128 FERC ¶ 61,282
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Jon Wellinghoff, Chairman;
Suedeen G. Kelly, Marc Spitzer,
and Philip D. Moeller.

California Independent System Operator Corporation — Docket No. ER09-1529-000

ORDER ACCEPTING TARIFF MODIFICATIONS

(Issued September 29, 2009)

1. On July 31, 2009, the California Independent System Operator Corporation (CAISO) filed to revise its Market Redesign and Technology Upgrade (MRTU) tariff to implement changes regarding (1) recovery of start-up and minimum load costs; (2) financial settlements of congestion revenue rights (CRRs); and (3) the locational marginal price (LMP) of an electrically disconnected pricing node (pricing node).[1] The CAISO states that these changes are needed to better align operational outcomes with actual costs and to avoid the market or settlement distortions that have arisen from existing market rules.[2] This order grants waiver of the Commission's 60-day prior notice requirement[3] and accepts the CAISO's proposed tariff amendments, effective August 1, 2009, as discussed below.

I. Notice of Filing and Responsive Pleadings

2. Notice of the CAISO's filing was published in the *Federal Register*, 74 Fed. Reg. 40,177 (2009), with interventions and protests due on or before August 21, 2009. A timely notice of intervention was filed by the California Public Utilities Commission

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[1] CAISO July 31, 2009 Filing, Docket No. ER09-1529-000, at 1-2 (CAISO Filing).

[2] CAISO Filing at 1-2.

[3] 18 C.F.R. § 35.3 (2009).

(CPUC). Timely motions to intervene were filed by J.P. Morgan Ventures Energy Corporation and BE CA LLC (collectively, J.P. Morgan), Pacific Gas and Electric Company (PG&E), the California Department of Water Resources State Water Project (SWP), the Northern California Power Agency, the Western Power Trading Forum (WPTF), NRG Power Marketing LLC, Cabrillo Power I LLC, Cabrillo Power II LLC, El Segundo Power LLC, and Long Beach Generation LLC (collectively, NRG Companies), the City of Santa Clara, California, the Modesto Irrigation District, and Dynegy Morro Bay, LLC, Dynegy Moss Landing, LLC, Dynegy Oakland, LLC, and Dynegy South Bay, LLC (collectively, Dynegy). Comments were filed by J.P. Morgan, PG&E, SWP, and WPTF. The CPUC filed comments and a limited protest. The CAISO filed its answer on September 8, 2009.

II. Discussion

A. Procedural Matters

3. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2009), the timely notice of intervention and unopposed motions to intervene serve to make the entities that filed them parties to this proceeding.

4. Rule 213(a)(2) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a)(2) (2009), prohibits an answer to a protest unless otherwise ordered by the decisional authority. The Commission will accept the CAISO's answer because it has provided information that assisted us in our decision-making process.

B. Start-Up and Minimum Load Costs

1. Background

5. Under MRTU, resources are permitted to recover their start-up and minimum load costs. The MRTU tariff provides that a resource may semi-annually select one of two options (the proxy cost option or the registered cost option) for recovery of start-up and minimum load costs in the day-ahead and real-time energy markets.[4]

6. The proxy cost option is a cost-based recovery option that includes a fuel cost component that is updated on a daily basis to account for changes in the cost of gas in the daily spot market.[5] As approved for MRTU start-up, the registered cost option is a

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[4] *See* MRTU tariff section 30.4 (Election for Start-Up and Minimum Load Costs).

[5] *Id*. According to the CAISO, because this option is linked to the price of natural gas, the option gives the gas-fired unit owner protection against fuel-cost risks. CAISO Filing at 3.

market-based recovery option under which a resource submits start-up and minimum load bids that need not be reflective of actual costs and cannot be changed for a six-month period.[6] As previously approved, a resource's start-up and minimum load bids under the registered cost option were limited to 200 percent of a unit's projected costs for units in local capacity areas, where the potential to exercise market power is greatest, and 400 percent of a unit's projected costs for units outside of these areas.[7] The CAISO calculates bid caps for start-up and minimum load bids under the registered cost option through use of a projected proxy cost.[8]

7. For MRTU start-up, under the registered cost option, the CAISO calculates the natural gas price component of the projected proxy cost based on the highest average monthly price of (1) daily closing prices for monthly natural gas futures contracts at Henry Hub;[9] and (2) daily prices for basis swaps at identified California delivery points, for the forward-looking six month period during which the registered cost option is in effect. These prices are applied to the fuel consumption parameters used to calculate a resource's projected proxy cost, as set forth in the CAISO's Business Practice Manuals.[10] The derived bid cap for a resource, based on the projected proxy cost, then remains at that level for the next six months.[11] For non-gas-fired resources, projected start-up and

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[6] *See* MRTU tariff section 30.4 (Election for Start-Up and Minimum Load Costs).

[7] *See id*. section 39.6.1.6 (Maximum Start-Up Cost and Minimum Load Cost Registered Cost Values).

[8] The projected proxy cost would be based on a resource's operating parameters and stored in the CAISO's Master File. *See* MRTU tariff, Appendix A, Master Definitions Supplement.

[9] Henry Hub is the pricing point for natural gas futures contracts traded on the New York Mercantile Exchange (NYMEX). *See* MRTU tariff, Appendix A, Master Definitions Supplement. Henry Hub is located in Louisiana, near the Texas border.

[10] All of the CAISO Business Practice Manuals are available at http://www.caiso.com/17ba/17baa8bc1ce20.html.

[11] If daily spot market gas prices increase to the point where a unit's start-up or minimum load costs (calculated based on daily spot market gas prices) exceed that unit's bid as submitted under the registered cost option, that unit could switch to the proxy cost option. However, once a unit has switched to the proxy cost option, it must remain there for the balance of the six-month period. *See* MRTU tariff section 30.4(2).

minimum load costs are calculated using the information contained in the CAISO's Master File for those units.[12]

2. CAISO Filing

8. In its filing, the CAISO states that following the implementation of MRTU, resources electing the proxy cost option often have lower start-up and minimum load costs than resources electing the registered cost option. According to the CAISO, because resources in its markets are committed based in part on start-up and minimum load costs, the lower values of those costs under the proxy cost option, along with the fact that many resource owners have elected the proxy cost option, has led the CAISO to frequently commit resources subject to that option as "quick-start" resources at minimum output for a short period of time in the real-time market, and then to de-commit them more frequently than occurred prior to MRTU.

9. The CAISO states that owners of these quick-start resources have voiced concerns that this practice makes it difficult to recoup operating costs, due to increased wear and tear on their units that they claim is not accounted for under the proxy cost option, as well as environmental restrictions on the annual or seasonal number of starts for certain quick-start resources.[13] According to the CAISO, the opportunity cost of starting a resource subject to these environmental restrictions is not incorporated into the proxy cost option. To address these concerns, the CAISO proposes modifying MRTU tariff section 30.4 (Election for Start-Up Costs and Minimum Load Costs) to provide that scheduling coordinators may choose between the proxy cost and the registered cost options every 30 days, rather than every six months, thus providing resource owners with additional flexibility. The CAISO states that this proposed change would provide resource owners with sufficient bidding flexibility, particularly since it will require resource owners to manage only 30 days of gas price risk, rather than six months of risk under the current MRTU tariff. According to the CAISO, providing scheduling coordinators with the ability to choose more frequently between these two options provides increased flexibility to select the option that better represents a resource's start-up and minimum load costs in light of the way that the resource is actually being committed under MRTU. The CAISO further states that this proposal is an interim measure, pending stakeholder

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[12] The CAISO Master File is a file containing information regarding generating units, loads and other resources. *See* MRTU tariff, Appendix A, Master Definitions Supplement.

[13] According to the CAISO, several quick-start resources have already exhausted a significant portion of their total seasonal or annual allocation of starts. CAISO Filing at 4.

discussion and development of more comprehensive modifications to the CAISO software.[14]

10. In addition, consistent with the previously-approved registered cost option provision of the MRTU tariff, the CAISO's proposal provides that if a resource's costs, as calculated pursuant to the proxy cost option, exceed its registered cost option bid, that resource's scheduling coordinator could switch it to the proxy cost option for the balance of the period. Since the proposed tariff modification shortens the period to 30-days, the balance of the period would become the remaining days within the 30 day period, in contrast to the balance of the six-month period under the current tariff.

11. The CAISO further proposes to revise the registered cost option bid cap values[15] such that bids submitted by all resources electing the registered cost option are limited to 200 percent of their projected proxy cost.[16] According to the CAISO, this proposed change was based on input from the CAISO's Market Surveillance Committee, which concluded that, particularly for units located outside of local capacity areas, the ability to switch options on a monthly basis, rather than semi-annually, could enable generating units to exercise significant market power through their start-up and minimum load offers.[17]

12. The CAISO also proposes to conform the gas price component of the projected proxy cost[18] to its proposed 30-day election provisions.[19] Finally, the CAISO proposes

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[14] *Id*.

[15] *See* MRTU tariff section 39.6.1.6 (Maximum Start-Up and Minimum Load Cost Registered Cost Values).

[16] CAISO Filing at 4. As described above, MRTU tariff section 39.6.1.6 (Maximum Start-Up and Minimum Load Cost Registered Cost Values) limits start-up and minimum load bids under the registered cost option to 200 percent of a unit's projected costs for units in local capacity areas, and 400 percent of a unit's projected costs for units outside of these areas. *See supra* P 8.

[17] CAISO Filing at 4-5.

[18] MRTU tariff section 39.6.1.6.1 (Gas Price Component of Projected Proxy Cost).

[19] *See* CAISO Filing at Att. A. The CAISO proposes modifying MRTU tariff section 39.6.1.6.1 to provide that the projected proxy cost gas price will be based on daily prices for NYMEX futures contracts at Henry Hub and for basis swaps at identified California locations, averaged for each monthly contract over the first 21 days of the

(continued…)

modifying the definition of projected proxy cost[20] to conform to the tariff changes discussed above.[21]

13. The CAISO states that its Department of Market Monitoring (DMM) supports these proposed tariff changes as a reasonable interim measure that balances the CAISO's aim to address promptly the concerns of generation operators with the need for continued mitigation of the potential to exercise market power.[22] The DMM notes that while allowing generating unit owners to modify their start-up and minimum load costs under the registered cost option on a 30-day basis may increase the number of owners that select this option, the CAISO's proposal should avoid extremely high costs under the registered cost option. It will accomplish this by limiting registered cost bids to 200 percent of the projected proxy cost for all units, including those outside of local capacity areas, and by basing the gas price component of the projected proxy cost on gas futures prices only one month in advance, rather than on the maximum monthly gas futures price over the next six-month period as it had before.[23] The DMM asserts that this will reduce cases where, for a particular month, projected proxy costs may be significantly higher than actual costs due to a spike in gas futures prices during a different month of the forward-looking six-month period used to calculate projected proxy costs.[24] Finally, the CAISO states that the DMM supports these proposed tariff changes because the CAISO proposes them as an interim measure, pending stakeholder discussion and development of more comprehensive modifications to the CAISO software.[25]

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month for only the next one-month period (rather than for a six-month forward-looking period). CAISO Filing at 5.

[20] MRTU tariff, Appendix A, Master Definitions Supplement.

[21] CAISO Filing at 4-5. As modified, the CAISO defines "projected proxy cost" as a calculation of a resource's start-up and minimum load costs for a prospective period used to determine the maximum registered cost for the resource as set forth in MTRU tariff section 39.6.1.6.1 for a 30-day period as set forth in MRTU tariff section 30.4. *See* CAISO Filing at Att. A.

[22] CAISO Filing at 6.

[23] *Id.*

[24] *Id.*

[25] *Id.*

3. Comments

14. WPTF and J.P. Morgan support the CAISO's proposal as an interim measure that would better reflect increased wear and tear on quick-start resources. Both WPTF and J.P. Morgan favor an ongoing stakeholder process to consider bidding start-up and minimum load cost values on a more granular (e.g., daily or hourly) basis. J.P. Morgan states that it agrees with the CAISO that market participants should be able to choose the option that better represents their start-up and minimum load costs in light of the way their resources are actually being committed in the CAISO market. WPTF adds that it hopes the stakeholder process will result in less restricted bidding of start-up and minimum load costs, and in a more precisely targeted mitigation of those costs.

15. SWP argues that the proposed change permitting resources to select between the proxy and registered cost options on a monthly basis is appropriate only as an interim measure, and states that approval of this proposal should be conditioned on a sunset date (e.g., three years after MRTU implementation). SWP further states that the CAISO's proposal should be subject to a full stakeholder process to develop a long-term resolution of the issue that does not degrade current market protections.

16. J.P. Morgan supports the CAISO's proposed tariff revision limiting the maximum start-up and minimum load cost values for all resources electing the registered cost option to 200 percent of the projected proxy cost, while WPTF states that this aspect of the CAISO's proposal is too conservative. Specifically, WPTF argues that while the CAISO's proposal adopts the Market Surveillance Committee's recommendation to lower the registered cost option cap for all generating units to 200 percent of a unit's costs, the Market Surveillance Committee alternatively proposed allowing the CAISO's DMM unilaterally to cap the costs of a unit outside of a load pocket at 200 percent of the projected proxy cost if the DMM determines that the owner has the potential to or is exercising market power. WPTF contends that this second approach is a better choice because it is more targeted mitigation, imposing a low cap on units outside of load pockets only when market power, or the potential to exercise market power, is evident.

17. WPTF further contends that, given California's resource adequacy program, which requires a load serving entity to procure an amount of capacity equal to or greater than 115 percent of its projected monthly peak demand, and further requires suppliers of that capacity to bid it into the CAISO markets, adequate competition exists and there is no potential for units outside of load pockets to exercise market power. WPTF argues that imposing market power mitigation without any substantiation is unjust and unreasonable.

18. According to PG&E, allowing generators to more frequently update start-up and minimum load costs on a monthly basis might lead to more efficient operation of the MRTU markets. As such, PG&E states that it supports the CAISO's proposed use of a one-month interval, adding that it is consistent with similar calculations of default bids and bid parameters, such as use plans, negotiated default bid options submissions, and

monthly updates to Resource Adequacy plans. PG&E states, however, that the CAISO does not explain why the proposed modifications are interim measures, adding that any further changes to these tariff provisions should be carefully vetted and accompanied by market power mitigation procedures, particularly if changes are proposed that would permit a resource to update its start-up and minimum load costs on a more frequent basis than monthly.

19. The CPUC states that it generally supports the CAISO's implementation of an interim mechanism to ensure that peaking generation resources do not expend their limited number of start-ups prior to the peak load season of late summer, adding that such circumstances could create significant reliability problems in California. The CPUC expresses concern, however, that while the CAISO's interim proposal will not take effect until after California's peak summer season, thereby eliminating any potential benefits that may arise from this proposal for the summer of 2009, the potential for generators to increase their exercise of market power would remain for the duration of the proposed interim solution. As such, the CPUC requests that the Commission add further market power mitigation tools to the CAISO's proposal, including but not limited to those suggested by the Market Surveillance Committee.[26]

20. The CPUC suggests two alternative solutions that it contends may more effectively address the problems identified by the CAISO without raising the potential for market power abuse. Specifically, the CPUC recommends evaluating the effects of the CAISO's ongoing efforts to reduce Exceptional Dispatches,[27] and allowing generators to modify their prices as permitted under the current tariff.

21. In addition, the CPUC states that while it understands that the temporary increase in Exceptional Dispatches arising from implementation of MRTU exacerbated the frequency of generator starts at minimum load, the CAISO has made several modifications to MRTU to increase its ability to dispatch generators to meet expected load. The CPUC further states that such adjustments will likely result in the reduction of

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[26] CPUC August 21, 2009 Comments at 4 (citing CAISO Market Surveillance Committee, *Final Opinion on Start-Up and Minimum Load Bidding Rules* (July 2009), *available at* http://www.caiso.com/docs/2000/09/14/2000091416100025714.html) (CPUC Comments).

[27] "Exceptional Dispatch" authorizes the CAISO to manually commit and/or dispatch resources that are not cleared through market software in order to maintain reliable grid operations under certain circumstances. *See generally Cal. Indep. Sys. Operator Corp.*, 126 FERC ¶ 61,150 (2009), *rehearing pending; see also Cal. Indep. Sys. Operator Corp.*, 128 FERC ¶ 61,218 (2009).

Exceptional Dispatches, and especially those Exceptional Dispatches that hold generators at their minimum load. The CPUC adds that the CAISO's efforts will likely remedy the problem of excessive generator start-ups prior to the peak load season without increasing opportunities for generators to exercise market power.

22. The CPUC further states that it opposes the aspect of the CAISO's proposal that would permit generators to switch between the registered cost and the proxy cost options within any one month selection period. The CPUC argues that the ability for a generator to change the registered cost bid mid-month will increase opportunities for market manipulation, as generators will be able to increase their registered cost bid up to the cap if known or anticipated transmission or generation outages favor dispatch of their generation unit. The CPUC states that allowing generators to modify their chosen bid calculation methodology is unnecessary in light of the CAISO's proposal to increase bid modification granularity from six months to one month, and would only exacerbate the potential for exercise of market power.

4. <u>CAISO Answer</u>

23. In its answer, the CAISO asks the Commission to reject SWP's request to condition approval of the CAISO's proposal on a sunset date and to require a full stakeholder process to develop a long-term resolution of the issue. The CAISO states that it has initiated a stakeholder process for developing a long-term solution, but it does not believe a particular timetable should be set. The CAISO further states that, given the number and complexity of additional market enhancements under way, the CAISO's priorities should be dictated by the need to satisfy Commission directives and address actual, rather than theoretical, problems that arise. The CAISO states that it intends to monitor the effects of its interim solution and that this information will dictate the pace of the stakeholder process to develop a long-term solution.

24. The CAISO further opposes WPTF's suggestion that the CAISO implement the alternative approach proposed by the Market Surveillance Committee, which would leave in place the 400 percent cap for resources outside of load pockets, but allow the CAISO's DMM to unilaterally reduce the cap to 200 percent should the DMM determine that a resource owner is exercising market power. Among other reasons, the CAISO contends that WPTF has failed to demonstrate that the CAISO's proposal is not just and reasonable. The CAISO also points out that the DMM supports the approach taken in the CAISO's filing.

25. In response to the CPUC's request for additional market power mitigation measures, the CAISO states that no additional mitigation measures should be required unless evidence of market power abuse materializes. Regarding the CPUC's objection to allowing resources to modify their chosen bid calculation methodology within a fixed

month, the CAISO states that it interprets the CPUC's position as favoring a monthly option, rather than an option that could be exercised mid-month.[28] The CAISO disagrees with the CPUC's position that mid-month switching could exacerbate market power concerns, but states in its Answer that it believes a monthly option would be easier for the CAISO to administer and manage than one that allows mid-month changes.[29] As such, the CAISO does not object to a proposed change from a mid-month change option to a monthly option.

5. Commission Determination

26. As explained below, the Commission accepts the CAISO's proposed modifications to its start-up and minimum load provisions. We find these to be just and reasonable measures that will provide resource owners the needed flexibility to choose the option that best enables recovery of their start-up and minimum load costs, including costs incurred due to environmental limitations and wear and tear on units from frequent start-ups. We also find that the CAISO's proposal includes sufficient safeguards to ensure that such costs are not over-compensated.

27. Specifically, the Commission finds that the CAISO's proposal to permit scheduling coordinators to choose between the proxy cost option and the registered cost option every 30 days[30] rather than every six months is acceptable. We find that providing scheduling coordinators with the ability to choose more frequently between these two options provides increased flexibility for owners/scheduling coordinators to select the option that best represents a resource's start-up and minimum load costs.

28. The Commission also accepts the CAISO's decision to retain its current tariff feature that permits a resource to switch from the registered cost option to the proxy cost option for the balance of the option period. A key reason for retaining this feature is that the resource can only switch if its actual costs, as calculated by the proxy cost option, are *higher* than its registered cost bid. In accepting this element of the CAISO's proposal,

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[28] According to the CAISO, the proposal currently before the Commission permits resources to change the start-up and minimum load cost recovery option every 30 days, which would allow any given 30-day period to span over the course of two months. CAISO September 8, 2009 Answer at 5 (CAISO Answer).

[29] CAISO Answer at 5.

[30] We note that the CAISO indicated in its Answer that a "monthly" rather than "30-day" option would be easier to administer. CAISO Answer at 5. If the CAISO prefers this option, it may file tariff modifications to implement this change.

we note that the purpose of the CAISO's filing is to give resources additional flexibility until the CAISO files a remedial proposal. Removing any existing flexibility in the current MRTU tariff could prove detrimental to the CAISO's interim solution.[31] We remind the CAISO of its commitment to monitor all aspects of its interim solution,[32] which we interpret to include monitoring of any potential exercise of market power that may result from a resource's ability to switch from the registered cost option to the proxy cost option within a 30-day period.

29. The Commission also accepts the CAISO's proposed changes to the gas price component of the projected proxy cost methodology. We find that these proposed changes, which would base the projected proxy cost gas price component on gas futures prices for only one month in advance, rather than on the maximum monthly gas futures price over the forward-looking six-month period, are likely to yield a more representative projected proxy cost. Consequently, we find that this change will enhance implementation of the revised 30-day election.

30. The Commission also accepts the CAISO's proposal to limit the maximum start-up and minimum load values for all resources electing the registered cost option to 200 percent of the projected proxy cost.[33] We find this provides a reasonable balance between preventing the exercise of market power and enabling recovery of supplier costs. Given the market monitor's concern that increasing the frequency with which generators may switch between bid options also increases the risk of market manipulation, we find that lowering the bid adder for resources outside of load pockets reasonably mitigates the risk that a bid-switching generator could exercise market power.

31. Further, we reject WPTF's suggestion that the CAISO implement the Market Surveillance Committee's alternate approach, which would leave in place the 400 percent cap for units outside of locally constrained areas unless the DMM were to find that a resource owner was using its ability to change its start-up and minimum load costs to exercise market power. In such case, the DMM could unilaterally cap that resource's start-up and minimum load costs under the registered cost option at 200 percent of its projected proxy cost. We find that the CAISO's proposal to impose a 200 percent cap on

[31] We further note that the while the MSC proposed various solutions to mitigate the potential exercise of market power under the CAISO's proposed interim measures, the MSC did not mention removing the opportunity to switch to the proxy cost option mid-period when the registered cost option bid falls below the proxy cost.

[32] *See* CAISO Answer at 3.

[33] *See* MRTU tariff section 39.6.1.6, Maximum Start-Up Cost and Minimum Load Cost Registered Cost Values.

bids under the registered cost option addresses the Market Surveillance Committee's concern that providing the ability to choose more frequently between the proxy cost and registered cost options could increase the potential for the exercise of market power through the submission of start-up and minimum load offers at or near the offer caps. Further, we find that the CAISO's proposed approach is reasonable and administratively efficient. Moreover, under the Federal Power Act, the issue before the Commission is whether the CAISO's proposal is just and reasonable and not whether the proposal is more or less reasonable than other alternatives.[34] Therefore, because we find the CAISO's proposal to be just and reasonable, we need not assess the justness and reasonableness of WPTF's alternative proposal. For the same reason, we also reject the CPUC's proposed alternative solutions.

32. We deny SWP's request to condition the CAISO's proposal on inclusion of a sunset date. We note that the CAISO contends that its proposed measures are interim, and has initiated a stakeholder process to develop a long-term solution. Further, the CAISO has committed to monitor the impact of its interim solution and use such information to dictate the pace and outcome of its stakeholder process. Given the nascent stage of MRTU and other pressing issues the CAISO must address, we find this to be sufficient commitment on the part of the CAISO, and therefore do not find it necessary to impose a sunset date at this time.

33. We note that the CAISO and its market monitor should carefully assess the impact of this interim solution on its markets. Any further changes to these start-up and minimum load tariff provisions should be carefully vetted by the CAISO and market participants. The Commission expects that any future proposed tariff modifications would continue to take into account market power concerns and include appropriate mitigation measures, as needed.

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[34] *See Oxy USA, Inc. v. FERC*, 64 F.3d 679, 692 (1995) (under the Federal Power Act, as long as the Commission finds a methodology to be just and reasonable, that methodology "need not be the only reasonable methodology, or even the most accurate one"); c*f. City of Bethany v. FERC*, 727 F.2d 1131, 1136 (D.C. Cir. 1984) (when determining whether a proposed rate was just and reasonable, the Commission properly did not consider "whether a proposed rate schedule is more or less reasonable than alternative rate designs"); *see also Cal. Indep. Sys. Operator Corp.*, 128 FERC ¶ 61,265, at P 21 (2009).

34. Finally, we grant the CAISO's request to waive the Commission's 60-day prior notice requirement[35] for good cause. The Commission finds that allowing these changes to go into effect August 1, 2009 will expedite enhancement of the MRTU markets.[36]

C. Hourly Settlement of Congestion Revenue Rights

1. Background

35. The MRTU tariff currently requires that congestion revenue rights, which are settled hourly, be fully funded through the clearing of the monthly congestion revenue rights balancing account.[37] In an effort to track whether sufficient net congestion revenue is recovered in each hour of the integrated forward market to cover the congestion revenue rights holdings for that hour, the MRTU tariff requires that the CAISO pro-rate congestion revenue rights payments and charges for each hourly settlement during which an inadequate amount of integrated forward market net congestion revenue is collected. The MRTU tariff then requires a monthly true-up of (1) congestion revenue rights payments, and (2) congestion revenue rights charges in the clearing of the congestion revenue rights balancing account, including the use of the congestion revenue rights auction revenues as needed to ensure full funding of the congestion revenue rights entitlements.[38]

2. CAISO Filing

36. The CAISO states that, based on its experience with MRTU to date, it has determined that the hourly pro-ration of congestion revenue rights settlement charges, which is ultimately reversed in the monthly clearing of the congestion revenue rights

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[35] 18 C.F.R. § 35.3 (2009).

[36] *Central Hudson Gas & Elec. Corp., et al.*, 60 FERC ¶ 61,106, *reh'g denied*, 61 FERC ¶ 61,089 (1992).

[37] CAISO Filing at 6; *see also* MRTU tariff section 36 (Congestion Revenue Rights). The congestion revenue rights balancing account is funded through the hourly net congestion revenue received from the integrated forward market congestion revenues and the net revenues from the congestion revenue rights annual and monthly auctions for any given month. CAISO Filing at 6; *see* MRTU tariff sections 11.2.4.4.1 (Monthly Clearing of the Congestion Revenue Rights Balancing Account – Full Funding of CRRs) and 11.2.4.5 (CRR Balancing Account).

[38] CAISO Filing at 6-7.

balancing account, is causing unnecessary accounting issues and is creating the misperception that congestion revenue rights holders either will not be paid in full for their congestion revenue rights or will be charged for any shortages in the hourly settlement account. The CAISO states, however, that the hourly pro-ration is only an accounting device and has no impact on the final dollar amounts paid or charged to congestion revenue rights holders in the monthly settlement invoice. According to the CAISO, the MRTU tariff ensures full funding of congestion revenue rights holdings regardless of any hourly insufficiencies in integrated forward market revenue adequacy.[39] The CAISO further states that elimination of the pro-rationing mechanism will not compromise the completeness or transparency of information available to market participants regarding hourly congestion revenue rights revenue adequacy.

37. The CAISO states that it tracks revenue adequacy separately and provides this information to market participants in two forms. First, the CAISO's day-ahead daily market watch provides hourly data on congestion revenue rights revenue adequacy, and daily cumulative data on congestion rents in the day-ahead market, congestion revenue rights payments, congestion revenue rights revenue adequacy, and the ratio between congestion rents and congestion revenue rights payments. The CAISO's monthly market performance report repeats the monthly status and describes analyses of congestion revenue rights revenue adequacy.[40] The CAISO states that, while the pro-rationing tariff provision ensures that daily market participant settlement statements reflect hourly adjustments to account for the hourly revenue insufficiency, it does not provide an accurate picture of overall market revenue sufficiency. Finally, the CAISO argues that the pro-rationing provision adds an unnecessary level of complexity to ongoing calculations of market participant credit requirements.

38. Therefore, the CAISO proposes removing the pro-rationing requirement from the MRTU tariff such that, in the event of a shortage of net congestion revenue in the integrated forward market, there will be no pro-rationing of the hourly settlement of congestion revenue rights. Instead, the CAISO states that it will reflect hourly congestion revenue rights payments and charges in accordance with the MRTU tariff's full funding provisions, as they will be made at the end of the month through the congestion revenue rights balancing account.

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[39] CAISO Filing at 7; *see* MRTU tariff sections 36.2.8 (Full Funding of Congestion Revenue Rights), and 11.2.4.4.1 (Monthly Clearing of the Congestion Revenue Rights Balancing Account – Full Funding of CRRs).

[40] CAISO Filing at 7.

3. Comments

39. PG&E states that it agrees with the CAISO's conclusion that the hourly pro-ration of congestion revenue rights payments and charges, which is ultimately reversed in the monthly clearing of the congestion revenue rights balancing account, is causing unnecessary accounting issues. As such, PG&E supports the CAISO's proposed elimination of the hourly pro-rationing provision.

4. Commission Determination

40. Since the MRTU tariff already ensures full funding of congestion revenue right holdings regardless of any hourly insufficiencies in integrated forward market revenue adequacy that may occur, the Commission finds that the elimination of the pro-rationing mechanism will cause no harm, and will not compromise the completeness or transparency of information available to market participants regarding hourly congestion revenue rights revenue adequacy. Therefore, insofar as the pro-rationing mechanism is an accounting device with no impact on the final dollar amounts paid or charged to congestion revenue right holders in the monthly settlement invoice, the Commission agrees with the CAISO that it would be an unnecessary administrative burden to require the CAISO to continue its pro-rationing of hourly congestion revenue rights settlement charges such that they reflect a deficiency or surplus in the hourly congestion revenues. Consequently, we accept as just and reasonable the CAISO's proposal to eliminate from the MRTU tariff the hourly pro-ration of congestion revenue rights provisions.

D. Pricing for Disconnected Pricing Nodes

1. Background

41. A pricing node is a location on the CAISO transmission system at which electrical injections and/or withdrawals are modeled and for which a locational marginal price is calculated. The locational marginal prices at the pricing node are used for energy settlement and for settlement of inter-scheduling coordinator trades. In addition, the marginal cost of congestion component of the locational marginal price at the pricing node is the basis for settlement of congestion revenue rights. A pricing node can become disconnected as a result of a temporary transmission facility switch setting or outage.[41] Under these circumstances, if the electrical connection to a generator is modeled as a singular connection at a location that becomes disconnected, that generator may be physically isolated and cannot be scheduled to deliver energy to the system.

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[41] *Id*. at 11.

42. Consequently, when a pricing node becomes electrically disconnected, the marginal cost of congestion at that location is undefined and the market clearing process does not actually yield a marginal cost of congestion at the affected location. Currently, the CAISO inserts a "$0" value for the marginal cost of congestion at an electrically disconnected pricing node, and calculates locational marginal prices based on the "$0" value.[42] According to the CAISO, its current practice of inserting the "$0" marginal cost of congestion component affects the settlement of congestion revenue rights,[43] inter-scheduling coordinator trades,[44] and, in some instances, energy.[45]

2. <u>CAISO Filing</u>

43. The CAISO proposes to amend MRTU tariff section 27.1.1 (Locational Marginal Prices for Energy) to provide that when a pricing node becomes electrically disconnected

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[42] *Id*.

[43] Congestion revenue rights are settled based on the difference in the marginal cost of congestion between the sink and the source. For point-to-point congestion revenue rights, if either the source or sink is a disconnected pricing node, the settlement of that congestion revenue right will either be the positive value or the negative value of the marginal cost of congestion of the pricing node that is still connected. *See id*.

[44] Settlement of inter-scheduling coordinator trades and trading hub congestion revenue rights is indirectly affected by the "$0" marginal cost of congestion if the disconnected pricing node happens to be included in the definition of the trading hub that is the basis for the inter-scheduling coordinator trades or trading hub congestion revenue rights. Because the trading hub price is calculated as a weighted average of locational marginal prices, a "$0" marginal cost of congestion could likely depress the trading hub price, which in turn affects congestion revenue rights and trades that are settled based upon the trading hub. *See id*. at 11-12.

[45] With respect to energy settlements, in some instances, the settlement of the supply resources is specified at a pricing node reflecting the point of receipt of energy from the resource that is different from the nodal connection. Where the pricing node associated with the point of receipt is disconnected yet the resource remains electrically connected to the grid via another network connection other than the part of the network that goes through the disconnected pricing node, the disconnected pricing node may have undesirable impact on the energy settlement for such a resource because the point of receipt is the price at which any delivered energy from the resource is settled. *See id*. at 12.

from the market model during a CAISO market run, the CAISO will use the locational marginal price[46] at the closest electrically connected pricing node as the locational marginal price at the affected location.

44. The CAISO states that following the start of MRTU it received a number of disputes for settlements in which market participants asserted that "$0" is not the correct price at which the congestion revenue rights should settle. The CAISO further states that it denied these disputes because its current practice of inserting a "$0" value for the marginal cost of congestion is not inconsistent with the MRTU tariff. The CAISO adds that a "$0" marginal cost of congestion arguably reflects the cost of congestion at that location since, as a result of the disconnection of the pricing node, the market model measures no actual congestion at that location. The CAISO also states that the "$0" value reflects the fact that, due to the disconnection, it is possible that the value of injecting energy at that location is zero.[47]

45. Upon further consideration, however, the CAISO states that it has concluded that inserting a "$0" value for the marginal cost of congestion is not an optimal approach for dealing with disconnected pricing nodes. According to the CAISO, this practice is particularly problematic when a congestion revenue right would be settled on a "$0" marginal cost of congestion, but where the marginal cost of congestion would have been significantly different at that location but for the disconnection of the pricing node. In this instance, the CAISO states, the "$0" value does not reflect the expected cost of congestion at that location.

46. The CAISO states that it considered the following two alternatives to a "$0" value for the marginal cost of congestion: (1) allow the price at the disconnected pricing node (both the locational marginal price and the marginal cost of congestion) to remain undefined or a "null" value, rather than a $0 value; or (2) insert the price of the closest electrically connected node. According to the CAISO, the first alternative, while not technically difficult to implement, would cause complications elsewhere in the CAISO's systems because the CAISO would not be able to settle congestion revenue rights, inter-scheduling coordinator trades, or energy at those locations.

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[46] The CAISO states that it will use the location marginal price, including the system marginal energy component, the marginal cost of congestion, and the marginal cost of losses component. *Id*. at 11.

[47] *Id*.

47. The CAISO states that the second alternative provides the ability to insert at the disconnected pricing node a proxy locational marginal price,[48] which is the locational marginal price at the closest electrically connected pricing node. According to the CAISO, this approach is preferable to inserting a "$0" value because the proxy price is closer to what the locational marginal price would have been at the affected location but for the disconnection. The CAISO adds that a number of market participants agree that this is a preferred alternative to the CAISO's current practice.

48. The CAISO further states that it has developed a methodology to determine the closest electrically connected pricing node that will serve as the location from which the CAISO will select the locational marginal price for the disconnected pricing node. According to the CAISO, this methodology includes a recursive search starting from the disconnected pricing node and traversing the network along the full network model branches to locate a connected pricing node. The CAISO states that, pursuant to its methodology, the branches emanating from the disconnected pricing node are traversed in ascending priority order with respect to their admittance,[49] which is used as a measure of electrical closeness.

3. <u>Comments</u>

49. PG&E states that it supports the CAISO's proposed methodology for determining the locational marginal prices for electrically disconnected pricing nodes as an alternative to the approach currently used by the CAISO. PG&E argues, however, that the CAISO offers no theoretical basis for setting the locational marginal price for the disconnected pricing node in this fashion, beyond stating that the proxy price is closer to what the locational marginal price would have been at the affected location but for the disconnection. Accordingly, PG&E asks the Commission to direct the CAISO to develop a more sound theoretical approach to setting locational marginal prices at disconnected pricing nodes.

50. PG&E further states that, in the future, the CAISO will be implementing new market features under MRTU. PG&E contends that the CAISO should be directed to

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[48] The CAISO notes that the proxy locational marginal price at the disconnected price node would include all three components (system marginal energy component, marginal cost of congestion component, and marginal cost of losses component) of the locational marginal price. *Id*. at 13.

[49] "Admittance" is the complex ratio of the current flowing in a transmission line to the voltage across the line, where the current and voltage are expressed in phasor notation.

evaluate whether these new market features could cause its pricing approach for disconnected pricing nodes to have unintended consequences and, if necessary, to modify its disconnected pricing node approach at that time.

4. **CAISO Answer**

51. In its answer, the CAISO states that no party opposes the tariff revisions pertaining to the CAISO's proposal for determining the locational marginal price at an electrically disconnected pricing node. The CAISO explains that it selected this proposed method as a result of its evaluation of alternative methods and support from stakeholders.

52. The CAISO adds that PG&E provides no basis for its suggestion that the CAISO's proposed methodology is not theoretically sound. The CAISO further states that PG&E's request that the CAISO be directed to resolve the disconnected pricing node issue in the context of future system enhancements is vague, adding that such consideration is true for all aspects of the MRTU tariff, and that a Commission directive is not necessary for such evaluation to occur.

5. **Commission Determination**

53. The Commission accepts the CAISO's proposal for determining the locational marginal price at an electrically disconnected pricing node. We find that using the locational marginal price at the closest electrically connected pricing node as a proxy locational marginal price at the affected location is a just and reasonable approach for calculating congestion revenue rights and settling the CAISO markets when that pricing node has become disconnected. The approach selected by the CAISO and proposed here has also received support from market participants.[50]

54. The Commission disagrees with PG&E's assertion that the CAISO has offered no theoretical basis for its proposal. The theory underpinning this method is that $0 or a null value does not accurately reflect the cost of congestion that may occur at a disconnected node, and the electrically closest pricing node is a closer approximation of what the value of those costs would be at that point. Accordingly, the Commission finds the CAISO's proposal constitutes a logical approach for determining the locational marginal price at an electrically disconnected pricing node, and finds that this methodology should produce reasonable results.

55. The Commission also finds unnecessary PG&E's request to direct the CAISO to evaluate whether its pricing approach for disconnected pricing nodes could have unintended consequences as a result of any new market features. We agree with the

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[50] CAISO Filing at 14; CAISO Answer at 6.

CAISO that it already must take into consideration all aspects of its existing market operation when evaluating and implementing new market features.

The Commission orders:

(A) The CAISO's proposed revisions to its MRTU tariff are hereby accepted, as discussed in the body of this order.

(B) The Commission hereby grants waiver of the 60-day notice requirement to permit the proposed tariff sheets to become effective on August 1, 2009, as requested by the CAISO.

By the Commission.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.