target financial transmission rights values, and any residual surpluses are carried forward to a subsequent period.

39. CAISO argues that monthly netting is reasonable. CAISO states that WPTF and DC Energy and Vitol do not present evidence that the Commission favors annual netting.⁶⁶ CAISO states that netting over a period longer than a month is not justified in the context of the CAISO's CRR framework.⁶⁷ CAISO notes that many CRRs are monthly or seasonal products, and that seasonal products can be sold back in monthly increments. CAISO states that there is no guarantee that any market participant would hold the CRR for more than a month. CAISO argues that there may be a revenue surplus due to a constraint during the period the original CRR holder held the CRR and the purchaser of the CRR may benefit from the surplus when a shortage occurs in a later month, even though the later CRR holder had no claim to the CRR when the surplus occurred. CAISO also notes that conditions can change dramatically from month to month.

40. CAISO further argues that it is under no obligation to demonstrate that its existing tariff is unjust and unreasonable. In response to WPTF's suggestion, based on the July and August 2018 congestion revenue surplus shown in Figure 3 included in CAISO's October 1 filing, that CAISO's proposal is not needed, CAISO states that the July and August data points in Figure 3 of its filing cannot be viewed as indicative of long-term trends for congestion revenue adequacy. According to CAISO, the system experienced unusually high flow patterns during those two months that resulted in higher congestion rents than CRR payments.⁶⁸

41. Finally, CAISO argues that WPTF's arguments concerning the rushed stakeholder process leading to this filing are a mischaracterization because CAISO has been engaged in a stakeholder process since 2017 assessing the efficiency of the CRR auction and related CRR market issues. CAISO notes that the instant proposal is essentially identical to its earlier scaling proposal, which was approved by its board in June 2018 after a full stakeholder process.⁶⁹

⁶⁶ *Id.* at 9.

⁶⁷ *Id.* at 10.

⁶⁸ *Id.* at 12.

⁶⁹ *Id.* at 13.

IV. Commission Determination

A. Procedural Matters

42. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2018), the notice of intervention and timely, unopposed motions to intervene serve to make the entities that filed them parties to this proceeding.

43. Pursuant to Rule 214(d) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214(d) (2018), we grant Calpine's and SoCal Edison'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.

44. Rule 213(a)(2) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a)(2) (2018), prohibits an answer to a protest unless otherwise ordered by the decisional authority. We accept CAISO's answer because it has provided information that assisted us in our decision-making process.

B. Substantive Matters

45. We find CAISO's revised scaling proposal to be just and reasonable, and accept the tariff revisions effective January 1, 2019. We agree with CAISO that the proposal reasonably distributes the burden resulting from congestion revenue insufficiency, and will help improve the revenue insufficiency and auction revenue shortfall.⁷⁰ Rather than relying solely on LSEs to make whole CRR holders in the event those obligations are revenue insufficient, CAISO's proposal distributes the burden to all CRR holders.⁷¹ CAISO's constraint-specific scaling proposal also allocates any shortages so that any revenue insufficiencies are specifically allocated to the CRRs that have modeled flow over the constraints that are underfunded.⁷² This assigns the revenue insufficiencies directly to the CRR holders associated with the constraints that caused the revenue insufficiencies rather than placing the full burden on LSEs.

46. CAISO's constraint-specific approach also discourages strategies that attempt to exploit differences between the CRR model and the day-ahead market. Under CAISO's current CRR process, congestion revenue insufficiency and the auction revenue shortfall can be driven by market participants purchasing CRRs over constraints that appear to be

⁷⁰ CAISO Transmittal at 16.

⁷¹ *Id.* at 20, 29.

⁷² *Id.* at 20.

non-binding in the CRR auction but are actually binding in the day-ahead market. According to CAISO's analysis, this practice has been a driver of both revenue insufficiency and the auction revenue shortfall.⁷³ Under CAISO's proposal here, if there is a substantial difference between the CRR model and the day-ahead market such that the payments due to CRR holders vastly outstrip the available congestion revenues, then payments to CRRs will be scaled, making the strategy potentially less viable.⁷⁴

47. In the Track 1B Order, the Commission rejected CAISO's July scaling proposal because it did not allow prevailing and counterflow CRRs to offset.⁷⁵ As the Track 1B Order explained, CAISO's July scaling proposal ran contrary to what the Commission has found to be the logical and expected properties of CRRs.⁷⁶ CAISO's revised scaling proposal, on the other hand, allows market participants to net prevailing flow and counterflow CRRs on a constraint-by-constraint basis. We find that the revised scaling proposal addresses the symmetry concerns expressed by the Commission in the Track 1B Order. Under CAISO's proposal, the net value of two CRRs of equal MWs from A to B and B to A will be equal to zero, which the Commission has cited as one of the logical and expected properties that CRRs should have.⁷⁷ In addition, under CAISO's proposal CRRs need not be directly opposite to be netted against one another. If one CRR provides counterflow for a prevailing flow CRR across a single constraint, CAISO's proposal allows these two CRRs to be netted across that constraint. In this manner, CAISO's revised scaling proposal takes a symmetrical approach and, thereby, addresses the concern raised in the Track 1B Order.

48. We disagree with arguments that CAISO's proposal should provide a credit to net counterflow positions. The Commission has not required such treatment of net counterflow positions in other ISOs and RTOs, where payments to net prevailing flow positions are scaled.

⁷³ CRR Auction Analysis Report at 10.

⁷⁴ CAISO Transmittal at 18, 20.

⁷⁵ Track 1B Order, 164 FERC ¶ 61,209 at PP 51-53.

⁷⁶ *Id.* P 51.

⁷⁷ *See, e.g., Cal. Indep. Sys. Operator Corp.*, 116 FERC ¶ 61,274 at P 853 (“In the event the CRR balancing account is short, we believe that prorating all obligation CRRs, regardless of whether market outcomes result in a positive or negative value of the CRR, is important in maintaining the logical and expected properties underlying obligation CRRs.”).

49. We reject WPTF's argument that CAISO's revised scaling proposal is inconsistent with cost causation principles. WPTF argues that the proposal charges CRR holders for the revenue insufficiency regardless of whether they are the proximate cause. We disagree. First, CRR holders are not charged for the revenue insufficiency; rather, under CAISO's proposal, the amount that CRR holders would be entitled to is simply limited based on the revenues collected in the CRR balancing account. In this manner, CAISO's revised scaling proposal changes the value of a CRR, and market participants can adjust accordingly. Moreover, we note that the Commission has found the existing FTR rules in ISO-NE, PJM, MISO, and SPP to be just and reasonable, all of which contain some form of a scaling process.⁷⁸ We therefore find that CAISO's revised scaling proposal is not inconsistent with cost causation principles.

50. We also find that monthly netting is an appropriate time horizon given that CAISO will be scaling at the constraint level. Given the granular constraint-by-constraint settlement CAISO proposes, monthly netting is a just and reasonable approach, and will similarly provide for more granular settlement. Moreover, CAISO will only credit surplus congestion revenues to measured demand after the final monthly allocation to eligible CRR holders. This provides an additional chance for CRRs to be fully funded out of congestion revenues.

51. We disagree with DC Energy and Vitol's argument that CAISO's allocation of revenue insufficiency is overly specific. CAISO's proposal to allocate revenue insufficiency on a constraint-by-constraint basis to CRR holders on the same constraint (as opposed to CRR holders on related constraints) is reasonable. The constraint-specific approach results in a more targeted allocation of the revenue insufficiency, and this approach also allocates revenue insufficiency only to those CRR holders with implied flow on the constraint producing the revenue insufficiency, rather than more broadly. If CAISO were to instead allocate the revenue insufficiency more broadly, CRR holders would likely pay for revenue insufficiencies on constraints for which they do not hold a CRR. Because we find CAISO's revised scaling proposal to be just and reasonable, we need not evaluate alternative methodologies for scaling and allocating any surplus.⁷⁹

⁷⁸ See PJM, Intra-PJM Tariffs, Open Access Transmission Tariff, Attachment K, §§ 5.2.3, 5.2.5, 5.2.6; ISO-NE, Transmission, Markets, and Services Tariff, Market Rule 1, § III.5.2.4-III.5.2.6; MISO, FERC Electric Tariff, Module C, § 39.3.4; SPP, Open Access Transmission Tariff, Attachment AE, §§ 8.5.12-8.5.14.

⁷⁹ See, e.g., *City of Bethany v. FERC*, 727 F.2d 1131, 1136 (D.C. Cir. 1984) (when determining whether a proposed rate was "just and reasonable," as required by the FPA, the Commission properly did not consider "whether a proposed rate schedule is more or less reasonable than alternative rate designs").

52. We disagree with protestors that allocating surplus congestion revenues generated during hours where no CRR holder purchased a CRR on that constraint to measured demand is unfair to CRR holders. In these instances, the surplus exists because no entity purchased a CRR on that specific constraint and so allocation to measured demand is reasonable. This is consistent with the constraint-specific nature of CAISO's proposal.

53. For the foregoing reasons, we find that CAISO has demonstrated that its revised scaling proposal is just and reasonable, and we therefore accept it, effective January 1, 2019.

The Commission orders:

CAISO's proposed tariff revisions are hereby accepted for filing, effective January 1, 2019, as discussed in the body of this order.

By the Commission. Commissioner McIntyre is not voting on this order.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.