

133 FERC ¶ 61,039
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Jon Wellinghoff, Chairman;
Marc Spitzer, Philip D. Moeller,
John R. Norris, and Cheryl A. LaFleur.

California Independent System
Operator Corporation

Docket No. ER10-1559-000

ORDER ACCEPTING TARIFF REVISIONS,
DIRECTING COMPLIANCE FILING AND GRANTING WAIVER REQUEST

(Issued October 15, 2010)

1. In this order, the Commission conditionally accepts proposed tariff revisions submitted by the California Independent System Operator Corporation (CAISO) to implement its convergence bidding proposal, and directs a compliance filing. The tariff revisions are conditionally accepted with an October 18, 2010 effective date for the *pro forma* agreement and a February 1, 2011 effective date for the remaining tariff provisions.

I. Background¹

2. Prior to the September 2006 order implementing CAISO's Market Redesign and Technology Upgrade (MRTU),² the Commission directed CAISO to incorporate convergence bidding into its market.³ To avoid delaying MRTU, the Commission directed CAISO to file tariff language for the implementation of convergence bidding within 12 months of the effective date of MRTU.⁴

¹ For a more complete description of the history of convergence bidding, please see *Cal. Indep. Sys. Operator Corp.*, 130 FERC ¶ 61,122, at P 3-5 (2010) (Convergence Bidding Design Order).

² *Cal. Indep. Sys. Operator Corp.*, 116 FERC ¶ 61,274 (2006) (September 2006 MRTU Order).

³ *Id.* P 452.

⁴ *Id.*

3. In November 2009, CAISO made a conceptual filing regarding convergence bidding,⁵ and in February 2010, the Commission addressed CAISO's conceptual convergence bidding filing and granted an extension of time to implement convergence bidding on February 1, 2011.⁶ The Commission also required monthly status updates from CAISO about its progress towards implementation.

4. In the Convergence Bidding Design Order, the Commission approved, in principle, the majority of the proposed convergence bidding features and provided guidance and sought additional details on other aspects of the proposal.⁷

5. On June 25, 2010, CAISO filed the instant convergence bidding proposal, including a proposed *pro forma* agreement with an effective date of October 18, 2010, and tariff provisions to implement the proposal. CAISO also requested waiver allowing the proposal, except the *pro forma* agreement, to be effective February 1, 2011.

II. The Convergence Bidding Proposal

6. Under CAISO's proposal, convergence bids, also known as virtual bids, represent financial transactions. They are submitted like other bids in the day-ahead market and are recognized by system operators as not being physical. In order to participate as a convergence bidder, a convergence bidding entity must: (1) enter into a convergence bidding agreement with CAISO; and (2) be a scheduling coordinator or use a scheduling coordinator to submit convergence bids at various pricing nodes and interties. If convergence bids are cleared in the day-ahead market, they are automatically liquidated with the opposite buy/sell positions at real-time prices.

7. The proposal includes a series of charges to convergence bidding scheduling coordinators including a virtual award charge, a transaction fee and uplift charges. The proposal also contains a cost allocation methodology to assign certain uplift costs to convergence bidding scheduling coordinators.

8. Under the proposal, convergence bids would only be accepted in the day-ahead market to the extent scheduling coordinators satisfy a credit check as part of its validation process. CAISO also proposes initial position limits, to be gradually phased out, to

⁵ CAISO November 20, 2009 Convergence Bidding Design Filing, Docket No. ER10-300-000 (Convergence Bidding Design Filing).

⁶ Convergence Bidding Design Order at P 24.

⁷ *Id.* P 1.

reduce the total megawatts of convergence bids that a scheduling coordinator can place on behalf of a convergence bidding entity at any one internal pricing node or intertie.

9. Further, the CAISO proposal includes a settlement rule to discourage engaging in strategic convergence bidding that could affect a scheduling coordinator's congestion revenue rights (CRR). Also, CAISO proposes to be able to suspend convergence bidding for a single entity or convergence bidding as a whole under certain circumstances.

III. Notice of Filing and Responsive Pleadings

10. Notice of CAISO's filing was published in the *Federal Register*, 75 Fed. Reg. 40,810 (2010), with comments, protests, or interventions due on or before July 16, 2010. Notices of intervention, timely motions to intervene, and protests and comments were filed by SESCO Enterprises, LLC, Jump Power, LLC, Silverado Energy LP, J.P.TC, LLC, and Solios Power, LLC (collectively, Financial Marketers), Western Power Trading Forum (WPTF), J.P. Morgan Ventures Energy Corporation and BE CA LLC (collectively, J.P. Morgan), Pacific Gas and Electric Company (PG&E), Powerex Corp. (Powerex), Northern California Power Agency (NCPA), DC Energy, LLC (DC Energy), California Department of Water Resources State Water Project (SWP), California Energy Resources Scheduling Division of the California Department of Water Resources (CERS), California Public Utilities Commission (CPUC), Dynegy Morro Bay, LLC, Dynegy Moss Landing, LLC, Dynegy Oakland, LLC and Dynegy South Bay, LLC (collectively, Dynegy), Southern California Edison Company (SoCal Edison), Modesto Irrigation District, and the cities of Anaheim, Azusa, Banning, Colton, Pasadena and Riverside, California (Six Cities). CPUC filed an out-of-time motion to intervene.

11. On August 2, 2010, CAISO filed an answer responding to the comments and protests.

IV. Discussion

12. Convergence bidding is a market feature that involves the submission of bids to buy or sell energy in the day-ahead market that will ultimately not be consumed or produced in real-time, which results in the convergence of day-ahead and real-time prices. Convergence bids are financial transactions submitted like other bids and are recognized by system operators as not being physical.⁸

13. The Commission has recognized that convergence bidding can improve market performance in several ways.⁹ The Commission has found that convergence bidding

⁸ September 2006 MRTU Order, 116 FERC ¶ 61,274 at P 430 n.198.

⁹ *Id.* P 449-51.

expands the number of competitors and the number of bids into the day-ahead market. By expanding the number of offers in the day-ahead market, convergence bidding helps prevent the exercise of market power. Without convergence bidding, participants with market power may be able to price discriminate between the day-ahead and real-time markets, resulting in a forward price that is systematically different than the expected real-time price.¹⁰

14. The Commission has found that convergence bidding reduces the price differences between the real-time and the day-ahead markets.¹¹ This reduces the incentive for buyers or sellers to forego bidding physical schedules in day-ahead markets in expectation of better prices in real-time markets.¹² Additionally, incorporating convergence bidding into CAISO's market would facilitate CAISO's management of grid operations by allowing it to distinguish between physical bids and bids submitted for financial purposes.¹³

15. In this order, the Commission conditionally accepts CAISO's proposed convergence bidding proposal. As discussed below, the Commission finds CAISO's proposal is a just and reasonable method to integrate convergence bidding into its system, subject to certain compliance directions.

A. Procedural Matters

16. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2010), the notices of intervention and timely, unopposed motions to intervene serve to make the entities that filed them parties to this proceeding.

17. Pursuant to Rule 214(d) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214(d) (2010), the Commission will grant CPUC's late-filed motion to intervene given its interest in the proceeding, the early stage of the proceeding, and the absence of undue prejudice or delay.

18. Rule 213(a)(2) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a)(2) (2010), prohibits an answer to a protest unless otherwise ordered by the decisional authority. We accept CAISO's answer because it provides information that assisted us in our decision-making process.

¹⁰ *Id.*

¹¹ *Id.* P 450.

¹² *Id.*

¹³ *Id.*

B. Effective Dates and Waiver Request

19. CAISO requests that the Commission accept the proposed *pro forma* convergence bidding entity agreement effective as of October 18, 2010 and grant a February 1, 2011 effective date for the balance of the proposed tariff changes. CAISO notes that February 1, 2011 is the date on which the Commission has authorized CAISO to implement convergence bidding.¹⁴ CAISO adds that a Commission order on the entire package of tariff amendments prior to the requested October 18, 2010 effective date for the *pro forma* agreement would provide regulatory certainty in advance of the February 1, 2011 go-live date to allow all parties to participate on the first day of the program.

20. Also, CAISO requests waiver of the Commission's regulations for the tariff revisions in the filing. Specifically, CAISO requests waiver, pursuant to section 35.11 of the Commission's regulations, of the notice requirements set forth in section 35.3 of the Commission's regulations. CAISO contends that in light of the Commission expectation that CAISO file tariff language to implement convergence bidding in a timely manner, granting the requested effective date and waiver is warranted.

21. The Commission finds that, in light of these circumstances, good cause exists to grant the requested waiver, which should allow for timely implementation of the convergence bidding proposal, and the Commission issues an order on the entire convergence bidding proposal.¹⁵

C. Uplift Cost Allocation¹⁶

22. CAISO states that its proposal to allocate uplift costs to convergence bidders is based on cost causation principles. However, CAISO asserts that it cannot determine with absolute precision the additional uplift costs that virtual bids will create. Thus, CAISO proposes to base its allocation on the general principle that virtual demand bids would be subject to uplift costs related to the increased unit commitment in the integrated forward market (IFM) caused by convergence bidding and that virtual supply bids would be subject to uplift costs related to the increased unit commitment within the residual unit commitment (RUC) process caused by convergence bidding.

¹⁴ CAISO June 25, 2010 Convergence Bidding Proposal at 47 (Convergence Bidding Proposal).

¹⁵ See *Central Hudson Gas & Elec. Corp.*, 60 FERC ¶ 61,106, at 61,337 (1992).

¹⁶ This section of the order only address IFM and RUC tier one uplift costs unless otherwise stated.

23. In the Convergence Bidding Design Order, the Commission noted that CAISO did not provide adequate rationale to support the cost allocation methodology proposed and numerous parties raised objections to the proposal.¹⁷ Therefore, the Commission directed CAISO to provide additional support for the proposed methodology. Specifically, the Commission directed CAISO to thoroughly consider the objections raised by intervenors, and either modify its proposal in response to the objections, or explain why no modification is needed or desirable.

24. In the convergence bidding proposal, CAISO claims it thoroughly considered the objections regarding CAISO's uplift cost allocation proposals raised by the intervenors, and CAISO concluded that its uplift cost allocation proposal complies with all Commission directives.

25. CAISO proposes threshold tests to ensure proper uplift cost allocation. CAISO states that if there is a net positive virtual demand position that clears the IFM, and the physical demand that clears the IFM plus net cleared virtual demand award results in the market clearing above the level of supply needed to serve real-time demand, virtual demand has caused unnecessary additional unit commitment. This, according to CAISO, should result in the allocation of those IFM uplift costs to participants with net virtual demand positions. Similarly, CAISO states that for virtual supply, if there is a net positive virtual supply position coming out of the IFM, then CAISO will need to procure capacity in the RUC to make up for virtual supply that displaced physical supply in the IFM, and it is reasonable to assess charges for RUC uplift to market participants with a net virtual supply position in their bid portfolios.

26. CAISO claims it developed its IFM and RUC uplift cost allocation proposals to provide symmetrical treatment of costs created by virtual bids as well as cost offsets created by virtual bids. CAISO contends that virtual demand offsets costs in RUC as units are committed in the IFM to meet the additional demand resulting from accepted virtual demand bids and virtual supply reduces commitment costs in the IFM. But convergence bidders may cause CAISO to secure unnecessary supply in the IFM (due to virtual demand bids), or secure supply in the RUC (due to virtual supply bids) since virtual bids represent only financial obligations, not physical commitments. Uplift costs occur, in part, because CAISO does not distinguish between virtual and physical supply in the day-ahead market. Thus, according to CAISO, the net effect of virtual bids as a whole should determine where additional uplift costs may have been incurred in the market.

27. CAISO argues that a market participant with a net virtual demand position in its portfolio is not contributing to additional costs in RUC and should not be subject to RUC

¹⁷ Convergence Bidding Design Order at P 128.

cost uplift because the virtual demand offsets the need for CAISO to procure additional resources in the RUC process by committing units in the IFM. On the other hand, CAISO contends a market participant with a net virtual supply position in its portfolio should not be subject to IFM cost uplift, as the market participant did not contribute to commitment costs in the IFM. CAISO claims that this proposed netting of virtual bids is similar to how it applies netting to physical bids when determining the allocation of IFM and RUC uplift costs under the current CAISO tariff. Market participants are allocated IFM cost uplift based on the positive net of their scheduled demand minus self-scheduled generation and imports.¹⁸ Market participants are also allocated RUC cost uplift based on their net negative demand deviations.¹⁹

28. CAISO also contends that its netting proposal is required for administrative feasibility. CAISO states that under the existing market design, bid cost recovery is conducted on a system-wide basis, which is the same basis on which CAISO proposes to net virtual bids. If CAISO were required to conduct netting on a more granular basis, CAISO argues it would have to redesign its entire bid cost recovery methodology to accommodate greater granularity. Thus, CAISO claims such a redesign would have to increase the granularity not only of virtual bids but also of physical bids.

29. CAISO adds that its proposal to apply a netting approach is consistent with the Commission's treatment of other ISOs and RTOs. CAISO notes that in a proceeding involving the Midwest Independent Transmission Operator, Inc.'s (Midwest ISO) approach to the allocation of cost uplifts of virtual transactions, the Commission found that "an allocation based on net virtual offers is just and reasonable" and that "an allocation that nets virtual offers and bids may be more precise."²⁰

30. CAISO states that as an alternative to CAISO's allocation proposals, SoCal Edison proposed the following uplift cost allocation rules: (1) virtual demand will be charged IFM uplift charges regardless of the relationship between cleared demand and measured demand; (2) if the IFM clears below the real-time demand realized by CAISO, physical demand that clears in the real-time market should pay for the additional RUC associated with this difference; and (3) virtual supply should be charged RUC uplift based on the

¹⁸ Convergence Bidding Proposal at 39 (citing CAISO Tariff section 11.8.6.4).

¹⁹ *Id.* (citing CAISO Tariff section 11.8.6.5.3); CAISO Tariff Appenix A (defining net negative demand deviation as the difference between metered demand and total demand scheduled in the day-ahead market, if positive).

²⁰ *Id.* at 40 (citing *Ameren Services Co. v. Midwest ISO*, 125 FERC ¶ 61,161, at P 116 (2008)).

amount of virtual supply that was awarded in the IFM and had to be replaced in the RUC process.

31. CAISO does not agree that convergence bidding entities should be allocated uplift costs based on gross virtual demand and gross virtual supply. CAISO argues that SoCal Edison's proposed approach is not consistent with the allocation of uplifts to physical load and does not represent cost causation because virtual demand and virtual supply have an offsetting effect on uplift costs between the IFM and RUC. Therefore, CAISO maintains virtual supply and virtual demand should be netted before the allocation of applicable uplift costs for IFM and RUC are determined.

Comments

32. Multiple parties protest the proposed cost allocation proposal as inconsistent with cost causation principles. Some entities, including PG&E and SoCal Edison, argue that the proposal allocates too few costs to convergence bidders, while other parties, like Financial Marketers, argue that convergence bidders would bear too much cost under the proposal. Other parties, like WPTF and DC Energy, maintain that CAISO's proposal has struck a balance between cost causation principles and administrative feasibility, and should be accepted.

33. PG&E contends that a scheduling coordinator's virtual supply and virtual demand should not be netted on a system-wide basis. PG&E also argues that CAISO has not shown that the costs and cost offsets of convergence bidding are of similar magnitude, are electrically equivalent, or that they actually net out. At a minimum, PG&E claims netting should be limited to individual Load Aggregation Point (LAP) Regions and not done system-wide.

34. PG&E contends that the proposed allocation is unduly discriminatory against physical bids because there are no threshold conditions that must be triggered before an allocation of IFM or RUC cost uplift is made to physical transactions. PG&E contends the undue discrimination between physical and virtual demand arises because a scheduling coordinator with virtual demand can avoid paying IFM cost uplift by submitting a virtual supply bid (or bids) of sufficient magnitude at some other location (or locations) on the grid. But, according to PG&E, a scheduling coordinator with physical demand cannot avoid paying IFM bid cost uplift (if its physical supply is less than its physical demand, which is the case for the investor owned utilities).

35. PG&E contends that virtual demand can create costs in the IFM regardless of the relative sizes of virtual demand, virtual supply, cleared physical demand in the IFM and measured demand, and CAISO does not directly address SoCal Edison's and PG&E's examples on this and does not show them to be inaccurate. PG&E contends that virtual supply can create costs in the RUC regardless of the relative sizes of CAISO forecast

demand and measured demand. Also, PG&E states that CAISO does not directly address SoCal Edison's example on this issue and does not show it to be inaccurate.

36. PG&E claims that CAISO's netting approach is not consistent with the treatment of virtual transactions in other ISOs. PG&E submits that in the Midwest ISO, day-ahead uplift costs associated with bid cost recovery are allocated to day-ahead cleared net virtual demand bids where virtual demand is netted against virtual supply at each node, for each market participant, and for each hour.²¹ PG&E states that in the proceeding involving the Midwest ISO's approach to the allocation of cost uplifts of virtual transactions the Commission specifically rejected market-wide netting for each market participant.²² PG&E further states that in PJM Interconnection, L.L.C. (PJM) and ISO New England, Inc. (ISO-NE), day-ahead uplift costs are allocated to virtual demand on a gross basis with no netting of virtual demand and virtual supply and no threshold condition.

37. SoCal Edison argues that CAISO's premise that the proper amount of IFM uplift occurs when 100 percent of real-time realized load is served in the IFM is false and unsupported. SoCal Edison states that there is no tariff requirement that physical load serve 100 percent of the real-time actual amount in the IFM, nor is there an economic basis to argue that this is the "optimal level" of market clearing. SoCal Edison notes that purchases are allowed in both the Hour-Ahead Scheduling Process (HASP) process, and in the real-time market.

38. SoCal Edison argues that location plays a crucial role in determining commitment and uplift costs and many costs driven by locational bids materialize irrespective of the system-wide or a participant-specific "net positive virtual demand position." Thus, SoCal Edison claims the netting test lacks a reasonable justification and should be rejected by the Commission. SoCal Edison adds that it understands that considering location during settlements is challenging and likely cannot be done by the February 2011 start date. Since SoCal Edison claims it does not want to see a delay in implementation, it suggested that a middle ground solution could be to only consider netting of virtual transactions that are within a LAP or trade hub.

39. SoCal Edison contends that CAISO's premise that, for a given quantity of served load uplift costs may shift among markets (IFM, RUC or real-time) but that total uplift costs remain constant is false and unsupported. SoCal Edison contends that given the IFM and RUC market start with completely different initial conditions, consider very

²¹ PG&E Comments at 21 (citing Midwest ISO Market Settlements Calculation Guide MS-OP-029-r4, effective date Jan. 29, 2010).

²² *Id.* (citing *Ameren Services Co. v. Midwest ISO*, 125 FERC ¶ 61,161 at P 119).

different bid components, that RUC must include many additional constraints based on the results of the IFM, and have very different objective functions, there are no grounds to argue the uplifts will be the same irrespective of if they occur in the IFM or if they occur in RUC.

40. SoCal Edison adds that the Commission should adopt its alternative cost allocation proposal based on allocating observable costs, as opposed to CAISO's estimate of the additional costs related to convergence bidders to all bids, both virtual and physical, that participated in a market and produced the costs. Similarly, the CPUC states that the Commission should require CAISO to develop a more granular cost allocation methodology that genuinely reflects cost causation going forward.

41. Other parties oppose the cost uplift allocation because they contend too much cost is allocated to virtual bidders. Financial Marketers state that requiring a subset of market participants to pay for costs caused by others is an unlawful subsidy under the Federal Power Act and Commission precedent.²³ Financial Marketers argue that the Commission should make clear that the only costs that should be allocated to virtual transactions are those that would not have been incurred absent virtual transactions, and that any rates or charges that CAISO proposes will, upon challenge, be made subject to refund and to a hearing to determine whether they meet this standard.

42. Financial Marketers claim that the Commission approved an exemption of virtual transactions from similar supply-related unit commitment costs in *ISO New England*.²⁴ Financial Marketers contend the Commission must do so again here, absent a showing that virtual transactions cause an increase in such costs commensurate with the amount of uplift to be allocated to them.

43. Financial Marketers claim that the Commission approved a similar exemption in the Midwest ISO, but that exemption has since been the subject of continuing litigation.²⁵ Financial Marketers assert that every cost causation analysis that has been performed in

²³ Financial Marketers Comments at 13 (citing *Calpine Oneta Power, L.P.*, 124 FERC ¶ 61,193, at P 17 (2008); *Niagara Mohawk Power Corp.*, Opinion No. 448, 92 FERC ¶ 61,168 (2000); *Dominion Transmission, Inc.*, 113 FERC ¶ 61,302, at P 11 (2005); *Gulf South Pipeline Co., LP*, 111 FERC ¶ 61,463, at P 16-17 (2005); *Saltville Gas Storage Co. L.L.C.*, 123 FERC ¶ 61,107, at P 15 (2008)).

²⁴ *Id.* at 14 (citing *ISO New England Inc.*, 110 FERC ¶ 61,250, at P 25 (2005), *reh'g denied*, 111 FERC ¶ 61,442 (2005) (*ISO New England*)).

²⁵ *Midwest Independent Transmission System Operator, Inc.*, 117 FERC ¶ 61,113 (2006), *order on reh'g*, 118 FERC ¶ 61,212 (2007).

the Midwest ISO case to date, has concluded that virtual transactions cause little, if any, costs associated with increased unit commitment, and whatever costs they cause may be more than offset by the cost reductions they produce.

44. Financial Marketers state that CAISO must defer allocating any uplift costs to convergence bids until it can complete a study and demonstrate whether, and to what extent, convergence bids affect uplift costs. Financial Marketers claim that any allocation of uplift to virtual transactions must be based on a cost-of-service analysis. Once CAISO has fully implemented convergence bidding for a period of at least one year, Financial Marketers argue that CAISO will be able to conduct a study as to whether the overall net impact of virtual transactions conducted across all hours will have been to increase unit commitment-related costs, reduce them, or leave them unchanged.

45. Financial Marketers conclude that it is the supply needs and decisions of load-serving entities that cause uplift costs to be incurred and that the allocation of uplift costs to load is thus completely consistent with rate design and cost causation principles. Financial Marketers assert that uplift costs are incurred because units are committed within the IFM and RUC processes to ensure the availability of adequate committed capacity to meet load's real-time needs. Financial Marketers argue that the costs of such commitments are, therefore, a cost of reliably serving load, and state that convergence bidders who do not physically withdraw energy from the system are not load and do not benefit from measures taken to ensure that load receives reliable service.

46. Financial Marketers argue that no IFM or RUC costs associated with underscheduled load, load forecast errors, topology adjustments, transmission de-rates, or intermittent resources should be allocated to virtual transactions. Thus, Financial Marketers assert that CAISO must, among other things, ensure that any proposed allocation of uplift costs to virtual transactions excludes all uplift costs resulting from CAISO's forecast of demand being different than measured demand and other factors.

47. Financial Marketers also argue that if virtual transactions are to be allocated costs associated with increased unit commitments that they purportedly cause, they also must receive offsetting credits for any reductions in unit commitments that they cause. If a market participant's transactions collectively reduce costs below what they would be without the market participant's participation, Financial Marketers assert that it is unjust and unreasonable to allocate any of such costs to the market participant.

48. Financial Marketers point out that virtual bids and offers must be submitted with an indication (a flag) that identifies them as virtual rather than physical. Because of the requirement that convergence bids be explicit, Financial Marketers state that CAISO will have early notice of virtual transactions and can take steps to minimize any impact they might have on unit commitment costs. Thus, for example, Financial Marketers claim that early notice of virtual transactions may allow CAISO to commit less expensive generation resources with longer ramp times than CAISO could commit to address

underscheduled load or load forecast errors. Financial Marketers argue that any allocation of uplift costs to virtual transactions should reflect the fact that the cost, if any, caused by each MWh of net virtual supply or net virtual demand would be less than the corresponding cost caused by each MWh of physical load. Therefore, Financial Marketers conclude that virtual transactions should not be allocated any portion of the bid cost recovery cost related to short-start units committed in real-time as a result of a RUC schedule. Financial Marketers assert that any allocation of uplift to virtual transactions must therefore reflect the important differences between physical and virtual transactions.

49. To the extent that any resources (e.g., intermittent resources) receive an exemption from paying some or all of the uplift costs that they cause, Financial Marketers argue that those costs should be allocated to load based on load ratio share. Financial Marketers state that such costs should not be shifted to virtual transactions because virtual transactions do not benefit from such exemptions. Financial Marketers claim that the Commission has previously rejected proposals that require such subsidization.²⁶

50. Other market participants support CAISO's bid cost uplift allocation, including DC Energy, J.P. Morgan, Powerex, Dynegy, and WPTF. Parties agree that, although the cost allocation might not be perfect, it strikes a balance between administrative feasibility and strict adherence to cost-causation principles.

51. WPTF notes that CAISO has taken extensive measures to develop cost allocation algorithms that reflect cost-causation principles as closely as possible. WPTF states that those algorithms went through extensive review and refinement in the stakeholder process to review implementing tariff language. WPTF agrees that CAISO's proposals better reflect cost-causation principles than the proposals offered by other parties.

Answer

52. CAISO states that it is the net effect of virtual demand and virtual supply that should be considered before applying charges to virtual supply for RUC uplift. CAISO states that SoCal Edison's arguments do not take into account the savings in uplift that virtual supply provides to the IFM and virtual demand provides to the RUC process. CAISO states that SoCal Edison's arguments also fail to take into account that CAISO currently applies netting to physical load to determine both IFM and RUC uplift cost allocation by netting physical demand against self-scheduled generation and that RUC uplift is allocated to net negative demand deviations.

²⁶ Financial Marketers Comments at 20-21.

53. CAISO states that it agrees with DC Energy that the IFM uplift cost allocation methodology keeps physical load from avoiding uplift costs simply by underscheduling demand in the IFM. CAISO states that this concern was raised in the stakeholder process, and CAISO addressed the concern by using measured demand as the comparison value to demand that cleared the IFM to determine whether or not virtual demand should share in the IFM uplift costs. CAISO states that adopting SoCal Edison's proposed cost allocation methodology, however, would allow physical demand to avoid IFM uplift costs by withholding load from the day-ahead market.

54. CAISO notes that PG&E, SoCal Edison, and the Financial Marketers make the same arguments in opposition to CAISO's default cost allocation proposal that the Financial Marketers made in their protest of the Convergence Bidding Design Filing. Regarding the Financial Marketers' argument that the only costs that might lawfully be allocated to virtual transactions are those that would have not been incurred in the absence of convergence bidding, CAISO notes that the Commission has already addressed and dismissed this concern.²⁷

55. CAISO points out that the Commission has already rejected the Financial Marketers' argument that CAISO should be required to defer allocating any uplift to convergence bidding until it completes a cost-of-service study that demonstrates whether, and to what extent, virtual bids reduce uplift costs.²⁸ CAISO notes that the Commission has additionally rejected the Financial Marketers' argument that the Commission has previously exempted virtual bidders from uplift costs in proceedings involving other ISOs.²⁹

56. Moreover, CAISO states that its netting proposal is required for administrative feasibility. CAISO argues that under its existing market design, bid cost recovery is conducted on a system-wide basis, which is the same basis on which CAISO proposes to conduct netting of virtual bids. CAISO contends that if it was required to conduct netting on a more granular basis, as the CPUC requests, CAISO would have to redesign its entire bid cost recovery methodology to accommodate that greater granularity.

Commission Determination

57. We accept CAISO's proposed IFM and RUC uplift cost allocation methodology for convergence bidders. We find that CAISO's proposal is an effort to reasonably

²⁷ CAISO Answer at 34-35 (citing Convergence Bidding Design Order at P 130).

²⁸ *Id.* at 35 (citing Convergence Bidding Design Order at P 133).

²⁹ *Id.* at 36 (citing Convergence Bidding Design Order at P 134).

assign uplift costs to the entities that cause them. We also find that any further refinements to CAISO's uplift cost allocation proposal may not meaningfully or cost-effectively improve the accuracy of cost allocation and may unduly delay implementation of convergence bidding. Thus, we accept CAISO's proposal without requiring any changes.

58. The Convergence Bidding Design Order provided CAISO (and its stakeholders) with guidance regarding a just and reasonable cost allocation proposal. We stated:

[W]e recognize that implementing convergence bidding for the first time is a complex undertaking. Thus, it is important that the CAISO adopt a cost allocation methodology that is administratively workable. This may mean that precision in cost allocation must be balanced against the need for workable rules that can be applied quickly and efficiently.³⁰

We further stated that “[i]t is well-established that the Commission is not required to allocate costs with exacting precision, nor are we obligated to reject any rate mechanism that tracks the cost causation principle less than perfectly.”³¹ We noted that the Commission has explained that cost causation principles are satisfied so long as there is an “articulable and plausible reason to believe that the benefits are roughly commensurate” with the costs.³²

59. We also addressed the level of granularity that may be appropriate in determining uplift cost allocation. Specifically, we stated:

[W]e do not expect that it is possible to isolate the impact of virtual bids from the many other factors that affect unit commitment and the level of uplift costs. As the CAISO notes, short of performing a separate market run and a subsequent settlement to determine market outcomes under alternate scenarios (i.e., with and without convergence bids), the CAISO cannot determine with exact precision the additional uplift costs that virtual bids may create, and even this may be inaccurate given the likelihood that market participants would behave differently under the two scenarios.³³

³⁰ Convergence Bidding Design Order at P 131.

³¹ *Id.* (citing *Sithe/Independence*, 285 F.3d 1, 5 (D.C. Cir. 2002); *see also Midwest ISO Transmission Owners*, 373 F.3d 1361, 1369 (D.C. Cir. 2004)).

³² *Id.* (citing *Illinois Commerce Comm'n*, 576 F.3d 470, 477 (7th Cir. 2009)).

³³ *Id.* P 133.

60. With those guidelines in mind, CAISO has provided – and fully justified – a just and reasonable IFM and RUC uplift cost allocation proposal. CAISO’s proposal appropriately considers the net effects of convergence bidders by implementing threshold tests to determine which entities should be allocated uplift costs. CAISO’s proposal appropriately nets convergence bids and convergence offers to attempt to isolate the net effect of virtual participants’ impact on unit commitment. While, for example, parties assert that netting virtual demand and virtual supply should be done on a more granular basis, we find that a market-wide netting mechanism reasonably balances the dual goals of following cost-causation principles with administrative feasibility. We made a similar finding in the Convergence Bidding Design Order.³⁴

61. While a more granular netting approach may provide an incremental improvement in approximating virtual participants’ impact on unit commitment, it would be unreasonable to require CAISO to develop and implement such an approach now. A more granular approach could delay the implementation of convergence bidding, as CAISO has argued. Further, the CAISO’s proposal represents a reasonable balance between the diverse positions of the parties.

62. We also accept CAISO’s netting of individual scheduling coordinators’ convergence bidding positions because it treats convergence bidders similarly to physical participants, contrary to parties’ claims. Specifically, CAISO nets self-scheduled generation against a participant’s physical demand in determining IFM uplift cost obligations for participants with physical demand positions.³⁵ Similarly, CAISO nets physical positions in determining RUC uplift: the RUC obligation for each participant is equal to the sum of the net negative CAISO demand deviation for that participant in that hour.³⁶

63. Also, CAISO’s market-wide considerations are appropriately applied to convergence bidding because cleared convergence bids do not materialize in real-time, unlike physical bids. So, while the effects of physical bids are clear because they physically use the CAISO system, it is more appropriate for CAISO to consider factors beyond the individual bid to gauge convergence bidding’s impact and to determine if uplift costs should be applied to convergence bidders. For instance, CAISO considers whether measured demand exceeds day-ahead demand before applying IFM uplift costs to virtual demand. Because, if measured demand exceeds day-ahead demand, virtual demand correctly signaled to the market that real-time demand would be greater and did

³⁴ *Id.* P 131.

³⁵ *See* proposed CAISO Tariff section 11.8.6.4.1(iv).

³⁶ *Id.* at 11.8.6.5.3.1(iii).

not cause unnecessary additional unit commitment and did not cause uplift costs. But the only way to see this is to consider the entire market. Similarly, CAISO's market-wide netting to determine if there is more virtual demand or supply is reasonable because virtual demand and virtual supply have an offsetting effect on uplift costs between the IFM and RUC. Further, CAISO will apply the same uplift rate to both virtual and physical participants in allocating uplift costs.

64. Multiple parties protest CAISO's proposal for being inconsistent with cost causation principles. Some parties argue that convergence bidders will be allocated a small share of the uplift costs, while other parties claim the opposite. As the Commission explained in the Convergence Bidding Design Order, "cost causation principles are satisfied so long as there is 'an articulable and plausible reason to believe that the benefits are roughly commensurate' with the costs."³⁷ Here, as explained above, CAISO has proposed a cost allocation mechanism that reasonably assigns uplift costs to the parties that cause them. It may not be possible to isolate with absolute precision the impacts of virtual bidding on unit commitment from the many other factors that impact unit commitment.³⁸ CAISO's reasonable approximation of those costs is also administratively feasible, while the alternative proposals are not.

65. Financial Marketers argue that cost allocation to virtual participants should be based on cost estimates that would have occurred absent convergence bidding. Similarly, Financial Marketers request to exclude convergence bidders from any uplift costs associated with resources that are exempt from paying uplift costs. We rejected this assertions already, stating:

[W]e do not agree with Financial Marketers that costs should be allocated to convergence bidding based on an estimate of the costs that would not have been incurred absent convergence bidding, as we do not agree with Financial Marketers that these are the only costs that may be associated with convergence bidding. . . . Indeed, if all market participants were allocated only the costs that would not have been incurred absent their market participation, it is likely that a large pool of costs would remain unallocated.³⁹

³⁷ Convergence Bidding Design Order at P 131 (quoting *Illinois Commerce Comm'n v. FERC*, 576 F.3d 470, 477 (7th Cir. 2009)).

³⁸ *Id.* P 133.

³⁹ *Id.* P 130.

66. CAISO has shown that convergence bids can help offset costs by bringing the day-ahead and real-time markets closer (e.g., a virtual demand bid may cause CAISO to secure resources in the IFM that it would have had to secure through RUC). Thus, CAISO's netting works to credit convergence bidders for offsets that their bids may cause.

67. We also previously rejected Financial Marketers' request for a cost-of-service study. We found that "we do not expect that it is possible to isolate the impact of virtual bids from the many other factors that affect unit commitment and the level of uplift costs."⁴⁰ Therefore, we stated that we "will not direct the CAISO to conduct a formal cost-of-service study, as requested by Financial Marketers, to ascertain the overall net impact of virtual transactions on uplift costs."⁴¹ We also "reject[ed] Financial Marketers' claims that the Commission has previously exempted virtual bidders from uplift costs."⁴² We stated:

While it is true that in the *ISO New England* case cited by Financial Marketers, the Commission noted the potentially adverse affects that high costs may have on virtual bidding, the Commission did not approve a total exemption from uplift charges. Rather, the Commission accepted a proposal that merely broadened the pool of participants obligated to pay for increased reliability must run costs; virtual traders still shouldered their fair share of burden under the revised methodology.⁴³

68. SoCal Edison's claims that CAISO's proposal fails to consider their examples are unfounded. As pointed out by CAISO in its answer, SoCal Edison's arguments ignore factual evidence and fail to demonstrate that CAISO's proposal is unjust and unreasonable. For example, SoCal Edison ignores both the savings in uplift that virtual supply provides to the IFM and the savings that virtual demand provides to the RUC process. Also, as parties note, a number of SoCal Edison's examples are based on misunderstandings of the cost allocation proposal.⁴⁴ Additionally, multiple parties ignore the fact that CAISO applies netting to physical load and physical supply in allocating uplift cost obligations, as discussed above. We also agree with CAISO and DC Energy

⁴⁰ *Id.* P 133.

⁴¹ *Id.* P 133.

⁴² *Id.* P 134.

⁴³ *Id.* (citing *ISO New England, Inc.*, 110 FERC ¶ 61,250 at P 30-32).

⁴⁴ DC Energy Comments at 9-10; CAISO Answer at 33.

that CAISO's proposal does not allow physical load to avoid uplift costs simply by underscheduling demand in the IFM, while SoCal Edison's alternative proposal does.

69. Regardless of PG&E's claims that CAISO's proposal is inconsistent with other RTOs' practices, we have not prescribed a single just and reasonable uplift cost allocation methodology, and we will not do so here. CAISO's proposal, as explained above, is just and reasonable given that it balances adherence to cost causation principles with administrative feasibility. Further, we note that the Commission has found in other RTOs that virtual bids do cause costs and should be allocated those costs.⁴⁵

D. Information Release

70. In the Convergence Bidding Design Order, the Commission noted that there was an on-going stakeholder process to address the release of convergence bidding information. Therefore, the Commission did not directly address the possibility of CAISO releasing certain information at the close of the day-ahead market.⁴⁶

71. In its proposal, CAISO states that it plans to release the net cleared quantities of convergence bids at each node at the close of the real-time market for the trading day. After stakeholder discussion and input from the Market Surveillance Committee (MSC), CAISO concluded that this information release policy will promote competition and thus increase market liquidity. In addition, CAISO plans to issue a daily market report that includes a summary of information regarding submitted and cleared physical and virtual bids. CAISO does not propose to include any tariff changes to reflect this information release proposal because it claims that the information release is already permissible under the CAISO Tariff.⁴⁷

Comments

72. Parties including the CPUC, SoCal Edison, and PG&E support CAISO's proposed information release policy. Parties state that the information will assist market participants in detecting locations where anomalous prices and bidding behavior occur. Also, parties argue that the cleared day-ahead information release will provide transparency to all market participants.

⁴⁵ See *Ameren Services Co. v. Midwest ISO*, 125 FERC ¶ 61,161 at P 115.

⁴⁶ Convergence Bidding Design Order P 139.

⁴⁷ Convergence Bidding Proposal at 45 (citing CAISO Tariff section 20.2).

73. Parties explain that, while the information will be released on a nodal basis, it will be a single number representing only the aggregate cleared quantity of virtual transactions. Thus, according to SoCal Edison, there are an infinite number of possible market outcomes that could result in this single number and thus does not reveal any confidential information.

74. SoCal Edison adds that, unlike rules for physical bids that limit who can submit bids at specific locations, convergence bids can be submitted by anyone, at anytime, and at any node. Therefore, SoCal Edison rejects assertions that virtual bids at a particular location are associated with a specific market participant.

75. Parties also note that CAISO's information release proposal is consistent with the MSC's minimum recommendation for information release (total virtual supply bids accepted minus the total virtual demand bids accepted at each location in the CAISO control area and intertie points) and that such proposal is also supported by CAISO's Department of Market Monitoring (DMM).

76. Other parties, including DC Energy, Financial Marketers, WPTF, Dynegy, and J.P. Morgan oppose CAISO's proposal.⁴⁸ Parties claim the proposed information release could disclose commercially sensitive information and that posting net cleared virtual positions at generator nodes will effectively disclose how a physical supplier is using convergence bidding to hedge its units' production against real-time price risk.

77. Parties argue that a generator has a strong commercial incentive to submit convergence bids at the nodes at which its generating units are located because bids there provide the most effective, and least risky, hedge against real-time price risk caused by forced outages. Parties state that the mere possibility that a market participant could be submitting convergence bids at a particular generator node does not change the reality that the market participant most likely to be bidding at a particular generator node is the market participant owning generation there. Parties claim that because of the strong likelihood that nodal virtual cleared quantities at generator nodes will reflect the commercially-sensitive hedging strategies of the market participants owning generating units at those nodes, the Commission should direct CAISO not to publish this information.

78. J. P. Morgan is concerned that the information release provisions in the CAISO proposal could potentially divulge commercially sensitive information that could be identified with individual virtual bidding scheduling coordinators. J.P. Morgan recommends that should the Commission accept CAISO's proposal, the Commission

⁴⁸ Parties do not oppose the publication of the summary report as the CAISO describes.

should direct CAISO to defer releasing such information for a limited period after the start of the convergence bidding market to verify and ensure that commercially sensitive information will not be released. To the extent that CAISO determines during this limited period that commercially sensitive information could be revealed, J.P. Morgan claims CAISO should establish appropriate measures to ensure that such information is not released.⁴⁹

79. WPTF offers that if the Commission believes that publishing nodal cleared quantities is acceptable, CAISO should enact safeguards to ensure that commercially sensitive information is not disclosed. WPTF states that if only a single market participant submits convergence bids at a node, CAISO should not publish the net quantity of cleared convergence bids at that node. Additionally, WPTF states that if the amount of cleared virtual bids at a node overwhelmingly reflects the participation of a single market participant, CAISO should not publish the net quantity of cleared convergence bids at that node. WPTF maintains that this second rule would discourage the submission of bids for small quantities at nodes just to discern the cleared virtual bid quantities at those nodes. WPTF states that, in this way, CAISO could ensure that the information it published was sufficiently aggregated as to not be commercially sensitive.

80. Parties claim that CAISO does not release cleared physical supply/demand data at a nodal level at the close of the real-time market for the trading day, and therefore is not adhering to the principle of comparable treatment. To remedy this inconsistency, parties argue that the Commission can: (1) order CAISO to release physical data in the same manner, lag, and locational granularity as it plans for the convergence bidding data; or (2) order CAISO to follow the practice included in the Commission's Order No. 719, which recommends a 90-day delay for all bid data (both virtual and physical).⁵⁰ Parties submit that the Commission's reasoning behind this timeframe in Order No. 719 was that 90 days provides an adequate balance between market transparency and the preservation of proprietary information. Parties contend that CAISO's proposal does not reflect the Commission's intended balance and provides an advantage to load serving entities.⁵¹

⁴⁹ J.P. Morgan Comments at 19.

⁵⁰ *Wholesale Competition in Regions with Organized Electric Markets*, Order No. 719, FERC Stats. & Regs. ¶ 31,281, at P 424 (2008).

⁵¹ Financial Marketers Comments at 7 (citing Draft Final Proposal, Data Release and Accessibility, Phase 2 Convergence Bidding Data Release at 6, *available at* <http://www.caiso.com/271f/271f1113143b80.pdf>).

81. DC Energy maintains that it would not object to CAISO's proposal if CAISO restricted the distribution of the nodal cleared volume reports to the internal and external market monitoring organizations.

82. Parties note that no other ISO or RTO posts nodal virtual demand information each day at the close of the real-time market. Financial Marketers claim that CAISO has recognized that "the need for some sort of nodal data release, in addition to the 90-day lag, data is not apparent given that other ISOs have not implemented additional safeguards, like position limits that the [California] ISO has proposed for its design."⁵²

83. Specifically, parties note that Midwest ISO and the New York ISO post only aggregate virtual bid data, not virtual bid data on a nodal basis and that ISO New England posts nodal data but not until the first day of the fourth month following the operating month, and even then, it masks the Location ID. Additionally, parties claim that PJM posts nodal data after a six month delay.

84. Financial Marketers assert that CAISO wrongly claims that no tariff revision must be filed with the Commission before it can begin the daily release of net cleared virtual quantities by node at the close of the real-time market. Financial Marketers argue that section 35.28(g)(4) of the FERC's regulations requires that each ISO/RTO release offer and bid data on a three-month lag basis. Financial Marketers state that the Commission has held that RTOs and ISOs may "propose a shorter time, with accompanying justification, or a longer time of four months if they can demonstrate a collusion concern."⁵³ In fact, Financial Marketers claim that the Commission has specifically held that "if an RTO or ISO believes it is desirable to release offer and bid data on the day following the operating day, nothing in the Final Rule prevents it from making such a proposal to the Commission, with appropriate justification."⁵⁴ Here, Financial Marketers contend that CAISO is proposing to go even further and would be releasing offer and bid data on the day *preceding* the operating day and that CAISO cannot do so without a tariff filing that fully justifies the proposal.

85. For daily releases of nodal virtual bid data to be implemented, Financial Marketers claim that CAISO would need to file revisions to its tariff. Thus, Financial Marketers note that CAISO has recently published Convergence Bidding Draft Tariff Modifications that would revise (i) tariff section 6.5.3.2.2 to provide for the publication of the aggregate

⁵² *Id.* at 8 (citing Draft Final Proposal at 5).

⁵³ Financial Marketers Comments at 9 (citing Order No. 719 FERC Stats. & Regs. ¶ 31,281 at P 421).

⁵⁴ *Id.*

volume of cleared Virtual Supply Bids and Virtual Demand Bids on Open Access Same-time Information System (OASIS) by 1:00 p.m., along with the results of the Day-Ahead Market; and (ii) tariff section 6.5.6.1 to provide for the publication of Virtual Bids on OASIS 180 days following the applicable Trading Day.⁵⁵ Financial Marketers conclude that CAISO cannot acknowledge on the one hand that tariff revisions are required for those two revisions, while at the same time insisting that no tariff filing is necessary to implement daily releases of virtual bid data.

Answer

86. CAISO claims that protestors fail to make the distinction that net cleared quantities of virtual awards are not bid data. Rather, CAISO states that the net cleared quantities are simply aggregated quantitative information on the net volume of awards that is comparable to other aggregated, non-confidential information that CAISO is permitted to release, such as load and supply data. Therefore, CAISO contends that its proposed information release policy does not violate the requirements of Order No. 719.

87. CAISO adds that physical participants cannot gain any undue advantage from the release of the net cleared quantities of virtual awards because any scheduling coordinator for a convergence bidding entity can submit convergence bids at any eligible node. Thus, CAISO argues market participants can never be certain that net cleared quantity of virtual awards submitted at a particular pricing node were submitted by generators located there. CAISO argues that market participants will only have information about the net cleared quantities of virtual awards at each location, meaning that they cannot tell anything about the actual volume of convergence bidding at the location due to the netting of cleared virtual supply against virtual demand.

Commission Determination

88. The Commission finds that CAISO's proposed information release policy is just and reasonable, and releasing this information should increase transparency. The release of the net cleared quantities of convergence bids at each node will not release commercially sensitive information. The Commission notes that the information will be the net cleared quantity of all the bids from all of the scheduling coordinators, and since virtual bids can come from any scheduling coordinator and in many different amounts, it is highly unlikely that this information could be used to decipher complex bidding strategies of individual market participants. Convergence bids are different from physical bids because they can come from such varied locations and amounts regardless of

⁵⁵ *Id.* at 10 (citing the Convergence Bidding Draft Tariff Modifications, *available at* <http://www.caiso.com/248b/248ba28162ea0.pdf>).

existing actual resources. These characteristics, unique to convergence bids, also make protestors' comparisons to releasing such information about physical bids unconvincing.

89. Protestors' reliance on Order No. 719's direction regarding releasing bid and offer data after three months is misplaced. Such directions concern the release of more detailed information, not simply the net of the cleared quantities of virtual awards at each node. Even in instances when one party is responsible for much of the bids at one location, the identity of the bidders and the number of bidders are not released along with the net cleared virtual bid information. Thus, protestors' concerns are unjustified and the alternate proposals presented by parties concerning the release of this very limited information are unnecessary.

90. With respect to CAISO's assertion that tariff modifications are unnecessary because the release of such information is already permissible, we disagree. We find the inclusion of this information is important because the provision will ensure that CAISO does not disclose commercially sensitive data. Therefore, the Commission finds that CAISO must include a provision in its tariff describing the information it plans to release, consistent with the other information it plans to publish on OASIS.⁵⁶ CAISO is directed to make such a filing within 30 days of the date of this order.

E. Position Limits

91. In the Convergence Bidding Design Order, the Commission rejected CAISO's proposed position limits that would limit the amount of convergence bidding at internal nodes and interties, phasing out over two years and three years, respectively.⁵⁷ The Commission noted that in other contexts, uncertainty at the start-up of a new market design justifies implementation of interim measures to smooth the transition to a new market, so as to protect customers from potentially unjust and unreasonable rates during the early stages of implementation. For instance, the Commission noted that uncertainty at the launch of exceptional dispatch justified the implementation of interim measures, during the first four months after the function was in place.⁵⁸ The Commission found that if CAISO continues to believe that some safety net is required to smooth the implementation of convergence bidding, it may propose and justify a substantially shorter position limit period, consistent with the concept of the transitional mechanism approved in the exceptional dispatch order. The Commission added that, at the interties, if CAISO

⁵⁶ See CAISO Tariff section 6.5.3.2.2.

⁵⁷ Convergence Bidding Design Order at P 51, 66.

⁵⁸ *Id.* P 56 (citing *Cal. Indep. Sys. Operator Corp.*, 126 FERC ¶ 61,150, at P 84 (2009)).

believes that other issues justify longer and/or stricter position limits, CAISO should provide concrete examples of the challenges and explain why other tools at CAISO's disposal will not adequately address the issues.

92. In the convergence bidding proposal, CAISO maintains that position limits at both internal nodes and the interties are appropriate but proposes to shorten the period over which it will phase out the positions limits. CAISO argues that the introduction of a major new market design feature frequently raises the possibility of unforeseen and unintended market outcomes. CAISO claims that during the early stages of convergence bidding, the position limits will operate to ensure that no single market participant can exercise market power at an individual node and to prevent distorted market outcomes, thus protecting customers from unjust and unreasonable rates. CAISO argues that its concerns about the potential for a new element of the market to create opportunities for market manipulation and unjust and unreasonable rates are heightened by the experience of the Western energy crisis of 2000-2001. Also, CAISO notes that the use of position limits is supported by CAISO's MSC and the DMM.

93. CAISO proposes position limits at internal nodes that will be automatically phased out over the course of one year.⁵⁹ CAISO notes that the Convergence Bidding Design Order did not state that four months was the only appropriate time period for position limits.

94. CAISO contends it will not have a significant amount of data to evaluate the potential market impacts of convergence bidding after only four months of operation of the convergence bidding market, and it will need time to analyze the data before the position limits can be lifted. Further, because CAISO plans to implement convergence bidding on February 1, 2011, a four-month implementation period for position limits

⁵⁹ The CAISO's proposed position limits at internal nodes are:

- Ten percent of the PMax of physical supply resources and forecasts of the maximum megawatt consumption of physical demand resources at the internal nodes for the first eight months;
- 50 percent of the PMax of physical supply resources and forecasts of the maximum megawatt consumption of physical demand resources at the internal nodes for the ninth month through the twelfth month; and
- No position limits will apply starting in the thirteenth month.

See proposed CAISO Tariff section 30.7.3.6.3.1.

would expire on June 1, 2011, which would be near the start of the first summer season of convergence bidding. CAISO claims that the potential for adverse market impacts associated with convergence bidding could affect the ability of CAISO to rely upon market mechanisms to satisfy peak load.

95. CAISO proposes position limits at the interties that will be phased out over the course of sixteen months.⁶⁰ CAISO argues that the Commission should authorize CAISO to implement its proposed longer phase-out of position limits at the interties for the reasons discussed above for internal nodes and because convergence bidding at the interties has the potential to present certain problems that do not apply to convergence bidding at internal nodes.

96. CAISO contends that the values of the interties' operating transfer capabilities, i.e., the maximum capability of a transmission path to transmit power, are usually significantly larger than the values at the internal nodes. So, even with the smaller percentage position limits in place at the interties, CAISO claims a market participant can still take a sizeable position at many of the scheduling points due to the higher megawatt limit. Thus, according to CAISO, the smaller percentages and longer phase out is less onerous for market participants. Also, given the large value of operating transfer capabilities at the interties, CAISO contends that the safety net for the interties must be significantly tighter, at first.

97. CAISO further submits that applying more stringent position limits at the interties is justified because the interties present greater reliability concerns than internal nodes. CAISO claims it depends on imports at the interties to meet approximately 20 percent of CAISO's supply needs. However, when convergence bidding is implemented, CAISO states that virtual imports could potentially crowd out a significant amount of physical

⁶⁰ The CAISO's proposed position limits at the interties are:

- Five percent of the applicable operating transfer capability for the first eight month;
- 25 percent of the applicable operating transfer capability for the ninth month through the twelfth month;
- 50 percent of the applicable operating transfer capability for the thirteenth through the sixteenth month; and
- No position limits will apply starting in the seventeenth month.

See proposed CAISO Tariff section 30.7.3.6.3.2.

imports in the IFM leaving CAISO short of normal import supplies. According to CAISO, the RUC process cannot effectively address this issue because of potential transmission limitations with RUC resources. Thus, CAISO argues that smaller position limits will allow CAISO to monitor the volumes and effects of convergence bidding on the interties and to mitigate potential reliability concerns.

Comments

98. Parties including SoCal Edison, NCPA, CPUC, CERS, and PG&E support CAISO implementing position limits to help mitigate the potential exercise of market power at the implementation of convergence bidding. In fact, some parties contend CAISO's proposal removes the position limits too quickly and oppose any automatic lifting of the position limits. SoCal Edison and the CPUC suggest that CAISO develop a formal process where the DMM and the MSC offer formal opinions/recommendations and consent prior to relaxing position limits.

99. Also, PG&E opposes convergence bidding at the interties while there is a potential for crowding out physical energy. PG&E argues that if the Commission determines to continue with some level of convergence bidding at the interties, the initial five percent limit proposed by CAISO should remain in place indefinitely, pending CAISO resolution of concerns about convergence bids limiting the ability to deliver physical energy across the interties. PG&E recommends that if the Commission decides to include convergence bidding at the interties, the Commission order CAISO to convene a stakeholder process to evaluate these issues, develop mechanisms to address them, and incorporate those mechanisms into its convergence bidding design.

100. The CPUC states that proponents of unfettered implementation of convergence bidding point to the lack of position limits in all of the other RTOs. However, the CPUC states that such parties fail to mention that New York ISO only allows convergence bidding at the zonal level, an arguably more dramatic limitation than position limits (and an approach supported by the CPUC). The CPUC argues that the comparison to other RTOs ignores facts that distinguish California and CAISO's market design, and that collectively justify a cautious approach to virtual bidding implementation.

101. The CPUC also states that the Commission should not hold interim measures for convergence bidding to the same standard it has set for exceptional dispatch because convergence bidding has the potential to comprise a much more significant portion of the daily cleared supply and demand than exceptional dispatch. The CPUC states that in the

Midwest ISO, for example, virtual transactions have accounted for eight percent of day-ahead cleared supply and demand megawatt/hour volumes.⁶¹

102. On the other hand, numerous parties, including Powerex, DC Energy, Financial Marketers, WPTF, Dynegy, and J.P. Morgan, oppose any position limits. Parties contend that CAISO has not shown that the proposed position limits are necessary to protect against market manipulation, the exercise of market power, or reliability problems. Parties claim that CAISO makes unsupported and conclusory claims that the position limits are needed to mitigate the potential exercise of market power by any one market participant that could occur absent deep and liquid convergence bidding, while these limits prevent deep and liquid convergence bidding from developing. Parties add that position limits may damage market participant's confidence in the convergence bidding system.

103. Parties argue that CAISO's claim that it requires additional time to analyze the information it gathers is unsupported. Parties state CAISO does not indicate that it will be performing any sophisticated analysis prior to removing the position limits. Also, parties claim that it is unclear why CAISO would propose to begin rolling off position limits prior to gathering a full year's worth of data if such information was truly needed to inform the decision to remove the position limits. Parties also state that CAISO has not described how information collected during the period in which position limits are in place will inform any expectations of how convergence bidding would be expected to perform without position limits in place.

104. Parties also state that the 2000-2001 Western energy crisis was not the result of a single piece of an electricity market design, and the notion that the implementation of a single market design element, could lead to a similar crisis is insupportable. Parties states that California has taken a number of steps to ensure that the events of 2000-2001 will not be repeated, and that these improvements serve to limit the potential damage that might be caused by any flawed market design element. Parties argue that there is no reason to regard CAISO's implementation of convergence bidding as a "new" design element that warrants the imposition of position limits. Parties state that CAISO has not shown how convergence bidding could produce the kind of unreasonable rates that would warrant position limits.

105. Parties state that, convergence bidding promotes the kind of competition that will prevent any single market participant from using convergence bids to unduly affect prices. Parties assert that the competition will completely obviate the need for any

⁶¹ CPUC Comments at 6 (citing "Virtual Transactions in the Midwest ISO Markets," July 23, 2008, at p. 13, *available at* <http://www.caiso.com/200c/200c8a5c1f8d0.pdf>).

position limits. Parties claim that imposing position limits because of a fear of unreasonable rates resulting from insufficient liquidity in convergence bidding will degrade, rather than enhance, the liquidity of convergence bidding and will erode the benefits that convergence bidding provides.

106. WPTF states that, by proposing strict position limits during the first eight months following convergence bidding implementation, CAISO is proposing to allow generators to use convergence bidding to hedge only a small percentage of the generation connected at a particular node.

107. Also, although parties recognize CAISO's desire not to phase-out position limits at the start of the first summer period after the start of convergence bidding (and four months after the start of convergence bidding), parties assert that CAISO's proposal to phase out position limits at internal nodes over one year and to phase out the use of position limits at the interties over sixteen months is unreasonable. Parties posit that a four to seven month phase out schedule for position limits at both internal nodes and the interties is more appropriate.

108. If the Commission agrees that position limits are necessary, J.P. Morgan recommends that the Commission establish the same phase-out schedule for both internal nodes and interties and that Commission establish a shorter phase-out period.⁶²

109. Parties argue that CAISO has failed to support the need for more stringent position limits at the interties. Parties assert that CAISO has not justified why it cannot use the HASP to replace physical imports that may be displaced by virtual bids in the day-ahead market.

110. Moreover, WPTF states that CAISO provides no insight as to why it would be depending on non-resource adequacy imports to meet reliability needs, or why "crowding out" those non-resource adequacy imports in the IFM is a reliability problem. WPTF states that, to the extent that load-serving entities rely on imports to meet their loads and reliability needs, those imports should be resource adequacy resources secured under forward resource adequacy contracts and using import transmission shares allocated in advance. WPTF states that to rely on non-resource adequacy resources to serve demand and meet reliability needs undermines the fundamental purpose of the resource adequacy program. To the extent that CAISO is concerned that reliable supply may be inadequate, J.P. Morgan states that CAISO should examine whether changes are needed to its resource adequacy requirements.

⁶² J.P. Morgan Comments at 14.

111. Powerex notes that CAISO does not allow non-dynamic system resources that have not been designated as resource adequacy capacity to participate in the RUC process at the interties, and Powerex states that CAISO should reconsider this limitation and allow intertie resources to bid capacity into the RUC process. Powerex argues that this would be more efficient from a market design perspective, as it would allow the market to bid physical capacity at the interties via the RUC process, rather than requiring CAISO to artificially suppress convergence bidding activity through position limits, and would send the correct price signals to convergence bidders at the interties through the proposed allocation of RUC uplifts.

112. WPTF notes that CAISO asserts that imposing position limits for convergence bidding at the interties is “less onerous” at the interties because intertie transfer capabilities are typically larger than the amount of generation or load connected to a node, and so larger virtual positions can be taken at the interties. WPTF claims that this provides no justification for intertie position limits.

113. Financial Marketers reiterate their positions that what CAISO is proposing is not really position limits; rather, bid limits disguised as “position limits.” Financial Marketers contend that CAISO proposes to apply these limits at the time of bid submission. Therefore, Financial Marketers argue that they limit the bids a market participant can place, not the market participant’s position after the market has cleared. Because only a fraction of a market participant’s bids can be expected to clear, Financial Marketers state that the “bid limits” are far more restrictive and anti-competitive than they might otherwise appear.

114. Powerex notes that while CAISO commits in proposed tariff section 30.7.2.6.3.2 to using the “9:00 AM Operating Transfer Capability” (OTC), CAISO does not currently publish OTC for all interties, which means that entities submitting convergence bids on the interties will not have all the information needed to calculate position limits for themselves. Powerex argues that CAISO should increase transparency by not only posting the OTC for each intertie by 9:00 AM, but also the position limits for imports and exports for each intertie.

115. Additionally, Powerex states that CAISO has not clarified how it will use import OTCs and export OTCs to establish position limits. Powerex states that the Commission should direct CAISO to specify whether the import and export OTCs will establish separate and distinct position limits for virtual supply and virtual demand bids at an intertie, or if a single position limit will be used for the aggregate of virtual supply and virtual demand bids at the intertie. Powerex states that if it is an aggregate limit, CAISO should also specify which OTC would apply when import OTC and export OTC are different.

Answer

116. In its answer, CAISO states that convergence bidding, with its proposed position limits should be permitted at the interties. CAISO notes that it raised the issue of virtual bids crowding out imports during the stakeholder process as something to monitor, but it does not believe this issue warrants a delay in allowing convergence bidding at the interties. CAISO notes that a strategy of offering low-priced virtual imports in the IFM to crowd out physical imports should generally be a money-losing strategy because the virtual bidder will face higher prices to buy back its imports in the HASP. Therefore, CAISO believes that closely monitoring the markets for this phenomenon, along with enforcing the lower position limits at the interties, are sufficient protections for the implementation of convergence bidding at the interties to proceed.

117. CAISO argues that a requirement that position limits should be phased out only after review and approval of each stage of the phase-out by the DMM and MSC is unnecessary. If, based on the input provided by the DMM and MSC and on its own analyses, CAISO concludes that it is not appropriate to make the position limits change it will timely make a filing with the Commission to modify the percentage level and/or timetable for the upcoming change.

118. CAISO contends that suggestions that its market rules should be changed to allow all resources at interties, not just resource adequacy resources, to participate in the RUC process are beyond the scope of the instant proceeding.

119. CAISO asserts that the arguments concerning determining different position limits are unfounded, adding that it has already posted on its website a preliminary list of locations eligible for convergence bidding and the MW limits for those locations associated with physical load and generation. Also, CAISO notes that it already posts the import and export OTC values for each intertie in a report issued on OASIS. Further, CAISO states that tariff section 30.7.3.6.3.2 provides that the position limits at an intertie will be equal to a tariff-specified percentage of the OTC at the intertie. Therefore, market participants may calculate the position limits at each intertie once they know the OTC.

120. CAISO also clarifies that in the External Business Requirements Specification (BRS) for convergence bidding, CAISO explained that position limits will be applied separately to virtual supply versus virtual demand. CAISO adds that this applies as well to the interties where an import is the same as a virtual supply bid and an export is the same as virtual demand. Import OTCs will establish position limits for virtual supply at the interties and export OTCs will establish separate and distinct position limits for virtual demand at the interties. CAISO states that it will post two OTC values (one for import OTC and the other for export OTC) at each intertie that is eligible for convergence bidding.

Commission Determination

121. The Commission finds the position limits proposed by CAISO to be just and reasonable. CAISO proposes position limits that are significantly shorter than initially proposed, as the Commission directed. Also, although the convergence bidding proposal does contain a number of features to help stop potential market manipulation and adverse market activity, as the Commission found in the Convergence Bidding Design Order “at the start of convergence bidding, an additional safety net may be appropriate to prevent unforeseen and unintended market outcomes that might come about.”⁶³ The Commission recognizes that CAISO has worked to design a convergence bidding feature that should improve the CAISO market and provide for clearer pricing and help avoid non-competitive market behavior, but CAISO is being appropriately cautious by gradually implementing the proposal. CAISO’s implementation proposal appears designed to help identify problems that may develop with the introduction of convergence bidding and to allow CAISO to work to ensure that problems do not become significant.

122. The Commission recognizes the arguments of numerous parties that point out that the position limits make it difficult for the market to experience all of the benefits that convergence bidding should bring, such as parties being able to fully hedge their positions and further deterring potential market manipulation. However, the Commission finds that CAISO’s proposed position limits are a reasonable balance between the potential benefits of implementing convergence bidding and introducing a new market design feature that attempts to avoid unintended consequences.

123. While some parties contend that implementing convergence bidding with position limits could hurt market participants’ confidence in the system, we find it appropriate to use caution with this design element to ensure that the program is effective and does not have an adverse effect on the market.

124. CAISO’s explanation for the internal position limits is reasonable. As CAISO notes, and numerous commenters agree, it is prudent to avoid lifting the position limits during its first summer with convergence bidding, since that is typically the time when there is the most strain on the system, and any problems as a result of convergence bidding implementation would be amplified. Further, CAISO should have data spanning 12 and 16 months to review the effects of convergence bidding, and CAISO should have sufficient time to analyze the data. Because the data is from a limited period and reflects position limits, it only provides a narrow glimpse into what the market may look like once convergence bidding is fully implemented. However, the Commission finds that this information is useful to monitor how the market may develop. Thus, parties’ proposals for alternative position limits are rejected.

⁶³ Convergence Bidding Design Order at P 55.

125. Also, the Commission accepts CAISO's explanation for the additional length of the time period for convergence bidding at the interties. In addition to the above reasons for internal convergence bidding, the Commission finds CAISO's proposed intertie position limits are reasonable. As protestors claim, it may be possible for CAISO to use the HASP to replace physical imports that may be displaced by virtual bids in the day-ahead market. However, by pushing more activity into the HASP, there could be increased reliability concerns due to an increased reliance on resource adequacy resources and the transactions being closer in time to when the energy is required. Also, as CAISO notes, given the total size of transactions at the interties, additional caution is justified.

126. Although some parties question whether the reliability concerns related to position limits raised by CAISO are valid, the Commission finds that it is reasonable to include the position limits while implementing the system. We note that if the reliability concerns do not develop, parties can be more confident about the operation of the market when the position limits are eventually lifted. However, proposals to change the RUC system in an effort to improve reliability are beyond the scope of this proceeding.

127. The Commission notes that while the position limits, as proposed, are set to expire in 12 months and 16 months, CAISO has committed to revise those periods if it learns during the process of implementing convergence bidding that there are any issues that require the limits be changed. Thus, parties' concerns about the automatic expiration of the position limits are addressed.

128. Although other RTOs and ISOs with convergence bidding features have not included initial position limits, as noted by commenters, other ISOs and RTOs provide other bidding restrictions.

129. We find the explanations provided in CAISO's answer noting that market participants could locate OTCs on its website and that there will be different virtual demand and virtual supply OTCs fully address parties' questions regarding OTCs.

F. E-Tagging and Implicit Convergence Bidding

130. In its Convergence Bidding Design Filing, CAISO explained that allowing convergence bidding at the interties between the CAISO balancing authority area and other balancing authority areas will mitigate the potential for reliability and operational difficulties created by implicit convergence bidding (i.e., scheduling physical bids in the day-ahead market with no intention of physically delivering on the schedule, for the purpose of liquidating the schedule in the HASP). CAISO explained that implicit convergence bidding on the interties is possible because resources associated with intertie energy bids will not be identified until intertie schedules are tagged and a resource in a neighboring balancing authority area is designated as providing energy for an intertie schedule.

131. In the convergence bidding proposal, CAISO proposes to add tariff provisions to deter implicit convergence bidding. CAISO's proposal includes: charging scheduling coordinators the difference between the day-ahead and the HASP price when their imports or exports fail to submit proper E-Tags, adjusting CRR revenue due to scheduling coordinator's day-ahead import or export schedule reduction in the HASP, and applying uplift costs to imports that clear in the day-ahead market that the scheduling coordinator reduces in the HASP.

132. CAISO contends that the proposed tariff sections will provide market participants with an appropriate economic signal to declare virtual bids in order to eliminate financial advantages that scheduling coordinators could gain from an implicit convergence bidding strategy.

Comments

133. Powerex generally supports CAISO's proposed provisions and states that in the event convergence bidding is delayed and these E-Tagging provisions are not implemented immediately, the E-Tagging provisions should be implemented on a separate track on or before February 1, 2011.

Commission Determination⁶⁴

134. We accept the CAISO's proposed tariff changes regarding E-Tagging and implicit convergence bidding. We find that CAISO has proposed provisions to deter implicit convergence bidding. Implicit convergence bidding can cause reliability concerns if it compromises the accuracy of supply and demand forecasts by not distinguishing between physical and virtual transactions. As opposed to actual convergence bidding, proposed here, implicit convergence bidding can also create or maintain divergence between day-ahead and real-time prices without the opportunity for market participants to counter that divergence. Implicit convergence bidding could also circumvent the position limits accepted above in this order. Thus, we accept as just and reasonable the proposed revisions to deter implicit convergence bidding.

G. CRRs

135. In the Convergence Bidding Design Order, the Commission found reasonable CAISO's proposed settlement rule to deter convergence bidders from increasing the value of their CRRs.⁶⁵ Nonetheless, the Commission stated that CAISO should file tariff

⁶⁴ We address certain concerns raised by parties regarding the details of the submitted section 11.32 concerning e-tagging and implicit convergence bidding below.

⁶⁵ Convergence Bidding Design Order at P 87.

provisions that clearly and objectively describe the instances that warrant mitigation, including a description of what constitutes a “significant impact” on constraints and providing actual measures to be used.

136. In its proposal, CAISO proposes to add a CRR settlement rule that adjusts CRR revenue, when the CRR holder’s convergence bidding activity or reduction to a day-ahead import or export schedule in the HASP had a significant impact on the value of the CRRs in the day-ahead market.

137. CAISO adds that congestion on a constraint will be deemed to have been significantly impacted by the virtual awards if the flow impact meets two criteria. First, the flow impact must be in the direction to increase the value of the CRR holder’s CRR portfolio. Second, the flow impact must exceed the configurable threshold percentage of the flow limit for the constraint. CAISO proposes that threshold percentage be set at ten percent of the flow limit for each constraint and that the threshold percentage may be changed as provided in the applicable Business Practice Manual (BPM).

138. According to CAISO, any change in the threshold percentage for any constraint must be based on evidence (from simulations of market re-runs or other appropriate analytical tool) concerning flow impact. Under CAISO’s proposal the DMM will notify the Commission of a change in any constraint’s threshold percentage on a quarterly basis in the event that a change occurs.

Comments

139. Multiple parties, including NCPA, PG&E, CERS, and the CPUC, support CAISO’s proposed congestion revenue rights settlement rule. However, the CPUC states that the CRR settlement rule may not deter convergence bidders from increasing the value of CRRs held by affiliated entities. The CPUC notes that, according to CAISO, Commission precedent prevents the CRR settlement rule from being applied to an entity affiliated with a virtual bidder.⁶⁶ The CPUC states that CAISO has therefore indicated that it will monitor the virtual trading of entities with affiliated CRR holders and make referrals to the Commission’s Office of Enforcement on a case-by-case basis. The CPUC states that this approach is likely far less effective than the “claw-back” mechanism of the CRR settlement rule. The CPUC argues that the Commission should clarify that the CRR settlement rule does apply across affiliated entities and should require that CAISO make this explicit in the tariff.

⁶⁶ CPUC Comments at 7 (citing California ISO, Congestion Revenue Rights Settlement Rule Revised Proposal, Department of Market Monitoring, October 2, 2009, at 2, *available at* <http://www.caiso.com/243b/243beb92187a0.pdf>).

140. Multiple parties claim that the threshold for CRR flow impact clearly affects the rates, terms and conditions of service and should be included in the CAISO tariff.

141. Powerex states that the CRR settlement rule should not apply where the combined physical and virtual accepted bids are exposed to the same or more congestion than the CRRs held; and where the virtual bid was profitable. Powerex claims that the purpose of the CRR settlement rule is to prevent intentional uneconomic activity from benefitting other market activities. Powerex states that this intentional uneconomic activity is not present in either of these two circumstances, and the Commission should direct CAISO to modify its tariff for these two circumstances.

142. Powerex also claims that CAISO has not provided market participants with adequate information regarding how it will model flow impacts to determine whether they exceed the 10 percent threshold. Powerex claims that it is not clear from CAISO's filing that this is how the percentage threshold will work in practice, nor does CAISO explain how it will model flow impacts.

143. Powerex further states that CAISO has indicated in stakeholder training sessions that the revenue adjustment will be applied by individual Scheduling Coordinator ID (SCID), and not by scheduling coordinator. Thus, Powerex states that scheduling coordinators that have multiple SCIDs could avoid the potential revenue adjustment by creating one SCID that holds CRRs and another that makes convergence bids. Powerex states that if this is how CAISO proposes to apply the CRR revenue adjustment, Powerex objects to that treatment and urges CAISO to consider the impacts such treatment may have.

144. SWP states that CAISO proposes in new tariff section 11.2.4.6 to adjust CRR revenues when convergence bidding has a significant adverse impact on CRR revenues. SWP states that this section should be revised so that the recouped revenues are not socialized to the CRR balancing account, but rather are specifically allocated to those harmed. For instance, SWP states that artificial congestion on one isolated line may have devastating impacts for a relatively few customers relying on CRRs for firm service on that line, but these market participants would not find a viable remedy in socialization of the recouped wrongful profits to the CRR Balancing Account.

Answer

145. CAISO explains that it proposed including the threshold in the BPM because it anticipates that, especially at the outset of convergence bidding, the threshold percentage may need to be adjusted promptly and, possibly, with some frequency in order to account for changes in market conditions that cannot be anticipated in advance of actual implementation. CAISO claims that requiring this value to be included in the tariff will

prevent prompt adjustments to the threshold percentage. CAISO points out that the DMM will notify the Commission of a change in any Constraint's threshold percentage in a quarterly report.

146. In response to Powerex's request that CAISO clarify how it will model flow impacts, CAISO contends that a misunderstanding underlies Powerex's argument and that it would be inappropriate and inconsistent with the design of this settlement rule to agree to the clarification that Powerex requests. CAISO asserts that the proposed definition of the term Flow Impact in Appendix A of the CAISO tariff explains how CAISO will model Flow Impacts. The definition states that:

The Flow Impact is calculated by multiplying the CRR Holder's Virtual Awards at a Node by the shift factor of that Node relative to the Constraint. This product is computed for each Node for which the Convergence Bidding Entity had Virtual Awards, and the Flow Impact is the sum of those products. In this definition, shift factor means the factor to be applied to a resource's expected change in output to determine the amount of flow contribution that change in output will impose on an identified transmission facility or flowgate.⁶⁷

147. CAISO argues this definition is clear and that the concept of "10 percent effective" is not a component of the CRR settlement rule.

148. CAISO also states that Powerex misconstrues the purpose of the CRR settlement rule. CAISO explains that the rule's implementation is automatic, which means that it cannot subjectively contemplate intent. CAISO points out that the design of the rule allows economic activity to reduce or eliminate CRR settlement rule charges resulting from uneconomic activity. CAISO argues that modifying the CRR settlement rule so that it would not apply where the convergence bid was profitable, as Powerex proposes, would undermine this feature of the CRR settlement rule, leading not only to more CRR settlement rule charges but also to larger magnitudes of such charges. CAISO asserts that Powerex fails to recognize that circumstances where intentional uneconomic activity is absent can nonetheless align the CRR settlement rule charge more equitably with intent and uneconomic activity. CAISO concludes that Powerex's proposed modifications would inappropriately increase CRR settlement rule charges for entities that engaged in economic activity through profitable convergence bids.

149. Additionally, CAISO asserts that it is unclear what Powerex means when it states that the CRR settlement rule should not apply where the combined physical and convergence accepted bids are exposed to the same or more congestion than the CRRs

⁶⁷ CAISO Tariff at Appendix A.

held. Given the general consensus achieved among market participants who were actively involved in the convergence bidding stakeholder process on the functional aspects of the CRR settlement rule, CAISO does not believe it is appropriate to make this change, which could result in unintended consequences that negatively affect the CRR settlement rule design.

150. In response to Powerex's concern that scheduling coordinators could avoid adjustment of their CRR revenue by creating one SCID that holds CRRs and another SCID that makes virtual bids, CAISO claims that the tariff and the BRS rules clearly prevent this loophole. CAISO states that the BRS for convergence bidding explains that the software used to implement the CRR settlement rule will "calculate the daily CRR payment adjustment amount per SC IDs that are mapped to CBs [convergence bidding entities] (that are also CRR Entities), *which will roll up to the SC.*"⁶⁸ CAISO points out that tariff section 11.2.4.6 refers only to the adjustment of CRR revenue of a scheduling coordinator, not adjustment on an SCID-by-SCID basis. Additionally, CAISO states that proposed tariff section 4.14 states that a convergence bidding entity may be represented by only one scheduling coordinator at any given time.

151. Although it is true that a single scheduling coordinator can represent more than one convergence bidding entity, and that a convergence bidding entity can have more than one SCID, CAISO states that it will create unique SCIDs that link to the convergence bidding entity to ensure that CAISO enforces the CRR settlement rule as to all CRR holders that are also convergence bidding entities (and/or that have their HASP intertie schedules reversed). Therefore, CAISO concludes that the CRR settlement rule will aggregate all the SCIDs that map to a convergence bidding entity such that it will be impossible to evade application of the CRR settlement rule using the loophole that Powerex hypothesizes.

152. Also, CAISO argues that the Commission should not require SWP's requested revision to tariff section 11.2.4.6 so that recouped CRR revenues are not added to the CRR Balancing Account, but rather are specifically allocated to those harmed. CAISO claims that the allocation of recouped CRR revenues as SWP proposes would affect every CRR and locational marginal price (LMP) in CAISO's markets, and would therefore be a difficult and complex undertaking to design a system that could accomplish this. At present, CAISO states that it has no reason to believe that it will recoup a large enough amount of CRR revenues pursuant to tariff section 11.2.4.6 to justify taking that extreme course of action. If it turns out that CRR revenues under tariff section 11.2.4.6 are very large, CAISO states that it may consider a future enhancement to the allocation mechanism.

⁶⁸ CAISO Answer at 14 (citing BRS for Convergence Bidding at 25).

Commission Determination

153. We accept CAISO's proposed settlement rule, but agree with commenters that the CRR flow impact value clearly affects the rates, terms and conditions of service and should be specified in the CAISO Tariff. Therefore, as discussed below, we direct CAISO to file with the Commission tariff language that clearly defines the flow impact value that will be used in assessing the impact that convergence bidding has on CRR revenue.

154. As explained in the Convergence Bidding Design Order, "CAISO's proposed congestion revenue rights settlement rule is a reasonable mechanism to mitigate convergence bidding that is intended to alter the value of congestion revenue rights."⁶⁹ The Commission explained convergence bidding practices should not enhance the value of any financial products, be it a congestion revenue right or other product.⁷⁰ Further, the Commission found that the proposed rule was consistent with practices established in similar markets.⁷¹ The Convergence Bidding Design Order also instructed CAISO to "file tariff provisions that clearly and objectively describe the instances that warrant mitigation."⁷² We find that the instant proposal provides such clarification, and we disagree with Powerex that CAISO has failed to describe its methodology for modeling flow impacts.

155. We do not accept CPUC's proposed clarification that the CRR settlement rule be applied across affiliates because it would treat affiliated companies that engage in convergence bidding differently than companies that have no affiliates. In *PJM Interconnection, L.L.C.*, we rejected a tariff proposal that would have automatically taken the posted collateral of one affiliate to offset against the losses of another separate corporate entity. We reasoned that "companies have legitimate, non-manipulative reasons to establish affiliates" and it was not "just and reasonable to adopt a provision that will address only a subset of the entities likely to face the credit risks presented, and that discriminates against certain companies based on their corporate form."⁷³ Nonetheless,

⁶⁹ Convergence Bidding Design Order at P 87.

⁷⁰ *Id.*

⁷¹ *Id.* (citing "Benchmarking Against NYISO, PJM, and ISO-NE," Convergence Bidding: Department of Market Monitoring Recommendations, November 2007, at Attachment D, *available at* <http://www.caiso.com/1c8f/1c8ff55150b0.pdf>).

⁷² *Id.* P 87.

⁷³ *PJM Interconnection, L.L.C.*, 122 FERC ¶ 61,279, at P 58 (2008).

we recognized the potential for manipulation involving affiliates and explained that “such cases must be analyzed on an individual basis.”⁷⁴ Here, we recognize the potential for one affiliate’s convergence bidding to wrongfully benefit another affiliate’s CRR positions. To address such conduct, the DMM has the obligation to refer suspected violations of Commission rules and regulations, including its Anti-Manipulation Rule, to the Office of Enforcement. The CAISO has proposed that any Convergence Bidding Entity provide a list of its affiliates in its application, which will facilitate the DMM’s ability to monitor for such instances of abuse. We would also note that were the Commission to find improper conduct among affiliates related to convergence bidding and CRRs, we have the ability in appropriate cases to direct that unlawful profits be disgorged.

156. We are not persuaded that the CRR settlement rule should be modified as Powerex recommends. As proposed, the CRR settlement rule strikes a reasonable balance between reducing incentives to pursue uneconomic activity and limiting CRR settlement rule charges. We find that Powerex’s proposal would upset this balance. Specifically, Powerex’s proposal would change the design of the CRR settlement rule that allows economic activity to reduce CRR settlement rule charges. We agree with CAISO that removing this feature of the CRR settlement rule may inappropriately increase charges resulting from failing to consider the combined effect of convergence bidding behavior. Additionally, we agree with CAISO that Powerex’s recommendation is unclear when it requests that the CRR settlement rule should not apply where the amount of combined physical and virtual accepted bids are exposed to the same or more congestion than the total amount of CRRs held. Therefore, we decline to make such a modification.

157. Regarding the inclusion of the flow impact value, the Commission’s regulations require that “[e]very public utility shall file with the Commission . . . full and complete rate schedules . . . clearly and specifically setting forth all rates and charges . . . [and the] practices, rules and regulations affecting such rates and charges . . .”⁷⁵ Previously, the Commission found that utilities must file “those practices that affect rates and service significantly, that are realistically susceptible of specification, and that are not so generally understood in any contractual arrangement as to render recitation superfluous.”⁷⁶ We find that the flow impact value constitutes practices, rules, and regulations that affect rates. Accordingly, we direct CAISO to submit a compliance

⁷⁴ *Id.*

⁷⁵ 18 C.F.R. § 35.1(a) (2010).

⁷⁶ *KeySpan Ravenswood v. FERC*, 474 F.3d 804, 811 (D.C. Cir. 2007) (citing *City of Cleveland v. FERC*, 773 F.2d 1368, 1376 (D.C. Cir. 1985)); see also *Cal. Indep. Sys. Operator Corp.*, 122 FERC ¶ 61,271 (2008)).

filing no later than 30 days from the date of this order that includes tariff changes necessitated by the inclusion of the flow impact value.

158. Finally, regarding Powerex's concern that scheduling coordinators could avoid adjustment of their CRR revenue by creating one scheduling coordinator identification, we find that CAISO has provided a sufficient guarantee that such behavior will be mitigated.⁷⁷ Therefore, we find that no further action is required with respect to this concern.

159. We find that the proposed method of allocating recovered CRR revenue to the CRR Balancing Account is reasonable and that modifying the allocation methodology consistent with SWP's request would be overly burdensome. However, we acknowledge the CAISO commitment to monitor cost impacts, and we expect CAISO to file to modify the proposed allocation methodology if future cost impacts warrant a more sophisticated cost allocation approach.

H. Suspension

160. In the Convergence Bidding Design Order, the Commission agreed, in principle, that authority to suspend convergence bidding should be subject to clearly and objectively defined tariff provisions explaining the instances in which CAISO would exercise such authority.⁷⁸ Thus, the Commission directed CAISO to clearly and objectively define key phrases concerning suspension and, whenever possible, to consult with market participants that are subject to suspension prior to taking such action.

161. In the convergence bidding proposal, CAISO proposes new tariff language regarding the suspension or limitation of convergence bidding. The proposal states that CAISO may suspend or limit the ability of one or more scheduling coordinators to submit virtual bids if there are: (1) detrimental effects on system reliability or grid operations; (2) unwarranted divergence in prices between the day-ahead market and the HASP or real-time market; or (3) unwarranted divergence in shadow prices between the day-ahead market and the HASP or real-time market.⁷⁹ CAISO proposes that such suspension

⁷⁷ CAISO Answer at 14-15.

⁷⁸ Convergence Bidding Design Order at P 88.

⁷⁹ A shadow price represents the marginal value of relieving a particular constraint. *See* Appendix A of the CAISO Tariff.

would be subject to procedures allowing the Commission to review CAISO's suspension decision.⁸⁰

162. CAISO adds that there may also be circumstances in which a market disruption or potential market disruption will require CAISO to suspend or limit the ability of *all* scheduling coordinators to submit convergence bids either at a particular location or system-wide. Thus, CAISO proposes to extend to the new convergence bidding market feature the authority CAISO already has under the existing tariff provision to close or cancel the applicable CAISO market in the event of a market disruption, to prevent a market disruption, or to minimize the extent of a market disruption.⁸¹

163. CAISO claims the criteria are similar but not identical to Commission-approved tariff provisions authorizing the Midwest ISO to suspend or limit convergence bidding by individual participants in the event of an unwarranted divergence in prices. According to CAISO, like the Midwest ISO, it will calculate the average divergence between day-ahead and real-time prices over a four-week period or other appropriate time period. CAISO claims that the Midwest ISO calculates whether convergence bidding activity caused an average hourly divergence of greater than ten percent or less than negative ten percent over the time period. But CAISO proposes to calculate whether convergence bidding activity significantly contributed to an average divergence over the time period in excess of the system-wide average divergence by a percentage established in the applicable BPM.

164. CAISO claims it is appropriate to set forth in the BPM the percentage to be used in determining when significant divergence exists. First, CAISO argues the percentage is not a rate, term or condition but only a factor used in an analytic tool for triggering when additional investigation may be warranted. Second, in the initial period after convergence bidding is implemented, CAISO anticipates that variances in divergence may fluctuate fairly quickly and frequently. Therefore, the CASIO claims including the percentage in the BPM gives CAISO needed flexibility to adjust it based on actual market conditions.

165. According to CAISO, the proposed provisions give CAISO the authority, but not the obligation, to suspend or limit convergence bidding activity. In every case where suspension or limitation may be warranted, CAISO claims it will perform further analysis (including conferring with the affected market participants, if practicable) prior to concluding that suspension or limitation is warranted.

⁸⁰ Convergence Bidding Proposal at 21.

⁸¹ *Id.* at 26 (citing CAISO Tariff section 7.7.15.1).

166. In cases where contacting the affected market participants prior to suspension is not practicable, CAISO states it will promptly notify the affected scheduling coordinators and affected convergence bidding entities that CAISO has suspended or limited convergence bidding and will promptly confer and exchange information with the affected scheduling coordinators and convergence bidding entities in an effort to resolve any dispute as to whether suspension or limitation of convergence bidding is warranted. CAISO notes that within two business days of the notice of suspension or limitation, it will provide the affected scheduling coordinators and affected convergence bidding entities with information justifying the decision to suspend or limit convergence bidding.

167. CAISO adds that under the proposed tariff provisions, it will submit to the Commission supporting documentation, including any information provided to CAISO by the affected scheduling coordinators and affected convergence bidding entities, within ten business days after any suspension or limitation of convergence bidding begins, unless CAISO concludes prior to the end of the ten business day period that suspension or limitation of convergence bidding was not warranted.

168. Also, CAISO states that under the proposed tariff provisions suspension or limitation of convergence bidding by CAISO will remain in effect for up to ninety days after CAISO submits its initial supporting documentation to the Commission, unless the Commission directs otherwise. After the ninety day period expires, the suspension or limitation of convergence bidding will remain in effect only if the Commission permits or requires it to remain in effect. Thus, under the proposal, the Commission will be able to direct the length of a suspension or limitation of convergence bidding.

169. Under the proposed tariff language, CAISO contends that it will have the authority to discontinue the suspension or limitation of convergence bidding at any time it determines such suspension or limitation is no longer appropriate. CAISO will notify the Commission if such suspension or limitation of convergence bidding is discontinued after supporting information concerning such suspension or limitation has been submitted to the Commission.

Comments

170. Multiple parties including PG&E, SoCal Edison, and DC Energy generally support CAISO's suspension proposal. DC Energy notes, however, that tariff section 7.7.15.1 provides CAISO with the ability to suspend or limit the ability of all scheduling coordinators to submit convergence bids, but does not explain what causes it to reach such a conclusion, the metrics used to determine if this is necessary and other supporting explanation. DC Energy argues that CAISO should have provided such documentation, and allowed for review and discussion by all participants prior to asking for such authority. DC Energy requests that the Commission direct CAISO to submit further information in a subsequent filing so that DC Energy and all market participants can review and provide input on the reasonableness of such potential actions.

171. Powerex, along with other parties, states that CAISO should include the percentage threshold in its tariff, as the Midwest ISO has done.⁸² Powerex claims that the Midwest ISO initially did not propose to include the specific percentage threshold in its tariff, but was directed to do so by the Commission.⁸³ Specifically, Powerex notes that the Commission found that the Midwest ISO's initial proposal—which did not mention any threshold—gave the market monitor “excessive discretion in determining the appropriate degree of divergence between day ahead and real time market prices.”⁸⁴ The Commission directed the Midwest ISO “to establish clear, objectively identifiable standards for what constitutes an improper imbalance between bidding in the day ahead and real time market.”⁸⁵

172. Powerex contends that if CAISO needs time to observe actual market conditions to determine the proper percentage above which a price divergence may exceed the average and be considered “unwarranted,” CAISO should propose a date by which it will determine its preferred percentage and amend its tariff.

173. Powerex claims that CAISO's proposed suspension authority lacks the necessary clarity in its proposal to suspend or limit activity that “cause[s] or contribute[s] to” an unwarranted price divergence. Powerex states that CAISO fails to specify in its filing or its proposed tariff language how it will determine whether an entity “caused” an unwarranted price divergence, or to what extent an entity will be deemed to have “contributed to” an unwarranted price divergence, in order to trigger CAISO's authority to suspend or limit that entity's convergence bidding activity.

174. Powerex notes that CAISO also does not specify whether there is any meaningful difference between “causing” and “contributing to” an unwarranted price divergence. Powerex claims that the Commission has found such language to be unnecessarily duplicative in evaluating similar tariff provisions in other ISOs, for example, by directing the Midwest ISO to eliminate use of the phrase “contributes to” and use only the term “cause” in its tariff.⁸⁶

⁸² Powerex Comments at 17 (citing Midwest ISO Open Access Transmission, Energy and Operating Reserve Markets Tariff, § 65.5.2(c)).

⁸³ *Id.* (citing *Midwest Independent Transmission System Operator, Inc.*, 108 FERC ¶ 61,163, at P 334 (2004) (Midwest ISO Order)).

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ *Id.* at 20 (citing Midwest ISO Order, 108 FERC ¶ 61,163 at P 263).

175. Powerex questions CAISO's proposed approach to calculating the average system-wide divergence. Powerex states that CAISO proposes to calculate the average divergence for the CAISO balancing authority area. Powerex states that this is an extremely broad area encompassing thousands of eligible pricing nodes, many of which may not see any price divergence between day-ahead and real-time prices, or which may see "negative" divergences (e.g., where real-time prices exceed day-ahead prices). Powerex states that CAISO's sweeping approach to calculating the average will tend to depress CAISO's system-wide average, increasing the likelihood that the more substantial divergences will exceed the threshold by the designated amount and subject entities submitting convergence bids at those nodes to the risk that their activity will be limited or suspended. At a minimum, Powerex states that CAISO should exclude any "negative" price divergences from its system-wide average calculations, by providing that: (1) the average for virtual supply bids should exclude divergences at points where the real-time price is greater than or equal to the day-ahead price; and (2) the average for virtual demand bids should exclude divergences at points where the day-ahead price is greater than or equal to the real-time price.

176. In the event CAISO is responding to a reliability concern in limiting or suspending an entity's convergence bidding activity, Powerex argues that the Commission should direct CAISO to communicate to the scheduling coordinator the specific activity that impacts reliability and what the scheduling coordinator must do to remedy the situation. Powerex states that this additional transparency and communication should reduce reliability concerns in CAISO's markets.

Answer

177. CAISO notes in its answer that in the case of the Midwest ISO, the Commission did not state that including a percentage threshold in the tariff was necessary to establish clear, objectively identifiable standards. CAISO contends that the Midwest ISO chose to add the threshold percentage to its tariff as a means of satisfying the Commission's directive. CAISO asserts that it is not required to replicate the means that the Midwest ISO chose to clarify its authority to suspend or limit virtual bidding.

178. CAISO argues that the types of exclusions proposed for the calculation of the system-wide price divergence are fundamentally incompatible with CAISO's approach to determining whether convergence bidding activity causes unwarranted divergence. CAISO states that it proposes to calculate the system-wide average divergence of prices and then use that as a benchmark against which to compare price divergence for specific locations. CAISO adds that its proposed system-wide average will reflect only a difference in actual prices and will not require the calculation of averages for specific types of convergence bids.

179. CAISO agrees that activity that is found to "significantly contribute" to an excess divergence is necessarily "causal" in nature. CAISO states that it would not object to

substituting “cause” for “significantly contributed to” or “contributes” throughout tariff section 39.11.2.2(b) and -(c) in a compliance filing.

180. CAISO argues that no additional detail is required regarding its ability to suspend convergence bidding because the tariff already lists the various actions CAISO may take in the event of a market disruption, to prevent a market disruption, or to minimize the extent of a market disruption. CAISO adds that if it ever suspends or limits virtual bidding by all scheduling coordinators pursuant to tariff section 7.7.15.1(h) CAISO will be required by its tariff to file a detailed report on the actions taken by CAISO.

181. CAISO notes that its proposed tariff language already provides for communication with an entity subject to suspension or limitation. So, an additional requirement that, in the event CAISO is responding to a reliability concern in limiting or suspending an entity’s convergence bidding activity, CAISO should communicate to the scheduling coordinator is unnecessary.

Commission Determination

182. We find that CAISO’s proposed authority to suspend or limit the ability of one or more scheduling coordinators to submit convergence bids when that convergence bidding activity detrimentally affects system reliability or grid operations as proposed in tariff section 39.11.2.2(a) is just and reasonable. CAISO provides criteria regarding the activity that can “detrimentally affect” system reliability or grid operations. Further, we find the authority to suspend a scheduling coordinator’s activity is consistent with other CAISO Tariff provisions providing suspension authority in instances where CAISO reliability or operations is at issue.⁸⁷ However, we find that CAISO’s proposal to refer its suspension decisions related to reliability and operations concerns is unnecessary and therefore direct CAISO to remove the requirement that it refer such reliability-related suspension decisions to the Commission.

183. Also, we find that CAISO’s proposed suspension authority in the case of price divergences described in proposed tariff sections 39.11.2.2 (b, c) is not acceptable. CAISO’s price divergence concerns do not directly concern system reliability or grid operations and are more akin to Market Violations⁸⁸ or Rules of Conduct⁸⁹ violations.

⁸⁷ See CAISO Tariff section 4.5.1.2.2.1.

⁸⁸ 18 C.F.R. § 35.28(b)(8) (2010) (“Market Violation means a tariff violation, violation of a Commission-approved order, rule or regulation, market manipulation, or inappropriate dispatch that creates substantial concerns regarding unnecessary market inefficiencies.”).

184. Further, we find that CAISO's proposal to refer its suspension decisions regarding price divergence to the Commission is inconsistent with the procedures outlined in the Commission's November 19 order addressing CAISO's compliance filing related to Order No. 719 and the existing CAISO Tariff.⁹⁰

185. The CAISO Tariff, section 11 of Appendix P, in conformity with Order No. 719, addresses the process for CAISO's DMM to refer matters to the Commission's Office of Enforcement. The CAISO Tariff's referral process does not allow for CAISO to condition its suspension activities upon Commission action, nor to seek a Commission determination on its suspensions. The CAISO Tariff states,

DMM shall make a non-public referral to the Commission in all instances where DMM has reason to believe that a Market Violation has occurred. DMM's non-public referral shall provide sufficient credible information to warrant further investigation by the Commission. Once DMM has obtained sufficient credible information to warrant referral to the Commission, DMM shall immediately refer the matter to the Commission and desist from independent action related to the alleged Market Violation.^[91]

186. Therefore, for a violation to be referred to the Commission, the proposal should provide that the activity in question is a Market Violation (e.g., it should be clear from the tariff language that the conduct in question is prohibited), and should indicate that the DMM is to make a referral to the Commission for suspected violations of the provision.

187. Alternatively, CAISO may propose to impose its own sanction for a violation, in which case no referral to the Commission would be made absent other evidence of referable activity. The Commission laid out the requirements for such provisions, which are designated Rules of Conduct⁹² in the CAISO Tariff, in the November 19 Order:

In order for an RTO or ISO to impose its own sanction for a given activity, three qualifications must be met:

(1) The activity must be expressly set forth in the tariff,

⁸⁹ See CAISO Tariff section 37.

⁹⁰ *Cal. Indep. Sys. Operator Inc.*, 129 FERC ¶ 61,157, at P 96-101, 136 (2009) (November 19 Order).

⁹¹ See CAISO Tariff, Appendix P, section 11.1.

⁹² *Id.* section 37.

- (2) The activity must involve objectively identifiable behavior, and
- (3) The activity does not subject the actor to sanctions or consequences other than those expressly approved by the Commission and set forth in the tariff, with the right of appeal to the Commission.^{93]}

188. While CAISO's proposal with respect to price divergences may meet certain of the qualifications for ISO-imposed sanctions, it fails to meet all of them. For instance, CAISO's proposed tariff language in sections 39.11.2.2 (b, c) describes actions that CAISO "may" take to suspend a scheduling coordinator from submitting convergence bids. Further, although CAISO does provide detailed and objective language regarding determining if convergence bidding caused "unwarranted divergence" in shadow prices in the day-ahead market and the HASP or real-time market, CAISO does not provide detailed and objective language regarding determining whether such divergences in shadow prices caused a "significant divergence" in LMP at any eligible pricing node.⁹⁴ Such tariff language provides CAISO too much discretion, and the requirement of objectivity is not met.⁹⁵

189. We note that the Midwest ISO Tariff does not provide such discretion and states that if certain conditions are met "the Transmission Provider shall limit the hourly quantities of Virtual Offers or Bids for supply or Load that may be offered in a location by a Market Participant."⁹⁶ We further note that the MISO tariff does not direct that such suspensions be referred to the Commission.⁹⁷

190. As stated above, the Commission directs CAISO to remove the suspension referral to the Commission in instances concerning reliability and operations. Also, CAISO must clarify whether its price divergence provisions are Rules of Conduct violations that permit CAISO to employ sanctions (in which case CAISO must make its authority less subjective and define "significant divergence", as explained above), or whether its price

⁹³ November 19 Order, 129 FERC ¶ 61,157 at P 98 (citing Policy Statement on Market Monitoring Units, *Market Monitoring Units in Transmission Organizations and Independent System Operators*, 111 FERC ¶ 61,267, at P 5 (2005)).

⁹⁴ See proposed CAISO Tariff section 39.11.2.2(c).

⁹⁵ See Order No. 719 at P 379.

⁹⁶ MISO Tariff section 65.5.3.

⁹⁷ *Id.*

divergence provisions are Market Violations (in which case the suspected violation is reported to the Commission's Office of Enforcement through the DMM, and CAISO cannot employ its own sanctions). The Commission directs CAISO to make a compliance filing with the necessary tariff revisions within 30 days of the date of this order.

191. Regarding CAISO's proposal to include the system-wide average divergence threshold in the BPM and not in the tariff, as noted above, utilities must file "those practices that affect rates and service significantly, that are realistically susceptible of specification, and that are not so generally understood in any contractual arrangement as to render recitation superfluous."⁹⁸ We find that the system-wide average divergence threshold constitutes practices, rules, and regulations that affect rates and service. Accordingly, we direct CAISO to submit a compliance filing no later than 30 days from the date of this order that includes tariff changes necessitated by the inclusion of the the system-wide average divergence threshold.

192. The Commission disagrees with Powerex's claim that CAISO's proposed calculation of the system-wide divergence is too broad and should not include certain instances when there is "negative" price divergence. Also, if "negative" price divergence is part of the overall system's pricing, those divergences should be included in the calculation of the average price divergence.

193. The Commission finds that CAISO does not need to provide additional detail regarding CAISO's ability to suspend or limit the ability of all scheduling coordinators to submit virtual bids. As CAISO notes, tariff section 7.7.15.1 applies only in the event of a market disruption, and the level of detail provided concerning the suspension of virtual bidding is consistent with the detail provided concerning other measures CAISO can take in such instances, including "clos[ing] the applicable CASIO Market." Further, the Commission finds the reports required by the tariff will provide a complete explanation of CAISO actions taken.

194. The Commission finds CAISO's tariff provisions regarding communicating to parties, when practicable, prior to suspension are sufficient to provide the notice requested by Powerex regarding reliability concerns.⁹⁹ In addition, we find the tariff requires the exchange of information with scheduling coordinators in order to resolve any disputes regarding the notice of suspension.

⁹⁸ *KeySpan Ravenswood v. FERC*, 474 F.3d 804, 811 (D.C. Cir. 2007) (citing *City of Cleveland v. FERC*, 773 F.2d 1368, 1376 (D.C. Cir. 1985)); *see also Cal. Indep. Sys. Operator Corp.*, 122 FERC ¶ 61,271 (2008).

⁹⁹ Proposed CAISO Tariff section 39.11.2.3(a).

195. The Commission accepts CAISO's offer to substitute "cause" for "significantly contributed to" or "contributes" throughout the subject tariff section and directs CAISO to include the changes in a compliance filing within 30 days of the date of this order.

I. AC Solution

196. In the Convergence Bidding Design Order, the Commission approved in principle CAISO's plan to enforce megawatt constraints that limit the number of bids that clear at a particular location, or set of locations, in the IFM, if an AC solution (a system run in which all constraints on the network are enforced) is not otherwise attainable.¹⁰⁰ The Commission also found that more detail is necessary to explain how CAISO will accomplish this while minimizing manual intrusion in the market and ensuring physical and virtual bids are treated equally.

197. CAISO's proposal provides that it will apply nodal megawatt constraints to eligible pricing nodes if it is impracticable to achieve an AC solution. CAISO adds that the megawatt limit constraints will be primarily automated in nature and will involve only minimal manual action by CAISO.

198. According to CAISO, market software will rank the eligible nodes or groups of nodes that exceed their megawatt limits by the extent to which their corresponding megawatt limits would be exceeded. Starting at the top of that list of candidates for causing AC convergence issues, the market software will apply the megawatt limits to all energy supply bids, demand bids, and virtual bids and run iterations of the IFM until the CAISO markets can achieve an AC solution. CAISO claims that the only manual action by CAISO will be determining how far down the list CAISO needs to go before it runs each iteration of the IFM. Also, according to CAISO, the nodal megawatt constraints will not discriminate between physical and virtual bids.

Comments

199. WPTF submits that the CAISO proposal to curtail both physical and virtual bids is a reasonable approach to this potential problem and does not believe it is productive for CAISO to pursue any other design options at this point. However, WPTF encourages the Commission to require CAISO to submit a report six months after convergence bidding implementation detailing the instances in which the MW curtailments were triggered, the extent of the MW curtailments and the market impacts of those curtailments. WPTF also

¹⁰⁰ Convergence Bidding Design Order at P 93.

asks that the Commission allow parties at that time to comment about the reasonableness of CAISO's implementation of this design feature.¹⁰¹

200. Similarly, NCPA suggests that CAISO be required to file a monthly report with the Commission regarding CAISO's progress in reaching a consistent AC solution with convergence bids for the first 12 months following implementation of convergence bidding.¹⁰²

Answer

201. CAISO argues that the Commission should not require CAISO to file monthly reports and states that it plans to post sufficient information on its OASIS to provide transparency to market participants. Specifically, CAISO states that it will provide on the OASIS all transmission flowgate constraints with the corresponding shadow costs, and the presence of a non-zero shadow cost will indicate that a particular constraint was triggered due to an issue with the AC solution that could be related to that constraint or other nodal constraints. CAISO claims that the provision of this information will allow market participants to identify when nodal constraints were triggered in order to ensure an AC solution from other normal transmission constraints. Further, CAISO plans to summarize and report on the AC solution periodically in the regularly scheduled public meetings of CAISO's Market Performance and Planning Forum.

Commission Determination

202. Consistent with our guidance in the Convergence Bidding Design Order, we find reasonable CAISO's proposed tariff provisions that enforce megawatt constraints in the integrated forward market when an AC solution is not otherwise attainable.¹⁰³ The proposed tariff provisions will help ensure that CAISO is able to obtain an AC solution when clearing its markets.

203. In the Convergence Bidding Design Order, we declined to impose a reporting requirement associated with the enforcement of megawatts constraints. We recognize CAISO's commitment to provide related information on the CAISO website. Therefore, while we will not direct CAISO to submit a report to the Commission that details such information, we do direct CAISO provide this information to market participants through

¹⁰¹ Dynegy joins WPTF's request that the Commission direct the CAISO report on (1) virtual bids and bid cost recovery, and (2) the practice of curtailing bids to achieve an Alternating Current solution six months after convergence bidding implementation.

¹⁰² NCPA Comments at 4-5.

¹⁰³ Convergence Bidding Design Order at P 93.

postings on OASIS as CAISO has stated it will and to revise its tariff to reflect this requirement. We direct CAISO to make a compliance filing consistent with this direction within 30 days of the date of this order.

J. Credit

204. In the Convergence Bidding Design Order, the Commission found reasonable CAISO's proposal to modify its credit policy to ensure convergence bidders meet CAISO's credit requirements. As in its conceptual filing, under CAISO's proposal, it proposes to perform credit checks on convergence bids submitted in the day-ahead market as part of the bid validation process. Also, CAISO proposes to apply the 95th percentile value of the price difference between the real-time and day-ahead markets to determine the required credit.

205. CAISO also proposes that if CAISO experiences an extended unavailability of the convergence bidding credit functionality, CAISO could suspend virtual bidding temporarily until the functionality is restored.

Comments

206. Financial Marketers raise the same issues raised regarding the conceptual filing, including that there is no evidence to suggest that using the 95th percentile value is necessary to protect the market. Financial Marketers state that CAISO's proposed credit requirements unreasonably seek to ensure that no convergence bidder could ever default, even under the worst of worst-case, theoretical scenarios. Financial Marketers contend that such an approach would do considerably more harm to the market than good. Financial Marketers contend CAISO's proposed credit requirements would unjustifiably limit the number and volume of convergence bids, diminishing the many benefits to the market that virtual trading can bring.

207. Financial Marketers contend that virtual demand bids should be valued based on the lesser of: (i) the Reference price calculated using the 50th percentile; and (ii) the bid price. In situations in which the bid price is lower than the Reference price, Financial Marketers argue that the bid price establishes the bidder's maximum exposure. By using the Reference price in these situations instead of the bid price, Financial Marketers state that CAISO unreasonably assumes that the market participant would have to pay to have CAISO take back its energy in the real-time market.

Answer

208. By arguing that CAISO should use a 50th percentile value rather than the 95th percentile value the Commission previously approved, CAISO claims that the Financial Marketers are essentially asserting that the Convergence Bidding Design Order is in error because this argument was already addressed. Therefore, CAISO contends that although

not styled as such, the Financial Marketers' argument constitutes a request for rehearing of that Order. CAISO asserts that court and Commission precedent clearly state that the Commission is barred by section 313(a) of the Federal Power Act from considering any request for rehearing that is submitted more than 30 days after the issuance of the order that the request for rehearing concerns.¹⁰⁴

209. Also, CAISO argues that the Commission has stated that it will reject protests on a filing that constitute untimely requests for rehearing of, and thus collateral attacks on, the underlying order.¹⁰⁵ CAISO claims that the Financial Marketers have simply copied and pasted their failed arguments from one protest into another. CAISO asserts that the Commission should reject the Financial Marketers' repetitive arguments in the instant proceeding as collateral attacks on the directives in the Convergence Bidding Design Order.

Commission Determination

210. We find that Financial Marketer's verbatim resubmission of its arguments constitute a collateral attack on the Convergence Bidding Design Order.¹⁰⁶ The Commission addressed these arguments in the Convergence Bidding Design Order, and there was no rehearing request made on those determinations. Therefore, the Commission rejects these arguments as a collateral attack.

211. Further, as explained in the Convergence Bidding Design Order, CAISO's proposed credit policy strikes an appropriate balance "in that it should adequately protect other market participants from financial risk, while not discouraging the active

¹⁰⁴ CAISO Answer at 27 (citing *Cities of Campbell v. FERC*, 770 F.2d 1180, 1183 (D.C. Cir. 1985); *Boston Gas Co. v. FERC*, 575 F.2d 975, 977-78 (1st Cir. 1978); *Alabama Electric Cooperative, Inc.*, 116 FERC ¶ 61,115 (2006)).

¹⁰⁵ *Id.* at 28 (citing *Cal. Indep. Sys. Operator Corp.*, 119 FERC ¶ 61,053, at P 13 (2007) ("[T]hese protests should have been raised on rehearing and/or clarification of the January 22 Order, and therefore we reject their requests to alter the CAISO's compliance filing as untimely and a collateral attack on the Commission's January 22 Order"); *Southwest Power Pool, Inc.*, 116 FERC ¶ 61,053, at P 102 (2006) ("We find that the comments of the New Mexico Attorney General and Southwest Industrials . . . are untimely requests for rehearing of the *SPP Market Order* and outside the scope of the instant filing.")).

¹⁰⁶ See *Cal. Indep. Sys. Operator Corp.*, 119 FERC ¶ 61,053 at P 13; *Southwest Power Pool, Inc.*, 116 FERC ¶ 61,053 at P 102.

participation of convergence bidders in the CAISO's energy markets."¹⁰⁷ First, the Commission specifically found that the use of "a 95th percentile reference price for determining credit requirements is appropriate."¹⁰⁸ As explained in the Convergence Bidding Design Order, the Commission has previously found the use of a 97th percentile value to be just and reasonable and not overly conservative for PJM and the New York ISO.¹⁰⁹ We again point out that CAISO's proposal is consistent with these previously approved percentile values, and based on the lack of evidence to the contrary, we disagree with Financial Marketers that CAISO's proposal is overly conservative.

212. Second, we again decline to direct CAISO to use the lesser of the reference price or default bid price in determining the potential exposure associated with a virtual demand bid. The reference price is a percentile value representing the likelihood of day-ahead and real-time price divergence that ultimately serves to predict settlement outcomes. In the Convergence Bidding Design Order, the Commission explained that "[f]or purposes of establishing appropriate credit coverage for convergence bidding transactions ...the reference price provides a much better measure of risk exposure." In the instant proceeding, we are not persuaded otherwise, and we note that the protest filed by Financial Marketers is nearly identical to the protest filed and addressed in the Convergence Bidding Design Order. Accordingly, we accept the proposed tariff provisions relating to credit requirements as filed.

K. Settlement

213. In the Convergence Bidding Design Order, the Commission found reasonable CAISO's proposal to establish certain charges for convergence bidding. CAISO proposed applying a settlements, metering and client relations charge of \$1,000/ month, a transaction fee of \$.005/submitted bid and a convergence bidding charge of approximately \$.065-.085/cleared MWh (to be determined through a stakeholder process). However, the Commission noted that it required details concerning the level of the charges before it could accept them.¹¹⁰

214. In the convergence bidding proposal, CAISO states that in order to implement the grid management charge-related provisions, it proposes to revise its tariff to add the new defined term "virtual award charge" for the convergence bidding charge. CAISO notes

¹⁰⁷ Convergence Bidding Design Order at P 104.

¹⁰⁸ *Id.*

¹⁰⁹ *Id.*

¹¹⁰ *Id.* P 111.

that its proposal does not include any tariff changes to make the existing settlements, metering, and client relations charge applicable to scheduling coordinators that only represent convergence bidders, because no tariff changes are needed to achieve that result. Also, according to CAISO, the proposal does not include any tariff changes specifying the level of the virtual award charge, because the exact level of that charge has not yet been finalized in the stakeholder process. CAISO maintains that it will file the tariff language to implement that charge in a subsequent proceeding when the exact level of the virtual award charge is determined, and it will submit its filing in time for the Commission to issue an order on it prior to convergence bidding's planned February 1, 2011 implementation date.

215. Also, CAISO proposes to revise its tariff to add the new defined term "virtual bid submission charge" for the transaction fee. Further, CAISO proposes to revise the tariff to state that the types of charges that CAISO will settle will include virtual bid submission charges, and to add a new section to the tariff to include the virtual bid submission charge of \$0.005 per submitted convergence bid segment.

216. CAISO adds that in the Convergence Bidding Design Order, the Commission recommended that CAISO monitor whether the virtual bid submission charge continues to be needed after it is implemented and to "consider eliminating it at such time that it proves to be unnecessary." CAISO states that it will monitor the continued need for the virtual bid submission charge pursuant to that Commission directive.

Comments

217. With respect to the grid management charge, Powerex supports CAISO's proposal to only apply certain service charges to convergence bidding, and proposal to create a new "virtual award charge" as consistent with cost causation principles.

Commission Determination

218. The Commission finds the proposed settlements, netting and client relations charge and the transaction fee to be just and reasonable, consistent with our determination in the Convergence Bidding Design Order.¹¹¹ Also, consistent with the Convergence Bidding Design Order, the Commission does not make a determination regarding the level of the virtual award charge because CAISO has not filed that with the Commission.¹¹² However, the proposed tariff language concerning the virtual award charge is ambiguous without the corresponding information regarding the amount of the

¹¹¹ Convergence Bidding Design Order at P 114-15.

¹¹² *Id.* P 113.

virtual award charge, which CAISO claims is the subject of another stakeholder process. As it stands now, the proposed tariff language refers to the virtual award charge as “a percentage of the Forward Scheduling Charge and Market Usage – Forward Energy services categories.”¹¹³ The “a percentage” language is unclear and could be read to provide CAISO too much discretion without the agreed upon amount of the Virtual Award Charge included in the tariff. Therefore, the Commission directs CAISO to revise this language to remove the ambiguity in a compliance filing to be filed within 30 days of the date of this order.

L. Bid Floor

219. SoCal Edison argues that the Commission should require the CASO to include tariff revisions that would prohibit virtual bids from bidding below the bid floor.¹¹⁴ SoCal Edison states that the CAISO tariff revisions modify the definition of Energy Bid to include virtual bids. As a result, according to SoCal Edison, tariff section 39.6.1.4 would allow virtual bids to be submitted at a price below the bid floor price of -\$30/MWh and be paid that price upon the submission of detailed information justifying the cost components of the bid.

Answer

220. CAISO proposes to make this clarification by including the sentence “Virtual Bids may not be less than -\$30/MWh” in section 39.6.1.4 of its tariff.

Commission Determination

221. The Commission directs CAISO to add the proposed provision making clear that virtual bids cannot be less than the bid floor within 30 days of the date of this order.

M. Bid Aggregation

222. In the Convergence Bidding Design Order, the Commission directed CAISO to provide additional detail and explanation regarding the bid aggregation element of the proposal.¹¹⁵ In the convergence bidding proposal, CAISO explained that since the implementation of convergence bidding has the potential to increase the number of bids in the day-ahead market to a level that CAISO’s day-ahead market software cannot

¹¹³ Proposed CAISO Tariff, Appendix F, schedule 1, Part A, section 9.

¹¹⁴ SoCal Edison Comments at 20.

¹¹⁵ Convergence Bidding Design Order at P 38.

handle, it proposes to enhance the existing software to aggregate all of the virtual bids at each location to create one composite virtual bid curve for virtual supply and virtual demand, and later to de-aggregate the virtual bid results into individual cleared virtual bid results and publish them.¹¹⁶ CAISO continues that the process for aggregating and de-aggregating virtual bids is simply an implementation detail that needs to be built into CAISO's automated market software in order to enable the market software to handle any large influx of virtual bids.¹¹⁷ CAISO detailed its daily process once it incorporates this feature into the market software.

223. CAISO contends that the process for aggregating and de-aggregating virtual bids will have no impact on market participants because this feature of the convergence bidding design does not impose any conditions on market participants and does not affect any rate or term.¹¹⁸

Commission Determination

224. The Commission accepts CAISO's explanation regarding its proposed bid aggregation system as a technique necessary for the software to run properly that will not impact market participants and is therefore just and reasonable.

N. Local Market Power Mitigation

225. CAISO states that, for the initial implementation of convergence bidding, it proposes to apply its existing local market power mitigation (LMPM) and reliability requirements to mitigate physical bid-in generation only, in both the competitive constraint run and all constraint run, which will be based on forecast demand. CAISO states that it does not intend to consider virtual supply bids in the local market power mitigation process. CAISO adds that it plans to continue to use forecast demand, rather than bid-in demand.

Comments

226. Based on the experience of the eastern ISO/RTOs, the CPUC understands that virtual bids will set the market clearing price a significant percentage of time in the day-ahead market. The CPUC therefore is concerned that the current LMPM process will not be able to mitigate virtual bids. The CPUC contends that the more robust LMPM tool

¹¹⁶ Convergence Bidding Proposal at 5-6.

¹¹⁷ *Id.* at 6 (citing Attachment C, declaration of Dr. Abdul-Rahman).

¹¹⁸ *Id.* at 7.

once proposed by the DMM as “Option B” is the better choice. The CPUC states that, according to the DMM, with Option B all physical and virtual demand and supply bids would be included in both the competitive constraints and in the all constraint runs.

227. The CPUC states that Option B is also consistent with the Commission’s directive to use bid-in demand in LMPM (rather than forecasted demand as indicated in CAISO’s current proposal) within three years after the start-up of MRTU. The CPUC states that CAISO has not explained why it would be infeasible to launch virtual bidding with the Option B LMPM tool. The CPUC states that implementing Option B concurrently with virtual bidding would mean that CAISO would not have to modify the LMPM mechanism twelve months after virtual bidding is introduced in February 2011.

Answer

228. CAISO states that the Commission should reject this argument because it has already made its finding on the issue the CPUC raises. In response to these arguments, the Commission stated in the Convergence Bidding Design Order that “[w]e are not persuaded that the implementation of convergence bidding requires expediting the timeline for using bid-in demand. . . . Therefore, we will not require the CAISO to begin using bid-in demand simultaneously with the implementation of convergence bidding.”¹¹⁹ CAISO believes Option B should be evaluated as an option for possible future implementation and plans to evaluate possible enhancements to the LMPM process, including Option B. However, CAISO states that the details of such possible enhancements have not yet been vetted by CAISO and stakeholders. CAISO will initiate a stakeholder process to evaluate possible approaches, and, after opportunity for stakeholder review and comment, CAISO plans to prepare and submit for Commission approval a proposal. CAISO asserts that that stakeholder process should not be short-circuited by a premature requirement to implement Option B that the Commission expressly rejected in the Convergence Bidding Design Order.

Commission Determination

229. As stated above, we find the resubmission of arguments made concerning the Convergence Bidding Design Filing to be a collateral attack against the Convergence Bidding Design Order and reject them as such.

230. Further, we will accept CAISO’s proposal to apply its current LMPM mechanism to physical bids only. We will also accept CAISO’s proposed use of forecast demand (as opposed to bid-in demand) in its LMPM. We will not require CAISO to implement Option B at this time because the CAISO will initiate a stakeholder process to consider

¹¹⁹ CAISO Answer at 24 (citing Convergence Bidding Design Order at P 86).

this option. Also, the Commission has already addressed the issue of using forecasted demand as a basis for local market power mitigation.¹²⁰ Further, we have already addressed the CPUC's concerns in the Convergence Bidding Design Order.¹²¹ As before, we are not persuaded that the implementation of convergence bidding requires expediting the timeline for using bid-in demand.

O. Hold Harmless

231. SWP asserts that there should be "hold harmless protections" to protect market participants who may be injured as a result of convergence bidding. SWP asserts that the Commission should require CAISO to establish a mechanism to make market participants whole in the event that they are harmed when convergence bidding activities "undermine the ISO's local market power mitigation measures, create infeasible schedules, or impact congestion for the purpose of gaming congestion revenue rights."¹²² SWP states that, among other things, settlements from improper convergence bidding activities should be reversed so that improper activities are not rewarded and market participants that have been harmed should be held harmless from such improper activities.

Answer

232. CAISO contends that disgorgement of profits is a civil remedy that may be available pursuant to a Commission finding that disgorgement is justified on a case-by-case basis and is not a remedy that CAISO can enforce. Therefore, CAISO contend that it should not be required to make findings as to disgorgement of profits and the allocation of proceeds resulting from disgorgement.

Commission Determination

233. The Commission finds that it would be inappropriate for CAISO to include a provision such as the one suggested by SWP in its tariff. The CAISO tariff is not the place to outline potential remedies that one market participant may have over another.

P. Bid Cost Recovery

234. DC Energy and WPTF note that, in stakeholder meetings, CAISO acknowledged the possibility that virtual supply could be paid a price lower than their offer or virtual

¹²⁰ See *Cal. Indep. Sys. Operator Corp.*, 119 FERC ¶ 61,076, at P 496 (2007).

¹²¹ Convergence Bidding Design Order at P 86.

¹²² SWP Comments at 3 (quoting CAISO's Convergence Bidding Proposal at 10).

demand could be charged a price higher than its bid. Further, WPTF participants have experienced substantive effects of such conditions in the New York ISO markets.¹²³ WPTF notes that CAISO has indicated it will monitor this issue and “consider a possible future tariff amendment in the event there [sic] market results demonstrate that there is an energy bid cost recovery issue for virtual awards.”¹²⁴ WPTF appreciates this commitment, but asks that the Commission give additional visibility to this issue by directing CAISO to submit a report on this issue six months following convergence bidding implementation.

Answer

235. CAISO states that there is little or no risk that virtual awards would be less than the energy bid cost (and market participants agree that there are no start-up or minimum load bid costs). CAISO states that it will monitor the convergence bidding markets and consider a possible future tariff amendment in the event that market results demonstrate that there is an energy bid cost recovery issue for virtual awards. CAISO contends that in the absence of such market results, it should not be required to provide bid cost recovery for virtual bids at this time. CAISO states that bid cost recovery is a very complex market design element and presents software implementation issues due to the netting features associated with bid cost recovery.

236. CAISO also states that it agrees to submit a report to the Commission on the bid cost recovery issue, as requested by WPTF. However, CAISO believes that six months will not be enough time for the report to reflect meaningful market results, and thus proposes to complete a report on this issue no more than 12 months after convergence bidding is implemented. CAISO believes there is no need to file the report with the Commission but will instead include it in one of the publicly available market reports that CAISO periodically provides to market participants or to the CAISO Governing Board.

Commission Determination

237. The Commission finds there is no evidence that virtual awards would be inadequately paid or charged. Also, it would be unduly burdensome to require tariff

¹²³ WPTF Comments at 26 (citing NYISO Discussion presentation, “Day-Ahead Schedule Setting Alternatives,” presented by the Market Issues Working Group, August 13, 2008, describing effects on virtual bidders estimated at \$17,000 per month (slide 6) resulting from differences between the dispatch schedule results and pricing results. (http://www.nyiso.com/public/webdocs/committees/bic_miwg/meeting_materials/2008-08-13/Day_Ahead_Schedule_Setting_Alternatives.pdf)).

¹²⁴ *Id.* (citing Convergence Bidding Proposal at 33 n.83).

changes to implement bid cost recovery for convergence bidders, given both the remote possibility that this situation would occur and the implementation complexity required for CAISO to adjust its software. Instead, we will direct CAISO to file such an informational report with the Commission twelve months after the initial implementation of convergence bidding.¹²⁵

Q. Miscellaneous and Typographical Issues

238. CAISO proposes to make a number of “clean up” tariff changes including refining section titles, adjusting section numbering and adding “EAL” as an abbreviation for the defined term “estimated aggregate liability.” Commenters also noted some other miscellaneous edits.

Comments

1. Section 11.8.6.4.1 (v)

239. SoCal Edison claims that the proposed tariff language to determine the IFM uplift obligation for virtual demand is inconsistent with CAISO’s policy design and should be modified to conform to the cost allocation rules described in the Convergence Bidding External Business Requirements Specification.¹²⁶ In determining net virtual demands contribution to the IFM clearing above measured demand, the tariff language incorrectly subtracts net virtual demand from the quantity of physical demand that cleared the IFM. Rather, according to SoCal Edison, the calculation should be modified to simply be the difference between IFM cleared physical demand and measured demand. To address this inconsistency, SoCal Edison requests the Commission require CAISO to make the following change to tariff section 11.8.6.4.1 (v).

(v) The IFM system-wide Virtual Demand Award uplift obligation is calculated for each hour in the IFM and is equal to maximum of zero (0) or the following quantity: the total system-wide Virtual Demand Awards from the IFM minus the total system-wide Virtual Supply Awards from the IFM, plus the minimum of zero (0) or the following quantity: the total amount of Scheduled Demand (~~which excludes Virtual Demand Awards~~), ~~minus net Virtual Demand Awards~~ minus Measured Demand.

¹²⁵ The Commission intends to treat this report as informational. As such, the Commission does not intend to set the informational report for notice and comment, nor issue an order on it.

¹²⁶ SoCal Edison Comments at 21.

240. PG&E claims that the second occurrence of the phrase, “minus net Virtual Demand Awards” is redundant and should be removed from proposed tariff section 11.8.6.4.1(v).¹²⁷ WPTF states that it has discussed this issue with CAISO personnel, who agree that this formula is erroneous. WPTF expects CAISO will propose language to correct these errors in a subsequent filing.

2. Section 11.32

241. Parties argue that the provisions described in tariff section 11.32 are to apply to both imports and exports cleared in the day-ahead market, however, the tariff language being proposed only includes provisions for import schedules.¹²⁸ Parties state that this provision has been inadvertently omitted from the filed language and requests the Commission require CAISO to augment the proposed revisions to tariff section 11.32 to reinstate language that would subject export schedules to the provision set forth in tariff section 11.32. Based on materials provided during the CAISO stakeholder process preceding this filing, parties contends that subsection (ii) of this section has been inadvertently deleted and claims that the stakeholder process version of this section of the tariff should be used.¹²⁹

3. Section 12.8.4

242. SoCal Edison notes that when describing the adjustment of estimated aggregate liability after the close of the real-time market the language uses term “day-ahead LPM” in multiple sentences.¹³⁰ To be consistent with tariff defined terms, SoCal Edison states the term should be rewritten as “day-ahead LMP.” SoCal Edison requests the Commission require CAISO to update its proposed language to use the correct terminology.

4. Section 11.2.4.1

243. Parties contend that when describing the IFM marginal cost of congestion (MCC) amount for supply the proposed tariff language incorrectly states that virtual demand awards will be used to determine the IFM MCC supply component of the IFM congestion

¹²⁷ PG&E Comments at 24.

¹²⁸ SoCal Edison Comments at 21-22.

¹²⁹ PG&E Comments at 24.

¹³⁰ SoCal Edison Comments at 22.

charge.¹³¹ Parties state that the description of the IFM MCC amount of supply should consider virtual supply awards, not virtual demand awards.

244. Powerex notes that in proposed tariff section 11.8.6.4, the word “Section” appears to be missing before “11.8.6.3.” The corrected language should read: “...ratio as determined in Section 11.8.6.3.”

5. Section 30.9

245. Powerex contends that in tariff section 30.9, CAISO appears to have unintentionally omitted interties from the list of eligible convergence bidding locations. Powerex believes this section should read: “Virtual Bids are Energy Bids that may be submitted only in the Day-Ahead Market, at Eligible PNodes, or Eligible Aggregated PNodes, or Interties”

6. Section 30.10

246. Parties add that proposed tariff section 30.10 appears to include an incorrect reference to tariff section 31.9. The correct reference should be to tariff section 31.8.

Answer

247. In its answer, in tariff section 11.8.6.4.1(v), CAISO agrees that the sentence should be corrected and proposes to delete the phrase “minus net Virtual Demand Awards.” Also, in tariff section 11.8.6.4, CAISO proposes to add the word “section” to this provision.

248. Further, CAISO agrees that tariff section 11.32(ii) should be included in tariff section 11.32 in the form presented to stakeholders in the last draft of the tariff language. Thus, CAISO proposes to add to tariff section 11.32 a provision stating:

The CAISO will charge the Scheduling Coordinator the positive difference between the HASP price and the Day-Ahead Market price applicable to any exports that clear the Day-Ahead Market and are reduced in the HASP for which the Scheduling Coordinator has failed to submit an E-Tag or E-Tags consistent with the Scheduling Coordinator’s Day-Ahead Schedule and WECC scheduling criteria.

¹³¹ *Id.*

249. Also, CAISO acknowledges the typographical errors noted by parties in tariff section 11.2.4.1 and proposes to revise tariff section 11.2.4.1 to change “Virtual Demand Award” to “Virtual Supply Award” where appropriate.

250. Additionally, CAISO proposes to make the change to “Day-Ahead LMP” in tariff section 12.8.4. Further, CAISO proposes to change the reference to tariff section 31.9 to 31.8 in proposed tariff section 30.10.

251. Also, CAISO proposes to make certain changes to miscellaneous and typographical errors including, deleting an inadvertently included “not” in proposed tariff section 12.2.4.6(b); including a cross reference to tariff section 11.32 in section 11.4; integrating the concept of adjustments made as a result of the new proposed HASP intertie adjustment rule in tariff section 11.8.6.6; correcting the use of defined terms in sections 11.8.6.5.3.1(ii), (iv); changing a reference to “virtual supply” to “virtual demand” in tariff section 12.8.2; and revising the last sentence of tariff section 11.32 to make it consistent with other sections.

Commission Determination

252. The Commission accepts CAISO proposed miscellaneous and typographical edits as they make the tariff language more clear and consistent and directs CAISO to file the revisions proposed in CAISO’s answer within 30 days of the date of this order.

253. Also, the Commission finds that CAISO should modify the definition of “Virtual Bids” in tariff section 30.9 to make clear that virtual bids can be submitted at interties and directs CAISO to make the revision within 30 days of the date of this order.¹³²

The Commission orders:

(A) CAISO’s tariff revisions for its convergence bidding proposal are hereby conditionally accepted, effective as requested, as discussed in the body of this order.

¹³² See proposed CAISO Tariff section 30.7.3.6.3 (including intertie bids as virtual bids).

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(B) CAISO is hereby directed to submit a compliance filing within 30 days of the date of this order, as discussed in the body of this order.

By the Commission.

(S E A L)

Kimberly D. Bose,
Secretary.