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 UNITED STATES OF AMERICA
 FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Joseph T. Kelliher, Chairman;
 Sudeen G. Kelly, Marc Spitzer,
 Philip D. Moeller, and Jon Wellinghoff.

California Independent System Operator Corporation	Docket Nos. ER06-615-000 ER02-1656-027 ER02-1656-029 ER02-1656-030 ER02-1656-031
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ORDER CONDITIONALLY ACCEPTING THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR'S ELECTRIC TARIFF FILING TO REFLECT MARKET REDESIGN AND TECHNOLOGY UPGRADE

(Issued September 21, 2006)

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1. In this order, the Commission conditionally accepts for filing, subject to further modification, the tariff the California Independent System Operator Corporation (CAISO) filed to implement its Market Redesign and Technology Upgrade (MRTU) proposal (MRTU Tariff). Significant components of the MRTU Tariff include: a more effective congestion management system; a day-ahead market for trading and scheduling energy; system improvements to increase operational efficiency and enhance reliability; a more transparent pricing system; improved market power mitigation measures; the opportunity for demand resources to participate in the CAISO markets under comparable requirements as supply; and, lastly, a process that respects the resource adequacy requirements established by the states or Local Regulatory Authorities, with provisions to allow the CAISO to procure additional capacity to meet forecasted needs.

2. Although we conditionally accept the MRTU Tariff, we are also ordering certain significant changes that have been sought by commenters. For example, as recommended by certain parties, we grant the requests for technical conferences on seams issues, allocation of import capacity for resource adequacy purposes, and Business Practice Manuals. We also agree with commenters that the implementation of MRTU should proceed on a deliberate basis and, therefore, order protections to ensure that systems are tested and ready before they are implemented. In addition, we grant the request to order the CAISO to comply fully with the Commission's Final Rule on Long-Term Firm Transmission Rights in Organized Markets,¹ in order to expedite the provision of long-term rights to users of the transmission grid. Finally, we note that parties interested in developing additional proposals for demand response in California may submit proposals to the Commission within 60 days of the issuance of this order.

3. The MRTU Tariff is the product of more than six years of expert analysis, broad stakeholder input from those within and outside California, coordination with state authorities, and Commission guidance. Over this six-year period, we have issued over 30 orders providing guidance to the CAISO and its market participants, including ruling on interim remedies for exigent design flaws. Our consistent goal throughout this process has been to avoid the mistakes of the California energy crisis of 2000-2001. By ensuring

¹ *Long-Term Firm Transmission Rights in Organized Electricity Markets*, Order No. 671, 71 Fed. Reg. 43,564 (Aug. 1, 2006), FERC Stats. & Regs. ¶ 31,226 (2006) (Long-Term Firm Transmission Rights Final Rule).

resource adequacy,² fixing flawed market rules, bringing greater transparency to prices, improving congestion management,³ enhancing market power mitigation, and streamlining the CAISO's daily operations, MRTU should achieve that goal. We are also mindful of the fact that the California energy crisis affected not only California, but also the entire Western Interconnection. Therefore, the actions we take today – fixing a flawed market design, enhancing the reliability of the CAISO-controlled grid, and improving market power mitigation – are intended to protect not only California, but also the entire West, from a repeat of that crisis.

4. More specifically, our actions today address three key factors that contributed to the energy crisis: (1) the lack of adequate resources, (2) flawed market rules, and (3) market manipulation. First, the MRTU Tariff builds upon the resource adequacy reforms adopted by the State of California to ensure that all load serving entities procure adequate generation capacity to serve their load. We believe this is critical to maintaining reliability and ensuring that wholesale prices remain just and reasonable. Further, not only will resource adequacy requirements improve reliability, but they will lessen the likelihood of price spikes occurring during periods of high demand.

5. Second, the MRTU Tariff addresses the remaining market design flaws that contributed to the energy crisis, as well as other important design flaws. The current design is limited to a real-time energy market⁴ and provides day-ahead management of transmission congestion between three existing customer zones.⁵ However, the current design ignores transmission congestion within the zones until the last minute (or “real time”), and, as a result allows buyers and sellers to submit schedules⁶ that are not feasible.⁷ In contrast, the proposed MRTU Tariff will use a pricing method that will allow the CAISO to: (1) recognize all transmission bottlenecks so that schedules submitted in the day-ahead time frame can actually fit on the grid in real time, i.e., be feasible; (2) allocate the use of transmission facilities to energy buyers and sellers in a non-discriminatory and efficient manner; (3) make more efficient use of transmission and generation resources to serve load and provide system reserves on a least-cost basis; and

² Resource adequacy is the availability of an adequate supply of generation or demand responsive resources to support safe and reliable operation of the transmission grid.

³ The term “congestion management” refers to a process that properly recognizes the physical limitations of the existing transmission grid and, based on those limitations, adjusts the production of various generation and demand resources.

⁴ A real-time energy market sets market prices in intervals of 5 to 10 minutes based on the lowest-priced resources bid into the market.

⁵ The three geographic zones are northern, central, and southern California.

⁶ “Schedules” are plans to run generation and to provide energy to customers.

⁷ In this usage, “feasibility” refers to the physical ability of the transmission system to accommodate the schedule.

(4) provide price incentives for future generation projects to be located in the places where they are most needed.

6. Third, the MRTU Tariff contains important protections to address market power and market manipulation. MRTU retains bid caps on energy markets to ensure that prices remain just and reasonable and, by including a resource adequacy requirement, lessens the likelihood of price spikes due to shortages. By establishing a day-ahead energy market, MRTU will increase the transparency of energy prices, which in turn allows the CAISO and the Commission to better detect attempts at manipulation. MRTU also improves measures to protect against the exercise of market power in discrete areas where insufficient competitive generation exists (load pockets). And, as discussed below, demand response is an important measure in mitigating market power and protecting customers.

7. Although these reforms are significant, it is important to keep in mind that the changes are incremental and supplement the existing market structure. MRTU does not create organized markets in California. They already exist, and MRTU simply implements needed reforms to ensure that the existing organized markets function properly.

8. The Western Interconnection encompasses one region (California) that has adopted organized markets and other regions that have not. There currently exist “seams” at the borders between the CAISO and other regions within the West. These seams exist today, and MRTU does not create new seams with the bilateral markets in the West. Instead, MRTU is designed, in many ways, to mitigate the existing seams and enhance trade between the differing regions within the West. For example, the day-ahead energy market should allow more opportunities for imports and exports to be scheduled ahead of real-time. Transparent locational marginal prices in the day-ahead market will make it easier for suppliers located outside of California – many of whom are owners of hydroelectric generation that often requires a ready market for its unused capacity – to sell their excess power into California at a fair price. Also, the simplified hour-ahead market, or HASP, will allow schedules to be submitted closer to real-time. This will align more closely the scheduling timelines between the CAISO and the rest of the West. These improvements notwithstanding, we are sensitive to the seams concerns raised by parties outside of the CAISO-controlled grid. We therefore grant their request for a technical conference to ensure that these seams issues will continue to receive the attention they deserve and are carefully considered and fully understood by all market participants, as the western marketplace continues to evolve.

9. It is also important to understand that MRTU adopts crucial changes in the way that the CAISO manages the limited resources of its transmission grid. The CAISO will use locational marginal prices for generators, which will allow for more efficient generation dispatch. However, it will not use locational marginal prices for customers.

Rather, customers within the CAISO will continue to pay the price for energy within their zone, much as they do today. This will help to insulate customers from price volatility. Furthermore, the CAISO will offer monthly, annual, and long-term firm transmission rights to protect customers against a much larger portion of congestion costs. Taken together, these reforms will increase the efficiency of economic dispatch (thereby lowering costs), and offer customers important new protections from charges due to congestion on the transmission grid. Moreover, these reforms do not create additional congestion costs, but rather remedy a flawed system that masks the causes of congestion costs and does not provide any mechanism to protect customers against such costs. For example, in 2004, the price of electricity in California included congestion and reliability costs totaling more than one billion dollars, but only \$56 million of that amount was reflected in market prices that were visible and could be hedged through financial transmission rights; the remaining over \$944 million was allocated via surcharges to all users of the transmission system.⁸ This means that some customers were subsidizing the cost to serve other customers by this amount, without having any ability to address the situation. The improved congestion management system approved today will not only increase the transparency of these congestion costs, but will also allow load serving entities to protect against exposure to them through a combination of monthly, annual, and long-term transmission rights. It will also help to identify locations where additional transmission capacity or generation resources may be needed.

10. We summarize below the most important elements of MRTU that fix market design flaws, enhance reliability, better protect wholesale customers from price volatility and gaming, incorporates price-responsive demand in the markets, and encourage construction of new resources:

- Eliminates infeasible schedules. Market participants currently submit infeasible schedules for energy because there are no negative financial consequences to their doing so. Also, under the current tariff, the CAISO must accept infeasible day-ahead schedules that do not reflect actual transmission bottlenecks and operating limitations of generators because its computer software ignores these limitations. This is a serious problem that forces the CAISO's transmission grid operators to scramble in real-time to correct infeasible day-ahead schedules. MRTU will ensure that day-ahead schedules are physically feasible because its new computer software will fully consider all transmission bottlenecks and generator operating limitations. This will make the CAISO's system more reliable.
- Uses a more comprehensive model of the transmission grid. The CAISO currently decides which resources will be used for reserves (ancillary services) in a manner that is independent from its energy dispatch decisions. This results

⁸ California ISO: 2005 Annual Report at 15 (June 2006).

in less efficient use of generation capacity. Under MRTU, the CAISO will consider at the same time which resources to use for energy and which resources to use for reserves. This will create more efficient dispatch. Meeting demand and reserve requirements from the lowest cost set of generators will benefit customers by keeping prices down.

- Adds a financially binding day-ahead market. Existing market rules require each Scheduling Coordinator to anticipate customer demand and to match that demand with an equal amount of generation supply. This can create inefficiencies because there is no systematic way to ensure selection of the least cost set of generators to meet customers' needs. Under MRTU, this problem is solved by the creation of the day-ahead energy and ancillary services market, which is open to all creditworthy market participants on a non-discriminatory basis. The day-ahead market will enable all suppliers and customers to submit offers to buy and/or sell electricity in advance of real time. The CAISO will consider the bids of all suppliers in the day-ahead market and select the lowest cost mix of suppliers to serve customers' needs. The creation of a financially-binding day-ahead market will make it easier for all market participants, particularly smaller entities, to participate in the California market. A transparent day-ahead price signal can also be useful in demand response programs. The day-ahead market will provide market efficiencies that will help keep wholesale electricity prices down and make it easier for the CAISO to maintain reliability.
- Adopts locational marginal pricing for suppliers and for improved congestion management: Under locational marginal pricing, or LMP, prices in wholesale markets vary by location and time, based on the true physical limitations of the transmission grid, and reflect the incremental cost of meeting customer demand at each location. Locational marginal pricing will communicate the true market value of electricity at each location, as well as the cost of alleviating congestion between any two locations. This will create financial incentives to dispatch the lowest cost energy, when considering all transmission bottlenecks. In the long-term, by making energy and congestion prices more transparent, locational marginal pricing will help encourage transmission and generation investment at appropriate locations, as well as demand response. It bears emphasis that the CAISO's version of locational marginal pricing is aimed primarily at suppliers who will be paid their location-specific price. Wholesale customers will be insulated from the location-specific prices because they will continue to pay an aggregated zonal price.
- Improves transmission rights: The CAISO already incorporates financial transmission rights, but these are limited to rights to congestion revenues associated with transmission service between adjacent zones and external

interconnection points. The existing financial transmission rights allow customers to protect themselves from congestion charges occurring between zones. Currently, however, most congestion occurs inside the existing zones and there is no way for customers taking transmission service within each of the CAISO's three zones to protect themselves from these costs, which again means that some customers are forced to significantly subsidize the cost of serving other customers. Wholesale customers must pay for the costs of congestion within zones in the form of "uplift" payments, or billing surcharges, which can be highly volatile and unpredictable. MRTU largely alleviates this problem by ensuring that all congestion costs are reflected in market prices, and by issuing a better form of financial transmission rights, called congestion revenue rights, or CRRs. Congestion revenue rights will enable load serving entities and others to protect themselves against the costs of congestion. Also, customers under contracts that pre-date the existence of the CAISO will continue to receive protection against congestion costs consistent with the requirements of their contracts.

- Requires compliance with the Long-Term Firm Transmission Rights Final Rule: Currently, the CAISO offers no financial transmission rights with a duration of longer than one year. This has often been cited as an impediment to the construction of new facilities necessary to serve the California market, and a barrier for customers trying to access needed resources on a long-term basis. This order addresses that problem by directing the CAISO to comply with the Long-Term Firm Transmission Rights Final Rule. This should hasten the creation and availability of long-term firm transmission rights, directly addressing concerns raised by customers in California.
- Increases bid caps incrementally: Currently, suppliers' bids into the CAISO's real-time markets are capped at \$400/MWh. It has long been recognized that, if price caps are set too low, they can result in a reduction in needed supply that will usually not be in the public interest. Therefore, in markets where bid caps are used to help protect against the exercise of market power, it is imperative to set the bid cap at an appropriate level in order to stimulate demand response, provide incentives to enter into long-term contracts, and foster investment in new infrastructure. If a bid cap is set too low, this could adversely affect reliability by artificially suppressing resource prices when resources are scarce. MRTU is slated to go into effect November 2007. At that time, the bid cap will be increased first to \$500/MWh, and thereafter incrementally increased over the next two years until it reaches \$1,000/MWh. This gradual increase will give market participants time to adjust to both the new cap levels and other mitigation features, while helping to ensure that needed supply is not driven from the market by overly restrictive price caps.

- Improves local market power mitigation: Currently the CAISO's market power mitigation lacks adequate measures to address the potential for generators located in load pockets (areas surrounded by transmission bottlenecks) to exercise market power. MRTU adopts local market power mitigation techniques that identify generators with the potential to exercise local market power, and limits those generators' bids to pre-established default levels. These default energy bids are tailored to contribute to the recovery of the generator's fixed costs, so the generator can afford to continue producing energy. These local market power mitigation rules will help prevent market manipulation and price volatility, while maintaining adequate generation supply and reliability.
- Demand Response: MRTU provides loads with demand response capability – the opportunity to participate in the CAISO day-ahead, real-time, and ancillary services markets under comparable requirements as supply, and receive the corresponding market value. Price-responsive demand moderates price increases and price volatility for all customers (because some demand is willing to be reduced rather than pay higher prices for energy from more expensive units) and it also helps to check potential market power because it provides a countervailing willingness to reduce demand in the face of high prices. Further, demand response contributes to reliability by shaving peak demand and providing reserves. We believe the continuing development of demand response is an effective route to produce CAISO markets that are competitive and that can be relied upon to produce rates that are just and reasonable for customers. We therefore direct parties interested in further developing demand response in the CAISO markets to provide proposals to the Commission that detail new avenues for incorporating price-responsive demand within 60 days of the date of this order.
- Builds upon resource adequacy: Resource adequacy is the availability of an adequate supply of generation or demand responsive resources to support safe and reliable operation of the transmission grid. Until June 2006, the CAISO market did not require load serving entities to procure sufficient generation capacity to serve their customers. The lack of this requirement jeopardized reliability and made it difficult to ensure that wholesale prices would remain just and reasonable. Under MRTU, load serving entities under the authority of the California Public Utilities Commission will be required to obey its requirement to maintain a level of capacity above load serving entities' forecasted customer needs (currently 15-17 percent). They will also have to demonstrate a year in advance that they have procured resources to cover 90 percent of their summer (May through September) peak period needs. Other Load serving entities that are CAISO members and serve customers in the CAISO control are required to comply with the planning reserve margin for

capacity that is set by their Local Regulatory Authority. If the Local Regulatory Authority does not establish such a margin, the default margin will be 15 percent. These resource adequacy requirements will help ensure sufficient supply, enhance reliability, protect against price volatility, and reduce the opportunities to game the market that exist when electricity supplies are insufficient to meet customers' needs.

11. Finally, we note that, while MRTU is a significant step toward improving California's markets, it is by no means the last one. While we do not believe the action we take today will delay the CAISO's implementation of the market redesign and technology upgrade, we do require further technical conferences, compliance filings and tariff modifications. The CAISO's market redesign is necessary, but it is just as essential for it to be done right. In accepting, with modification, the CAISO's MRTU Tariff, we are mindful that it is of utmost importance for the CAISO and its market participants to be prepared for the initial implementation of MRTU. We agree with commenters that expedience cannot take precedence over ensuring a smooth transition to the new market design. As the technical conferences are held, and compliance filings and tariff modifications are filed, we will remain vigilant and, as necessary, require any further changes or conditions to the MRTU Tariff to ensure that the MRTU Tariff results in just and reasonable rates, terms and conditions for all users of the CAISO's system. Furthermore, the needs of California's market participants continue to evolve, and the CAISO has already indicated that it anticipates adding a number of market design features in the future. We look forward to those additional refinements, for the benefit of California and the rest of the West.

Background

12. In January 2000, the Commission found the CAISO's congestion management system to be fundamentally flawed and directed the CAISO to design a comprehensive replacement congestion management approach.⁹ The CAISO's progress on this project was hindered by the subsequent California energy crisis of 2000 and 2001. In an order issued December 19, 2001, the Commission further directed the CAISO to propose a plan by May 1, 2002, to implement a day-ahead market, which would be integrated later with the CAISO's future revised congestion management plan.¹⁰ On May 1, 2002, the CAISO responded by filing a proposed market redesign, including tariff sheets. On July 17, 2002, the Commission issued an order accepting in part, rejecting in part and directing

⁹ *Cal. Indep. Sys. Operator Corp.*, 90 FERC ¶ 61,006 (January 2000 Order), *reh'g denied*, 91 FERC ¶ 61,026 (2000).

¹⁰ *San Diego Gas & Electric Co. v. Sellers of Energy and Ancillary Serv.*, 97 FERC ¶ 61,275, at 62,245 (2001) (December 2001 Order).

modifications of the CAISO's proposal.¹¹ Subsequently, the Commission issued numerous orders addressing rehearing requests, various compliance filings, and the market redesign implementation schedule. As a result of these orders, the CAISO withdrew the proposed market redesign tariff previously filed and submitted to the Commission a conceptual proposal, rather than detailed and comprehensive tariff revisions, that set forth proposed market design elements. The CAISO filed the conceptual proposal so that it could gain a clearer view from the Commission as to whether its proposed market design elements were acceptable, prior to incurring significant costs and spending time developing the more detailed tariff language that would be required.

13. On October 28, 2003, the Commission issued a guidance order, addressing the CAISO's revised conceptual proposal.¹² The October 2003 Order, unlike prior orders, addressed the CAISO's proposal in concept only, provided guidance, and sought additional information from the CAISO. The October 2003 Order also established a framework for further development of the issues that were either less developed or raised concerns not fully resolved, as the CAISO continued to develop requisite software and tariff modifications.

14. Subsequently, the Commission issued a number of guidance orders addressing various elements of the CAISO's conceptual proposal on market redesign. In total, the Commission has issued more than 20 orders providing guidance on the CAISO's MRTU proposal in concept and acting on various interim measures providing an immediate remedy to certain market flaws. In addition, the Commission staff held numerous technical conferences to discuss with the CAISO and market participants various features of the CAISO's proposed market redesign.

15. Throughout this time, the CAISO continued its stakeholder process, which has consisted of numerous public meetings with market participants, issuances of white papers, solicitation of comments, and review by the CAISO's Board of Governors and Market Surveillance Committee. This extensive stakeholder process resulted in the CAISO's filing of three conceptual amendments to its prior conceptual proposal on market redesign. In an order issued July 1, 2005,¹³ the Commission approved in principle the majority of the proposed market design elements, provided guidance and sought additional information and explanation of certain other aspects of the proposal.

¹¹ *Cal. Indep. Sys. Operator Corp.*, 100 FERC ¶ 61,060 (2002) (July 2002 Order). The July 2002 Order also imposed a west-wide market power mitigation program.

¹² *Cal. Indep. Sys. Operator Corp.*, 105 FERC ¶ 61,140 (2003) (October 2003 Order), 107 FERC ¶ 61,274 (2004) (June 2004 Order).

¹³ *Cal. Indep. Sys. Operator Corp.*, 112 FERC ¶ 61,013 (July 2005 Order), *order on reh'g*, 112 FERC ¶ 61,310 (September 2005 Order), *order on reh'g and technical conference*, 113 FERC ¶ 61,151 (2005) (November 2005 Order).

16. Simultaneously with the CAISO's market redesign proceeding before the Commission, the California Public Utilities Commission (CPUC) was working on developing resource adequacy requirements. California legislation Assembly Bill (AB) 380 required the CPUC, in consultation with the CAISO, to establish resource adequacy requirements for all load serving entities (LSEs) within its jurisdiction.¹⁴ Under these resource adequacy requirements, LSEs would be obligated to maintain physical generating capacity adequate to meet their load requirements, including, but not limited to, peak load and planning and operating reserves, deliverable to locations as may be necessary to provide reliable electric service.

17. On October 27, 2005, the CPUC issued a Final Decision on resource adequacy requirements.¹⁵ The CPUC Final Decision implements a program of resource adequacy requirements applicable throughout the service territories of California's three IOUs. The CPUC Final Decision requires that LSEs that are IOUs, ESPs and CCAs demonstrate that they have acquired the capacity needed to serve their forecast retail customer load and a 15-17 percent reserve margin beginning in June 2006. The CPUC Final Decision also imposes certain obligations on generators indirectly through their contracts with LSEs. In a June 29, 2006 decision, the CPUC addressed local resource adequacy requirements; it implemented a backstop and penalty for any LSE that is deficient in local capacity requirements, as established annually in accordance with the CPUC-devised allocation principles.¹⁶

¹⁴ California's three largest investor-owned utilities (IOUs), electric service providers (ESPs) and community choice aggregators (CCAs) are within the CPUC's jurisdiction. An ESP is a non-utility entity that offers electric service to customers within the service territory of an electric utility. Each ESP is required to register with the CPUC in accordance with the CPUC-established registration requirements. CCAs are cities and counties authorized by the CPUC to purchase and sell electricity on behalf of utility customers in their jurisdictions.

¹⁵ *Order Instituting Rulemaking to Promote Policy and Program Coordination and Integration in Electric Utility Resource Planning*, Docket No. R. 04-04-003, D. 05-10-042 (Oct. 27, 2005) (CPUC Final Decision). On October 28, 2004, the CPUC issued an interim decision in its resource adequacy proceeding. *Order Instituting Rulemaking To Promote Policy and Program Coordination and Integration in Electric Utility Resource Planning*, Docket No. R. 04-04-003 (Oct. 28, 2004). The interim decision clarified resource adequacy requirements by: (1) setting the initial resource adequacy requirements; (2) accelerating to June 2006 the implementation date for the 15-17 percent planning reserve margin; (3) establishing elements necessary to define a tradable capacity product; and (4) addressing the next procedural steps (Phase 2) required to ensure that a functioning program can be implemented in 2005.

¹⁶ Specifically, the CPUC: (1) approved LSE procurement obligations for year 2007, based on a level of reliability described in the CAISO's 2007 local capacity requirements study; (2) adopted the allocation principles for local capacity requirements,

18. The MRTU proposal, according to the CAISO, will be implemented through the following seven major software systems: (1) Integrated Forward Markets/Real-Time Market/Full Network Model; (2) Scheduling Infrastructure Business Rules;¹⁷ (3) Congestion Revenue Rights model; (4) Settlements and Market Clearing System; (5) Legacy Systems;¹⁸ (6) Master File Redesign;¹⁹ and (7) Post Transaction Repository.²⁰ The CAISO submitted its proposed MRTU Tariff and supporting documentation for Commission review on February 9, 2006. The voluminous filing comprises almost 8,000 pages, including: (1) a 100-page transmittal letter summarizing proposed MRTU Tariff provisions; (2) two volumes of the proposed tariff language; and (3) two volumes of expert testimony and LECG, Inc.'s (LECG) report.²¹

which will be used to establish individual LSE local procurement obligation for future periods; (3) required that LSEs demonstrate the acquisition of 100 percent of their CPUC-determined "year-ahead" local procurement obligation for the following calendar year; and found that these demonstrations are to be made concurrently with the LSEs' annual System Resource Adequacy Requirements compliance filings; (4) adopted a detailed implementation schedule for Local Resource Adequacy Requirements for 2007; and (5) adopted a penalty of \$40 per kW-year on the amount of an LSE's deficiency, in addition to backstop procurement costs. *See Order Instituting Rulemaking to Promote Policy and Program Coordination and Integration in Electric Utility Resource Planning*, Docket No. R. 05-12-013, D. 06-06-064 (June 29, 2006).

¹⁷ Scheduling Infrastructure Business Rules, among other things, validate Scheduling Coordinator bids prior to those bids being used by the market systems, and process Scheduling Coordinator bids after those bids have been validated.

¹⁸ The Legacy Systems are software programs and applications the CAISO uses in its current market and will continue to use under MRTU. These include, among other things, Open Access Same Time Information System (OASIS), Scheduling and Logging in California (SLIC) for generator outage scheduling, the automated dispatch system (ADS) and the energy management system (EMS).

¹⁹ The Master File provides the CAISO with information about generators (maximum capacity, ramp rates, etc.) and load (location of take-out points) that rarely changes. In MRTU, the software systems will need different data inputs than what currently resides in the Master File. Thus, the Master File will be redesigned under MRTU.

²⁰ The Post Transaction Repository is a database that will contain more information than is actually needed for the settlement process. The CAISO and Scheduling Coordinators can query this database to produce a number of reports.

²¹ The CAISO retained the services of LECG, an outside consulting firm, to review and evaluate all aspects of the CAISO's conceptual proposal on market redesign. The consultants compiled their analysis in a report entitled *Comments on the California ISO MRTU LMP Market Design*, which the CAISO released to the public on February 23, 2005. LECG's report was also included in the CAISO's May 13, 2005 filing, which was addressed in the July 2005 Order.

Notice, Motions To Intervene And Responsive Pleadings

19. Notice of the CAISO's MRTU Tariff filing was published in the *Federal Register*, 71 Fed. Reg. 9,810 (2006), with comments, protests, or interventions due on March 27, 2006. Though the Commission's Rules of Practice and Procedure only provide 21 days for comments, and do not provide for the filing of reply comments, because of the complexity of this filing the Commission provided 60 days for comments and more than five weeks for reply comments.²²

20. Timely motions to intervene were filed by 61 entities, as listed in Appendix A to this order.²³ Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2006), the filing of a timely motion to intervene that has not been opposed makes the movant a party to the proceeding.

21. Arizona Electric Power Cooperative, Inc. and Southwest Transmission Cooperative, Inc. (Arizona/Southwest Coops); Epic Merchant Energy LP and SESCO Enterprises LLC (EPIC/SESCO); PacifiCorp; San Francisco Bay Area Rapid Transit District; Los Angeles Department of Water and Power (LADWP), WestConnect Parties²⁴ and American Public Power Association (APPA) filed motions to intervene out-of-time. Given the lack of undue prejudice and the parties' interests, we find good cause to grant under Rule 214 of the Commission's Rules of Practice and Procedure, [18 C.F.R. § 385.214](#) (2006), these unopposed, untimely motions to intervene.

22. Numerous parties submitted comments and/or protests along with their motions to intervene.²⁵ Comments were filed by parties representing a wide array of view points,

²² *Notice of Extension of Time*, Docket No. ER06-615-000 (Mar. 7, 2006); *Notice of Extension of Time*, Docket No. ER06-615-000 (Apr. 21, 2006).

²³ We note that Appendix B includes short cites of entities' names. Appendix C includes a listing of acronyms used in the order.

²⁴ WestConnect Parties include Arizona Public Service Company, El Paso Electric Company, Public Service Company of New Mexico, Public Service Company of Colorado, Tucson Electric Power Company, Sierra Pacific/Nevada Power Company, Salt River Project Agricultural Improvement and Power District, Western Area Power Administration (Western), Tri-State Generation and Transmission Association, Imperial Irrigation District (Imperial) and Southwest Transmission Cooperative, Inc.

²⁵ We note that the Bay Area Municipal Transmission Group (Bay Area Municipals), which includes the City of Santa Clara, the City of Alto and the City of Alameda, California; the Cities of Redding and Santa Clara, California and M-S-R Public Power Agency (Cities/M-S-R); California Municipal Utilities Association (CMUA); Lassen Municipal Utility District (Lassen); Modesto Irrigation District (Modesto); Transmission Agency of Northern California (TANC); and Western, support the Control Area Coalition's comments. The Control Area Coalition includes the Bonneville Power

including municipalities, cooperatives, independent power providers, the three California IOUs, consumer advocate groups, public power agencies and state agencies. Altogether the Commission has received more than 2,000 pages of reply pleadings.

23. Numerous answers were filed to reply comments. Rule 213(a) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a), prohibits answers to an answer unless otherwise permitted by the decisional authority. We are persuaded to allow all answers to reply comments to the extent they assisted us in our decision-making.

Procedural

24. At the outset, we note that a number of parties raise procedural issues concerning the MRTU Tariff filing. For example, several parties ask the Commission to reject, suspend or defer action on the CAISO's tariff filing.²⁶ Others request a technical conference, either to expedite resolution of a number of concerns soon after reply comments are filed,²⁷ or to focus on specific issues, such as: seams;²⁸ CRRs;²⁹ the

Administration (BPA), Imperial, LADWP, Sacramento Municipal Utility District (SMUD), Salt River Project, Turlock Irrigation District (Turlock) and Western. Bay Area Municipals adopts the comments of Northern California Power Agency (NCPA), CMUA, the Control Area Coalition and Cities/M-S-R. Williams Power Company, Inc. (Williams) and NRG Companies adopt Western Power Trading Forum and Independent Energy Producers Association's (WPTF/IEP) protest. NRG Companies include NRG Power Marketing, Inc., West Coast Power, LLC and NEO California Power, LLC. Coral Power, L.L.C. (Coral) supports the protests of WPTF/IEP and the MRTU Staging Coalition. APS Energy Services, Inc. (APS Energy) supports the Alliance for Retail Energy Markets' (AREM) comments.

²⁶ *E.g.*, Turlock Comments at 16-17, 24 (asserting that the CAISO's proposals to prohibit both self-scheduling and export of ancillary services are unjust and unreasonable); Bay Area Municipals Comments at 13-18 (arguing that the MRTU Tariff is incomplete without Business Practice Manuals, long-term firm transmission rights and the resolution of seams issues); *see also* TANC Comments at 40-41, Cities/M-S-R Comments at 50, Metropolitan Reply Comments at 4 and Burbank Comments at 4.

²⁷ *See* PG&E and CPUC Joint Motion at 8-10; SMUD's Motion to Intervene and Answer in Support of Motion at 3-4.

²⁸ *E.g.*, Control Area Coalition Comments at 2, 14 (asking for a limited technical conference to define and subsequent evidentiary hearing to resolve the seams issue created by MRTU's financial transmission rights model adjoining the physical transmission rights model used in the rest of the West).

²⁹ SMUD's Motion for Leave to File Answer and Answer to CAISO Reply at 4-10, 13-15.

prohibition on exports of ancillary services; local market power mitigation;³⁰ adequacy of suppliers' cost recovery;³¹ reliability capacity payments;³² tariff language deficiencies;³³ pre-MRTU readiness criteria;³⁴ correction authority;³⁵ Business Practice Manuals;³⁶ and convergence bidding.³⁷ Arguing that the MRTU filing raises disputed issues of material fact that cannot be resolved on the basis of the written record, several parties ask the Commission to order a full evidentiary hearing.³⁸ Others request the Commission to require a phased-in market redesign that: (1) adopts the most tested, workable solutions to the CAISO's current market inefficiencies; and (2) defers implementation of what they consider the more contested, costly elements, such as LMP, until they are more thoroughly evaluated and proven efficient.³⁹

25. As explained more thoroughly in the body of this order, we find the MRTU Tariff, as modified by the CAISO in accordance with the directives contained in this order, to be just and reasonable, and that parties have failed to demonstrate that the tariff is unjust and unreasonable.⁴⁰ Consequently, there is no need to reject, suspend or defer action on the tariff. We also find it unnecessary to set the tariff for hearing. Parties have provided thousands of pages of testimony and exhibits in this proceeding, both supporting and opposing specific aspects of the tariff filing. While the sheer number of pages of filings and testimony alone does not resolve factual disputes, we have found the record sufficient to make determinations, and to direct compliance filings, where necessary, to modify the tariff.⁴¹ As for technical conferences, as discussed in more detail in the pertinent sections below, we establish three technical conferences on: (1) the allocation of resource adequacy import capacity; (2) Business Practice Manuals; and (3) seams. Finally, while we understand certain parties' uneasiness with the pace of MRTU implementation, given the backdrop of the California energy crisis, we will not require additional phase-in of the market redesign, beyond that which we have already established. Specifically, the

³⁰ Calpine Comments at 6-7.

³¹ *Id.*

³² *Id.*

³³ WPTF/IEP Comments, joined by Williams, at 115.

³⁴ CPUC Comments at 38, 40.

³⁵ *Id.*

³⁶ *Id.*

³⁷ WPTF/IEP Comments, joined by Williams, at 47.

³⁸ *E.g.*, SMUD Answer at 2-11. Control Area Coalition Comments at 2, 14.

³⁹ MRTU Staging Coalition Comments at 4, 12.

⁴⁰ Of course, parties will have an opportunity to comment on whether the CAISO did indeed comply with the Commission's directives.

⁴¹ We note that, in this order, the Commission seeks additional information from the CAISO on certain minor details/issue-specific matters, and parties will have the opportunity to comment on the information the CAISO submits in response to these requests.

MRTU Staging Coalition requests deferral of certain design elements, most notably LMP, until a second phase of redesign. LMP, however, is central to the market redesign. Locational prices provide more accurate information about the cost of delivering power to customers in different locations. LMP will enable the CAISO and its customers to make more informed purchase and sales decisions, and will help determine the best location for new generation. Moreover, LMP is not a novel concept, even within California. LMP markets have been successfully implemented in PJM Interconnection, LLC (PJM), New York Independent System Operator (New York ISO), ISO New England, Inc., and Midwest Independent Transmission System Operator, Inc. (Midwest ISO) and the CAISO has worked steadily with market participants over the past few years to accommodate existing contracts and pre-existing relationships within the context of the LMP mechanism. Accordingly, as discussed more fully in the LMP section below, the benefits to be gained from implementing LMP outweigh the concerns raised by its detractors.

Overview Of The Mrtu Tariff Proposal

26. The MRTU Tariff provides for a new congestion management system, revises market power mitigation measures, and establishes a forward energy market. Under the MRTU Tariff, the CAISO will also use LMP (consisting of energy, congestion and transmission losses) to allocate transmission capacity among competing uses, and will settle with supply resources based on the applicable nodal price as determined by the security constrained unit commitment algorithm⁴² and the local market power mitigation measures. Under the CAISO's LMP-based system, while suppliers will settle at the nodal LMPs, load will be settled at an aggregated price; that is, the nodal prices will be aggregated and averaged over each of the three existing IOU service territories. The CAISO's proposed use of pricing zones to settle load allows consumers to pay an average zonal price based upon the weighted average of the nodal LMPs within a zone and, thus, protects consumers located in highly congested areas from high prices that result from congestion.

27. A fundamental market design feature introduced under the CAISO's proposal is the Full Network Model. Under the current market design, the CAISO can determine the level of congestion day-ahead only on transmission paths between the zones and, accordingly, is compelled to address congestion problems within the zones in real time. The proposed Full Network Model will accurately depict available capacity and constraints on the CAISO's grid across all market time frames to ensure that market

⁴² The security constrained unit commitment algorithm is performed by a computer program over a multi-hour time horizon that determines the commitment status, schedules and dispatch instructions for selected resources. The algorithm also minimizes production costs while respecting the physical operating characteristics of selected resources and transmission constraints.

outcomes are consistent with real-time operation of the transmission grid. Specifically, the Full Network Model is a mathematical representation of the CAISO's physical transmission system. It reflects the topology of the grid and associated transmission constraints, in all of the CAISO markets. The Full Network Model depicts the CAISO Control Area, control areas that are embedded within the CAISO Control Area, and those adjacent to the CAISO Control Area and within California.

28. The CAISO's MRTU Tariff establishes a financially binding day-ahead market, a Residual Unit Commitment Process (RUC), an Hour-Ahead Scheduling Process (HASP) and a real-time market. The day-ahead market will co-optimize energy, congestion management and ancillary services procurement in the day-ahead time frame. In the day-ahead market, market participants will submit preferred schedules and bids for energy and ancillary services through a CAISO-certified Scheduling Coordinator. After all schedules and bids have been submitted, the CAISO will economically optimize those bids in light of transmission constraints. In addition, the CAISO will procure 100 percent of the ancillary services forecasted in the day-ahead market. Once the schedules and bids have been cleared and the CAISO has established the final day-ahead schedules, the CAISO will compare the schedules to its projected load forecast. If the amount of energy included in the final day-ahead schedules is below the CAISO's load forecast, the CAISO will secure additional resources to meet its load forecast; this process is referred to as RUC.

29. Subsequent to the day-ahead market, the CAISO proposes to implement the HASP procedures, which allow for adjustments to the day-ahead schedules as real-time delivery approaches, but will not create a separate financial settlement, except for exports and imports. The settlements for the hour-ahead and real-time markets will be combined.

30. Under the MRTU Tariff, the CAISO also proposes to replace the current system of contract path-specific Firm Transmission Rights with CRRs. Instead of specific paths, the CAISO's CRR design recognizes a set of network nodes in which power is injected and withdrawn from the transmission grid. Proposed CRRs will entitle the CRR holder to receive revenues based on the congestion charges assessed to load according to whether the LMP at the source is greater or less than the LMP at the sink. The CAISO proposes to conduct an annual process for the release of seasonal CRRs, both peak and off-peak, and a separate process for the release of monthly CRRs. Each of the CRR release processes consists of two major components – the CRR allocation and the CRR auction. The CAISO plans to limit participation in the CRR allocation to LSEs and will conduct an auction for the remaining CRRs to be released.

31. The CAISO proposes to end the current Commission-imposed must-offer obligation on generation and transition to a capacity-based obligation. Under the MRTU Tariff, each Scheduling Coordinator scheduling for LSEs with load in the CAISO's control area is required to demonstrate that it meets standards concerning forward

capacity and energy procurement established by their local regulatory authority, including the CPUC. All LSEs, including those that are not subject to the CPUC jurisdiction, are required to provide the CAISO with certain categories of information to satisfy the resource adequacy demonstration requirement. For LSEs under the CPUC jurisdiction, the information requirement is based on the CPUC standards. For all other LSEs, the CAISO imposes general information requirements.

32. Under the MRTU Tariff, the CAISO proposes to adopt market power mitigation measures consisting of the following features: (1) bid caps on energy and ancillary services; (2) local market power mitigation of energy bids similar to that implemented in the PJM market; (3) compensation for frequently mitigated units; (4) capacity payments for some generators under the state's resource adequacy program; and (5) a limited scarcity pricing proposal. The CAISO states that its objective is to approximate the prices that would result in a competitive market.

33. The MRTU Tariff implements MRTU Release 1, which the CAISO states it is prepared to begin in November 2007. The CAISO states that it intends to have future Releases to further refine its market design and to include market features that were proposed for inclusion in the MRTU Tariff but were deferred due to software limitations. The CAISO states that Release 2 of the MRTU will be launched within three years of the implementation date of Release 1. In addition, the CAISO plans to implement Release 1A, which will include convergence bidding.⁴³ According to the CAISO, the launch of Release 1A will be possible within 12 months of the implementation date of Release 1.

Discussion

34. We conditionally accept the CAISO's MRTU Tariff for filing to be effective, November 1, 2007, subject to further modifications, as directed in this order.⁴⁴

35. Below are the Commission's discussion and findings that primarily address aspects of the MRTU Tariff proposal that have been contested by various commenters. Our review of the proposed MRTU Tariff sections that are not contested and not specifically discussed herein indicates that they are just and reasonable and are hereby accepted for filing, effective November 1, 2007.

⁴³ 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 and that allows day-ahead and real-time prices to converge.

⁴⁴ Some commenters are concerned about the standard of review that will be applied in this proceeding. As indicated previously, we have allowed the parties to this proceeding to revisit *de novo* issues raised here with respect to conceptual filings now that the CAISO has filed a comprehensive tariff. Likewise, we have conducted a *de novo* review of the filing before us.

I. Adoption of an LMP-Based Market

A. Full Network Model

36. As described in MRTU Tariff section 27.5, the CAISO proposes to use a Full Network Model of the transmission grid.⁴⁵ The CAISO states that the Full Network Model eliminates the problem of infeasible schedules inherent in the current zonal design. According to the CAISO, the Full Network Model provides an accurate representation of the CAISO Control Area and all control areas that are either embedded within the CAISO Control Area or adjacent to the CAISO Control Area and within the State of California. External control areas are not included in the Full Network Model, except for those transmission facilities for which Participating Transmission Owners (PTOs) have converted their scheduling rights. Interconnections with all other adjacent control areas are modeled as radial lines.

37. Under MRTU, the Full Network Model is also used in the allocation and auction of CRRs, as well as in the CAISO's spot markets, so that these congestion hedging instruments reflect as closely as possible the grid constraints that are actually binding in the spot markets.⁴⁶

Discussion

38. The Cities/M-S-R contend that the CAISO's current proposal for the Full Network Model does not represent power flows in external areas, does not allow the CAISO to estimate or manage parallel path or loop flows in embedded control areas and does not fully model adjacent control areas. They argue that the CAISO should be required to specify the implications of these modeling deficiencies and how it intends to cure them.

39. The Cities of Anaheim, Azusa, Banning, Colton, Pasadena, and Riverside, California (Six Cities) state that the CAISO's software vendor was recently provided a change order to ensure that the Full Network Model will include adjacent and embedded control areas "predominantly within California to the extent the CAISO has sufficient data to do so" and claim that stakeholder discussion and technical input are still needed to resolve issues with modeling these areas. Additionally, the Six Cities contend that, although MRTU Tariff section 27.5 describes the new Full Network Model, it does not explain how the CAISO will identify and address changes in the topology of the transmission network that affect the validity of the solutions produced by the Full Network Model.

⁴⁵ The Commission has accepted in concept the proposed Full Network Model. See July 2002 Order, 100 FERC ¶ 61,060 at P 105.

⁴⁶ See CAISO Transmittal Letter, Attachment F: Kristov Testimony at 16 (Kristov Testimony).

40. WPTF/IEP and Williams argue that the CAISO should be required to provide market participants with the Full Network Model details including constraint information. WPTF/IEP contend that it is critical for market participants to have access to the Full Network Model details in order to understand the likely outcomes in the CAISO markets.

41. The CPUC asserts that key modeling information must be provided to the LSEs so that LSEs may be best prepared to plan, hedge, and operate in the LMP and MRTU market. The CPUC states that, for example, knowledge of the grid's actual transmission constraints would allow LSEs to determine which generators would provide deliverable energy with the least additional transmission expense. The CPUC lists some examples of information LSEs need: transmission flow limits/constraints; other Full Network Model assumptions; and load modeling assumptions, including the CAISO's methods for taking highly aggregated schedules and spreading them out to individual load nodes and other technical information necessary to understand how the load modeling will work.

42. The CPUC supports stakeholder requests for CAISO release of the Full Network Model. The CPUC requires this information itself in order to determine whether the CAISO's modeling assumptions are consistent with the state's priorities regarding dispatch of energy. The CPUC understands that the CAISO has been considering confidentiality issues regarding the release of such information. If the CAISO declines to release the Full Network Model to LSEs, the CPUC asks the Commission to issue an order requiring the CAISO to show cause why it should not be obligated to release this information to all LSEs serving load within the CAISO system.

43. The CAISO responds that the CAISO's decision to go with a radial rather than a looped network model for external control areas was driven by the current contract path-based scheduling practice prevalent in the rest of the Western Electricity Coordinating Council (WECC). The CAISO explains that, while the CAISO is moving from a contract path-based (zonal/radial) network model to a full physical network model of the CAISO Control Area, it could not require external control areas to adopt similar scheduling practices. Given the constraints, the CAISO states that radial external network modeling is the only meaningful option available to the CAISO. The CAISO adds that, in the future, if and when the rest of WECC adopts physically-based forward scheduling practices, the CAISO will adapt its external network accordingly.

44. However, the CAISO believes that Cities/M-S-R's concerns will nevertheless be addressed because the software change order recently provided to the CAISO's vendor will ensure that the Full Network Model will include embedded and adjacent control areas that are predominantly within California to the extent the CAISO has sufficient data to do so. The CAISO states that, due to the location of these control areas, it should have the information to more fully model embedded control areas and will have the information to develop a better model for adjacent control areas than for external control areas that do not border the CAISO Control Area. The CAISO recognizes that detailed

stakeholder discussion and review will be needed to resolve technical issues and data issues associated with the modeling of such adjacent and embedded control areas.

Commission Determination

45. Our understanding is that the CAISO has committed to undertaking further discussions and review with stakeholders to resolve technical and data issues associated with the modeling of adjacent and embedded control areas. We support the CAISO's commitment to include more information concerning adjacent and embedded control areas in the Full Network Model as soon as possible. In addition, while we agree that the CAISO should operate the California grid using the most accurate model of internal and external areas that it can and direct the CAISO to work with external control areas to develop the model more fully in the future, we understand that the CAISO can only model external areas to the extent it has the information to do so.

46. We note that, on August 18, 2006, the CAISO made the Full Network Model available, subject to a non-disclosure agreement, to market participants for use in reviewing and analyzing the CAISO's CRR Dry Run simulation and the CRR markets.⁴⁷ We agree with the CPUC that knowledge of the grid's actual transmission constraints could allow LSEs to determine which generators are available to provide deliverable energy with the least additional transmission expense, among other things. Similarly, we find that the CAISO should include in the MRTU Tariff a description of the process it intends to use when addressing changes in the topology of the grid in terms of the specifics on how the new information will be incorporated into the Full Network Model. We believe this information is necessary because the inputs and assumptions used in the Full Network Model will impact the LMPs. Accordingly, we direct the CAISO to submit a compliance filing within 60 days of the date of this order with revised tariff sheets including an outline of the general process it intends to use to account for changes in the topology of the grid and tariff language that indicates that the Full Network Model is available to market participants if they sign a non-disclosure agreement.

B. LMP

47. The CAISO proposes to use LMP to manage congestion and price energy and ancillary services.⁴⁸ It states that the use of LMP allows the CAISO to accurately reflect the least cost of serving the next MWh of demand at each location on the CAISO grid,

⁴⁷ See CAISO's Market Notice, *Congestion Revenue Rights Full Network Model Available with [Non-Disclosure Agreement]* (Aug. 15, 2006) <http://caiso.com/1853/1853b1dd59382.html>.

⁴⁸ LMP is currently used in PJM, the New York Independent System Operator (New York ISO), ISO New England, Inc. (New England ISO) and the Midwest Independent Transmission System Operator (Midwest ISO).

including the cost of congestion and transmission losses, resulting in a more efficient and effective dispatch. In addition, the CAISO states that LMP-based markets provide locational information to entities considering long-run investments in new generation, load management and other demand resources. In short, according to the CAISO, LMP: (1) sends more accurate price signals that encourage efficient supply and demand decisions in both the short-run and long-run time frames; (2) facilitates the efficient use of the transmission system; and (3) promotes efficient trading and the development of competitive wholesale power markets.

48. The CAISO notes that an LMP-based market ensures feasible schedules and, thus, eliminates the current market design problems with infeasible schedules.⁴⁹ Under the MRTU proposal, Scheduling Coordinators do not submit schedules; they submit bids, which can be economic bids or self-schedules. The CAISO explains that the MRTU software optimizes resources based on submitted bids and develops feasible day-ahead schedules containing the MWh scheduled for each hour of the next day and associated LMPs. This schedule is based on the Full Network Model. As a result, the CAISO states that opportunities for market manipulation that could result from infeasible schedules under the current market design are eliminated under MRTU.

49. In addition, the CAISO indicates that if effective local market power mitigation measures are in place, it does not anticipate that implementation of LMP will result in significant increases in wholesale energy costs. The CAISO states that its MRTU proposal includes several elements, such as local market power mitigation, CRRs and settlement of load at Load Aggregation Point (LAP)⁵⁰ prices, to mitigate the impacts of

⁴⁹ The CAISO currently employs a zonal congestion management model that explicitly models only transmission constraints between three large congestion zones, as well as interties with adjacent control areas, but does not model the hundreds of intra-zonal transmission constraints. As a result, the CAISO's day-ahead and hour-ahead congestion management system cannot determine whether the submitted schedules are feasible. *See* Kristov Testimony at 22.

⁵⁰ The CAISO proposes to calculate and settle energy charges for the majority of loads in the CAISO Control Area according to the zone in which the load is located. The CAISO has created three pricing zones for this purpose called LAPs. The three pricing zones correspond to the service territories of the three major California IOUs: Pacific Gas & Electric Company (PG&E), Southern California Edison Company (SoCal Edison) and San Diego Gas & Electric Company (SDG&E). For each pricing zone, the CAISO calculates an average zonal price based upon the weighted average of the nodal LMPs within that zone. According to the CAISO, in general, the use of LAP zone pricing for settling energy charges protects consumers in load pockets from high nodal LMPs and ensures that most consumers pay an average zonal price for energy regardless of their location on the grid. *See* discussion below under LAP Load Settlement.

price volatility under LMP without compromising the effectiveness and the benefits of the LMP design.⁵¹ The market design elements are discussed in detail below.

50. As described in MRTU Tariff section 27.1, the LMP at a given node is comprised of the following three components: (1) the system marginal energy cost; (2) the marginal cost of congestion; and (3) the marginal cost of losses. Under the MRTU proposal, an LMP is calculated for all nodes, including the ones without load. The three components are described in the testimony of Dr. Rahimi. “For the sake of conceptual simplicity, the [system marginal energy cost] can be thought of as the marginal cost of serving [l]oad (i.e., the \$/MWh cost of serving the next incremental MW of load) anywhere on the system in the absence of [c]ongestion and losses.”⁵² Dr. Rahimi adds that the system marginal energy cost is the same for all network nodes and that when the LMPs are different at two nodes, the difference is due to the marginal loss and marginal congestion components of the LMPs.⁵³

51. According to Dr. Rahimi, the marginal cost of congestion at a node may be positive or negative depending on whether incremental power consumption at the relevant node marginally increases or decreases congestion on the congested path(s). Likewise, the marginal loss cost at a node reflects the marginal cost of transmission losses associated with serving an increment of load at that node, and may be positive or negative depending on whether incremental power consumption at the relevant node marginally increases or decreases transmission losses.⁵⁴

Discussion

52. Constellation Energy Commodities Group, Inc., Constellation New Energy, Inc., and Mirant Parties⁵⁵ (Constellation/Mirant) argue that LMP is an efficient pricing system that reflects the true marginal cost of generation in particular locations. The MRTU Staging Coalition⁵⁶ argues that the burdens, risks, and costs of the CAISO’s LMP-based market redesign far outweigh its speculative benefits and the CAISO has not filed a cost/benefit analysis justifying its proposal. The Cities/M-S-R and Bay Area Municipals also argue that the CAISO has not established that the benefits of LMP outweigh its

⁵¹ See Kristov Testimony at 24.

⁵² See CAISO Transmittal Letter, Attachment I: Rahimi Testimony at 34 (Rahimi Testimony).

⁵³ *Id.* at 35.

⁵⁴ *Id.* at 40-41.

⁵⁵ This group includes Mirant Energy Trading, LLC; Mirant California, LLC; Mirant Delta, LLC and Mirant Potrero, LLC.

⁵⁶ The MRTU Staging Group includes Strategic Energy, LLC (Strategic), Coral, SMUD, APS Energy, the California Manufacturers and Technology Association and the California Large Energy Consumers Association.

burdens on entities located in constrained and congested areas. Lassen argues that, among other things, LMP has produced prices in the PJM and New England ISO regions that are higher than they were before LMP was instituted, LMP has failed to attract new investment, LMP is not based on marginal cost, and LMP creates uncertainties for generators and consumers. SMUD disputes the contention that an LMP-system improves the market's efficiency by enhancing price signals.

53. Western argues that the potential for a negative LMP, as discussed in Rahimi's Testimony,⁵⁷ creates a disincentive for generators to bid as price takers, because a price-taker could be charged a negative LMP. Specifically, Western is concerned that hydroelectric facilities must release water in order to provide downstream river flows to meet regulatory and statutorily imposed environmental criteria such as minimum stream flows and water quality objectives, and that, during spring runoff, hydroelectric facilities could create a generation pocket. As a result, it may owe the CAISO money for generating. According to Western, the result may be that, contrary to federal law, Western does not receive the amount of money it expected and the amount of money it may owe would be unknown and undefined.⁵⁸

54. PG&E, FPL Energy, LLC (FPL), and NCPA contend that the CAISO must provide a more detailed description of the LMP calculations it intends to perform. Specifically, FPL argues that the CAISO's four-paragraph description of the calculation of LMP and its components is insufficient, must be clarified, subjected to market participant comment and filed with the Commission. NCPA notes that the New York ISO tariff sets out the entire LMP calculation. PG&E requests that the Commission provide for a technical conference on this subject so that the CAISO may more fully explain its methodologies. PG&E adds that the CAISO should file a compliance filing with the Commission to ensure that the methodology is clear and transparent in the final tariff language.

55. Bay Area Municipals assert that LMP should not be used in California because LMP unfairly creates both winners and losers based on the historical decisions made by the IOUs prior to the CAISO regime. Bay Area Municipals argue that there is no evidence that LMP gives the long-term price signals necessary to provide incentives for transmission investment.

56. The Cities/M-S-R state that they agree with Lassen that LMP must not be implemented because: (1) LMP has produced prices in PJM and New England ISO regions that are consistently higher than they were before LMP was instituted, with even

⁵⁷ Rahimi Testimony at 16-20.

⁵⁸ Western states that, by federal law, it cannot knowingly enter into any contracts where there is a potential that the federal government could be liable for an unknown future liability.

greater cost uplifts to consumers in some areas, such as southwestern Connecticut and the Delmarva Peninsula; (2) wherever LMP has been implemented, the price signals which LMP supposedly produces have failed to attract sufficient new investment to relieve transmission congestion and generation shortages, or to materially reduce consumer demand; (3) LMP regimes can provide strong incentives to certain parties to sit tight and let prices continue to creep upward instead of investing; and (4) in four respects, LMP is not really based on marginal cost. First, so long as proxy natural gas prices and other similarly hypothetical factors are used to determine marginal costs, those marginal costs are effectively established by the market operator. Second, the CAISO has declared its intention to use estimated costs to determine marginal costs. Third, the estimated costs are mitigated before they are applied to the algorithm. Finally, the LMP algorithm itself adds more costs, including the costs of paying for decremental bids to generation at many locations on the grid. Cities/M-S-R contends that paying generators for decremental bids removes the incentive to build new transmission.

57. The CAISO responds that the Commission approved the implementation of an LMP-based design in California almost three years ago. The CAISO also states that the Commission's subsequent MRTU orders built upon the Commission's initial acceptance of LMP in October 2003 by accepting the CAISO's proposal to use marginal losses in its calculation of LMPs. According to the CAISO, reversing course on the LMP-based market design would result in an unprecedented waste of time, money, and resources.

58. The CAISO states that the parties opposed to LMP pricing have not met the burden of demonstrating that LMP-based markets are not just and reasonable in California. Further, it argues that they could not possibly meet this burden given the Commission's long recognition of the benefits of such a market design. According to the CAISO, the Commission has approved LMP-based markets in PJM, New York ISO, New England ISO, and the Midwest ISO and has recognized that LMP will promote efficient dispatch and use of the transmission grid.

59. In response to Bay Area Municipals' argument that LMP does not address the underlying need for transmission infrastructure investment in the Bay Area region, the CAISO contends that it already has an approved transmission process and has committed to develop enhancements to the planning process, which allows the CAISO to take a proactive role in regional planning.⁵⁹ According to the CAISO, its transmission planning process identifies the transmission projects needed to maintain system reliability and those that provide economic benefits. The CAISO contends that the move to LMP-based markets will provide more accurate price signals that should provide incentives for

⁵⁹ In addition, the CAISO states that LMP provides price signals that promote the development of merchant transmission, although its transmission planning process does not rely on merchant transmission.

generation to locate in the right places.⁶⁰ According to the CAISO, these price signals will also help the CAISO and transmission developers identify transmission projects that provide economic benefits by relieving transmission constraints. Finally, the CAISO asserts that no party has credibly rebutted Dr. Harvey's testimony that an LMP-based market design is needed in California.⁶¹

60. The CAISO states that it believes that the level of detail it has provided in the MRTU Tariff concerning the calculation of LMP is comparable to the level of detail provided in the PJM tariff. However, it also states that it recognizes that in recent years the trend has been to include additional detail in tariffs on LMP calculation.⁶² The CAISO proposes to submit a compliance filing containing a more detailed description of the LMP calculation once the CAISO and the stakeholders complete the process of developing the Business Practice Manuals, which will identify further details to include in the MRTU Tariff.

61. In response to Western's arguments concerning the concept of a negative LMP, the CAISO states that an entity using an Existing Transmission Contract (ETC) or CRR is not affected because the entity is hedged against the congestion price differential. The CAISO adds that a negative LMP may appropriately signal that there is enough congestion or over-generation that an entity is willing to pay to deliver energy. Thus, the CAISO has to pay others to take or export energy. According to the CAISO, Western could, in theory, be charged for generating if the markets produce a negative LMP and Western was self-scheduling generation. However, the CAISO states that Western can avoid this outcome by bidding low positive prices or submitting a zero-dollar bid, indicating that it is not willing to produce for less than zero dollars.

Commission Determination

62. The use of a system of locational prices to dispatch generation resources provides the CAISO with a valuable tool for managing the grid and is a vast improvement over the existing system in which the CAISO accepts schedules that are not feasible (i.e., the power is not physically capable of getting from one point on the grid to another) and then is required to increase and decrease generation to accommodate the schedules after the fact. The existing system results in added system costs not only from the standpoint of generation dispatched out of merit order but also in terms of CAISO resources needed to manage the system in real times. By instead using a system of locational prices, prices at

⁶⁰ The CAISO states that, under the current design, the addition of generation can create generation pockets that are masked by the zonal pricing of congestion.

⁶¹ CAISO Transmittal Letter, Attachment H: Harvey Testimony at 23-31 (Harvey Testimony).

⁶² The CAISO cites *Midwest Indep. Transmission Sys. Operator, Inc.*, 109 FERC ¶ 61,157, at P 560 (2004).

a given location will reflect the market price of what that power is worth given transmission constraints.⁶³ This does not necessarily mean that customers will pay that locational price; in fact, we are accepting the initial use of aggregation of prices; it does mean, however, that the cost of congestion that heretofore was not transparent will be made transparent and, to the extent these costs were previously embedded or hidden, they will be known. LMP is a pricing system that provides a transparent price signal reflecting the marginal cost to supply energy at specific locations.⁶⁴ Thus, we disagree with those protestors who imply that the implementation of LMP is responsible for rising energy costs.

63. The proposal to use LMP should come as no surprise to market participants. It has been long in the making and in fact the CAISO has worked over the last several years with market participants to accommodate existing contracts and other pre-existing relationships. The Commission has repeatedly recognized that an LMP-based market design provides market participants with the information necessary to make cost-effective decisions when using the transmission system, promotes efficient trading, and provides the market with signals on where investment in new generation and transmission are needed. Thus, the Commission has approved LMP-based markets in PJM, the New York ISO, the New England ISO and the Midwest ISO.⁶⁵ Furthermore, the Commission approved the concept of an LMP-based market design in California approximately three years ago.⁶⁶ Nonetheless, our acceptance of LMP for the CAISO is based on a review of the record before us in this proceeding. We continue to believe that LMP market designs promote efficient use of the transmission grid, promote the use of the lowest-cost generation, provide for transparent price signals, and enable transmission grid operators to operate the grid more reliably. We find that there are no disputed issues of material fact that require an evidentiary hearing and there is no need to convene a technical conference on this subject.

⁶³ We note that the market will be protected through the use of the market power mitigation procedures that we accept below.

⁶⁴ We note that LMPs are, in part, based on offers to supply energy, which will fluctuate over time as the costs of inputs rise or fall.

⁶⁵ *See, e.g., New PJM Co.*, 107 FERC ¶ 61,271, at P 55, n.68 (2004) (quoting *Pennsylvania-New Jersey-Maryland Interconnection*, 81 FERC ¶ 61,257, at 62,253 (1997) (*PJM Interconnection*)) (“In approving the PJM market design, using market-based rates, the Commission found that this market design would produce efficient and coordinated dispatch: ‘We believe that the LMP model will promote efficient trading and be compatible with competitive market mechanisms. In this regard, we find that the LMP approach will reflect the opportunity costs of using congested transmission paths, encourage efficient use of the transmission system, and facilitate the development of competitive electricity markets.’”).

⁶⁶ October 2003 Order, 105 FERC ¶ 61,140 at P 50.

64. However, we agree with those parties that argue that a more detailed description of the calculation of LMP and its components should be included in the MRTU Tariff. Consistent with Commission precedent,⁶⁷ we direct the CAISO to augment its tariff sheets with more details concerning this calculation and to file, within 30 days of completion of the stakeholder process on Business Practice Manuals, but no later than 180 days prior to the effective date of MRTU Release 1, revised tariff sheets containing a detailed description of the LMP calculation methodology. Accordingly, we conditionally accept the CAISO's adoption of LMP for managing congestion in its markets.

65. We find that the CAISO's answer sufficiently addresses Western's concerns regarding negative LMPs. As the CAISO points out, Western may avoid paying to deliver energy by submitting either a zero or a low price bid. Then, whenever the LMP at the generator's node falls below the bid, the generator can stop producing energy and avoid the risk of being required to make a payment to produce energy. If a hydro generator is required to release water to meet non-power requirements, it can do so by spilling water without producing electricity. Furthermore, the CAISO states that, if Western would submit specific examples of its concerns, the CAISO would explain how appropriate bidding practices can address Western's specific concerns. We encourage Western to work with the CAISO in resolving its specific concerns about the LMP market. At this time, however, we find that Western's concerns regarding LMP have been adequately answered by the CAISO and the results are just and reasonable.

C. Marginal Losses

66. The CAISO states that incorporating the marginal cost of losses into LMPs is necessary to assure least-cost dispatch and establish nodal prices that accurately reflect the cost of supplying the load at each node.⁶⁸ The CAISO explains that, because marginal losses rise exponentially with transmission system flows, they exceed average losses roughly by a factor of two, resulting in an over-collection of loss revenues. The CAISO proposes to distribute this over-collection to market participants in a different manner than it proposed in its July 23, 2003 conceptual filing.⁶⁹ In that filing, the CAISO had proposed crediting the over-collection to the CRR balancing account and distributing

⁶⁷ *Midwest Indep. Transmission Sys. Operator, Inc.*, 109 FERC ¶ 61,157.

⁶⁸ Marginal losses reflect the marginal cost of transmission losses associated with serving an increment of load.

⁶⁹ See October 2003 Order, 105 FERC ¶ 61,140 at P 78; see also June 2004 Order, 107 FERC ¶ 61,274 at P 145-146.

it to those entities that hold CRRs.⁷⁰ After that disbursement, the remaining revenues would flow to the loads through a reduction of the Transmission Access Charge (TAC).⁷¹

67. The CAISO states that, in response to concerns raised by market participants, under MRTU Tariff section 11.2.1.6, the CAISO proposes to credit the over-collection to the entities that serve load (internal demand and exports), including those served under ETCs or Transmission Ownership Rights (TORs) on each monthly settlement statement. The CAISO proposes to calculate, on an hourly basis, the over-collection for the system and divide this number by the total MWh of load (internal demand plus exports) to determine a per-MWh refund amount of the over-collection for the period of each settlement statement.

68. The CAISO states that, for load not served under an ETC or TOR, its calculation is equivalent to a fixed reduction in each MWh of access charges paid by the Scheduling Coordinator. The CAISO states that its modified approach reduces the impact on market participants of incorporating a marginal loss component into LMPs because the CAISO no longer collects the over-collection and holds it for refund at a later time but, instead, uses the over-collection to provide an immediate offset to each market participant's access charges. The CAISO believes that this proposal addresses the concerns raised by stakeholders in a manner that is consistent with the need to retain the use of marginal losses in the calculation of LMPs.

Discussion

69. SMUD contends that the CAISO has flouted the Commission's express directive to consult with stakeholders before incorporating marginal losses into its market redesign, and thus, customers are unable to ascertain whether the CAISO has performed a cost/benefit analysis. As noted by SMUD, the Commission stated that "a marginal loss approach provides for the most efficient dispatch" and it "would be concerned if [the CAISO's] application were to substantially raise implementation costs of the CAISO's market redesign."⁷² The Commission also stated that "if in the process of further developing the marginal loss proposal and tariff language the CAISO and market participants determine that use of average losses at inception would be more easily administered and less costly, then the CAISO may file to use average losses when it makes its tariff filing." Additionally, SMUD and CMUA contend that the CAISO has failed to meet its burden under section 205 of the Federal Power Act (FPA) of

⁷⁰ CRRs are initially allocated to loads that pay for most of the fixed cost of building the transmission grid.

⁷¹ The TAC is a mechanism through which embedded costs of the transmission facilities comprising the CAISO grid are recovered.

⁷² June 2004 Order, 107 FERC ¶ 61,274 at P 147.

demonstrating that the benefits of incorporating marginal losses outweigh the costs of implementation. Thus, SMUD argues that the marginal loss proposal should be rejected.

70. CMUA, NCPA, Six Cities, BPA and SMUD contend that the use of marginal losses presents unhedgeable risks to load, without providing commensurate benefits. CMUA, BPA, and Six Cities also argue that marginal losses provide a muted price signal, if any, because of the use of LAP for load settlement.

71. CMUA requests that the Commission direct the CAISO to use some form of average or scaled marginal losses for the initial start-up of MRTU. BPA argues that actual or average losses would provide certainty in loss charges, avoid the problem of allocating over-collections, and prevent those who pay marginal losses from subsidizing other CAISO participants. FPL states that the Commission should adopt an equitable allocation of the over-collection that recognizes the contribution of all market participants to the over-collected revenues. The California Department of Water Resources State Water Project (State Water Project) contends that over-collections of marginal losses should be refunded on the same basis as they are incurred. Bay Area Municipals claim that the best solution to the issue of over-collection of losses is to not overcharge in the first instance. They submit that the CAISO should be required to utilize average losses, not marginal losses. FPL argues that the CAISO has failed to explain how it intends to implement marginal losses and, therefore, marginal losses should not be implemented.

72. According to the State Water Project, refunds for marginal losses that are calculated in the integrated forward market (IFM) optimization process using day-ahead schedules under MRTU and allocated to actual measured demand⁷³ results in a mismatched allocation that may reward those who under schedule load. For example, the State Water Project states that a load that is scheduled at 100 MW engenders 100 MW of associated day-ahead marginal losses. But if that load is actually measured at 300 MW, the State Water Project contends that it will receive marginal loss refunds associated with the 300 MW. Depending on the outcomes associated with marginal losses at various locations, the State Water Project believes that this allocation could produce unintended consequences. Thus, it believes that the marginal loss surplus credit should refund surplus losses based on day-ahead schedules rather than metered demand.

73. Coral urges the CAISO to implement “Loss Revenue Rights” that allow market participants to hedge against marginal losses in order to prevent cost shifts and send accurate price signals to participants. Coral also asserts that the CAISO should reduce the size of the over-collection that currently exists on its system by scaling down the LMP charge to buyers. Coral argues that this adjustment would improve price signals to buyers, who would then know their real costs of energy and losses at the time of procurement.

⁷³ See Rahimi Testimony at 48-50.

74. PG&E understands that marginal losses provide improved dispatch efficiencies and should, theoretically, provide savings for all CAISO market participants. However, it claims that the use of marginal losses results in an over-collection of losses by approximately \$200 million dollars a year. Due to the magnitude of over-collections, PG&E requests a technical conference on cost-shifting or, alternately, a hearing if a technical conference cannot assuage its concerns.

75. According to PG&E, the CAISO's proposal fails to recognize the differences between various Scheduling Coordinators in the actual costs that they will pay for marginal losses. PG&E argues that, if the allocation of the over-collection due to the use of marginal losses does not reflect the differences in losses paid by the Scheduling Coordinators, those Scheduling Coordinators that primarily rely on portions of the system with relatively lower loss levels will be unjustly enriched, to the detriment of those Scheduling Coordinators that primarily rely on portions of the system with relatively higher loss levels. PG&E recommends that the CAISO adopt a methodology that uses the proportionate share of a Scheduling Coordinator's actual marginal loss charges to the total marginal loss charges as the basis for refunding the over-collection.

76. TANC, CMUA, Cities/M-S-R and Bay Area Municipals agree with SMUD that marginal losses expose LSEs to unreasonable and unhedgeable risks with no proven net efficiency benefits. Further, TANC agrees that marginal losses do not send a price signal, because the CAISO uses LAP for load settlement. TANC, Cities/M-S-R and Bay Area Municipals support BPA's proposition that the CAISO should use actual or average losses.

77. PG&E disagrees with those commenters that suggest that average losses should be used instead of marginal losses. PG&E argues that marginal loss pricing provides an advantage to LMP systems by enabling optimization of commitment and dispatch relative to the loss of power that occurs between generators and load and the resulting efficiencies provide savings for all CAISO market participants. However, according to PG&E, for implementation of marginal losses to be just and reasonable, the return of the over-collection revenues must use a methodology that does not cause unfair cost-shifting.

78. PG&E repeats its original argument that charging marginal losses using one set of criteria and refunding the over-collection using different criteria amounts to the CAISO taking too much money from some Scheduling Coordinators and giving it to others.

79. Further, PG&E asserts that this inequity is particularly egregious because the Scheduling Coordinators that would suffer the monetary loss could do little to reduce their payments and over-payments while the Scheduling Coordinators that reap the windfall have done nothing that merits their receipt of the payments. PG&E notes that it offered, in its initial comments, an alternative for the allocation of the over-collected losses and claims that, while its alternative proposal requires some additional software

development, it preserves the efficiencies of using marginal losses in commitment and dispatch, maintains economic signals that can be acted upon, eases some of the concerns of those interveners objecting to the use of marginal losses, and avoids unreasonable cost-shifting.

80. TANC, the City and County of San Francisco, California (San Francisco), Cities/M-S-R and Bay Area Municipals state that, if the Commission does require the use of marginal losses it should require the CAISO to implement PG&E's methodology. According to TANC, PG&E's methodology results in equitable treatment for the parties and is consistent with the historical differences between the transmission systems in California.

81. FPL contends that the Commission should defer making a determination immediately regarding the allocation of the over-collection of marginal losses, as it did in *Atlantic City*⁷⁴ for the PJM market. Further, FPL claims that stakeholders should be given an opportunity to develop an equitable distribution of the over-collection of marginal losses through technical workshops. FPL suggests that, if the parties cannot come to an agreement prior to implementation of the LMP market, the Commission should direct the CAISO to file a methodology 60-days prior to the implementation of an LMP market, or, the Commission should direct that the over-collection be placed in escrow as it did in *Atlantic City*.⁷⁵ Accordingly, FPL requests that the Commission convene a technical conference to develop an equitable allocation for the over-collection of marginal losses.

82. The CAISO responds that the incorporation of marginal losses into LMPs has long been a Commission-approved feature of MRTU that is important for assuring least-cost dispatch and for establishing nodal prices that accurately reflect the cost of supplying the load at each node. According to the CAISO, the Commission has approved the CAISO's use of marginal losses to "assure a least-cost dispatch" and rejected the use of an average loss mechanism because it "results in prices that produce a higher cost dispatch, and adds to uplift charges."⁷⁶ According to the CAISO, the Commission affirmed the use of marginal losses and stated that they should be considered in determining what supply sources can most efficiently serve customers.⁷⁷ The CAISO states that, in a September 20, 2004 order, the Commission stated that neither the CAISO nor any parties had provided any evidence that undermined the use of marginal losses.⁷⁸ According to

⁷⁴ Citing *Atlantic City Elec. Co. v. PJM Interconnection, L.L.C.*, 115 FERC ¶ 61,132 (2006) (*Atlantic City*).

⁷⁵ Citing *id.* P 27.

⁷⁶ Quoting October 2003 Order, 105 FERC ¶ 61,140 at P 77.

⁷⁷ Citing June 2004 Order, 107 FERC ¶ 61,274 at P 142-43.

⁷⁸ Citing *Cal. Indep. Sys. Operator Corp.*, 108 FERC ¶ 61,254, at P 57-60 (2004) (September 2004 Order).

the CAISO, it simply proposes to incorporate marginal losses into LMPs, as approved by the Commission, and the rationale for incorporating marginal losses into LMPs – the assurance of least-cost dispatch and the establishment of accurate nodal prices – has not changed.

83. The CAISO again acknowledges that the incorporation of marginal losses into LMPs results in the over-collection of revenue by the CAISO, which is a consequence of using the marginal loss methodology approved by the Commission. The CAISO points out that, in *Atlantic City*, the Commission found that the need to determine how to allocate the over-collection of loss revenue did not change the benefits of such an approach.⁷⁹

84. The CAISO states that its current marginal loss proposal is designed to address the concerns of a number of market participants, including: (1) stakeholders with ETCs and TORs who expressed concern that they would be charged marginal losses but would not be allocated CRRs, and therefore, they would not receive the TAC reduction benefit; and (2) other LSEs that objected to the long delay between the time they incur the marginal loss charge and the time when they receive the credit through a reduced TAC. In response, the CAISO states that it developed a proposal to track the net revenues on an hourly basis and then to distribute the funds through the settlement statement of each Scheduling Coordinator, by crediting a fixed per-MWh amount to the total metered demand plus real-time interchange export schedules of each Scheduling Coordinator. The CAISO contends that the revised proposal addresses the concerns raised by stakeholders as much as possible consistent with the need to retain the use of marginal losses in the calculation of LMPs under MRTU.

85. In response to PG&E's arguments concerning cost shifts, the CAISO contends that PG&E has not provided evidence showing that any unjust and unreasonable cost shifts occur as a result of the CAISO's proposal, nor has it refuted the testimony and documentation supporting the CAISO's proposal. The CAISO states that since filing its initial response to PG&E, it has undertaken a preliminary assessment of PG&E's concerns and the CAISO represents that it will study the issue and make its results available to all stakeholders. However, the CAISO asserts that this study process should not delay the MRTU implementation schedule or delay a Commission order on this issue. Furthermore, the CAISO contends that there is no way to determine the surplus that an

⁷⁹ *Atlantic City*, 115 FERC ¶ 61,132 at P 23 (“Because the over collection would exceed the \$100 million per year reduction in the cost of meeting load, the opposing parties argue that market participants in the aggregate will be harmed by the marginal loss method. However, the over collection will be returned to market participants, since PJM is a not-for-profit entity, and cannot retain such over collections. Thus, the over collection will not offset the \$100 million cost savings in meeting load, and market participants in the aggregate would benefit from the marginal loss method.”).

individual Scheduling Coordinator deserves based upon its individual contributions to losses; therefore, the CAISO states that it chose to compute and allocate marginal loss surpluses system-wide.⁸⁰

86. The CAISO argues that the State Water Project's argument that the CAISO should refund excess charges for marginal losses based upon day-ahead schedules should be rejected. The CAISO contends that following the State Water Project's advice would create an improper incentive for market participants to engage in day-ahead bidding and self-scheduling practices designed to maximize payments for excess marginal loss charges.

87. The CAISO argues that Coral's request to implement "Loss Revenue Rights" to allow market participants to hedge against marginal losses should be denied. According to the CAISO, the MRTU Tariff uses CRRs to hedge against congestion costs only, and does not use CRRs to hedge against marginal losses, because:

[t]he CRR product as currently designed is based on balanced source and sink MWs. Using such CRRs to hedge both Congestion and marginal losses would result in revenue deficiency for CRR Holders. Theoretically, it is possible to design a different type of (unbalanced) CRRs to hedge against both Congestion and marginal losses, but such CRRs are in [the] experimental stage.⁸¹

88. Therefore, according to the CAISO, it is currently impractical to implement loss-revenue rights. In addition, the CAISO points out that there is no other ISO or Regional Transmission Organization (RTO) that utilizes loss-revenue rights to hedge against marginal losses.

89. Finally, the CAISO states that, contrary to FPL's argument that the CAISO's methodological description of the marginal loss calculation is not sufficient to understand the calculations necessary to replicate the CAISO methodology, the detail on calculation of marginal losses in MRTU Tariff section 27 is sufficient to satisfy the Commission's rule of reason. However, the CAISO is prepared to add more detail on LMP calculation based on stakeholder input from the Business Practice Manual stakeholder process and will consider adding details concerning marginal loss calculation.

⁸⁰ *Citing* Rahimi Testimony at 55.

⁸¹ *Citing id.* at 104.

Commission Determination

90. We conditionally accept the CAISO's proposal to reflect marginal losses in its calculation of LMP, because doing so sends more accurate price signals and assures least-cost dispatch.

91. The Commission has stated that marginal losses reflect the true value of additional delivered energy in the same way that marginal congestion charges do.⁸² In addition, the Commission recently stated in *Atlantic City* that:

[u]nder the marginal loss method, the effect of losses on the marginal cost of delivering energy is factored into the energy price (i.e., the [LMP]) at each location. Other things being equal, customers near generation centers pay prices that reflect smaller marginal loss costs while customers far from generation centers pay prices that reflect higher marginal loss costs.⁸³

92. The Commission also pointed out that the use of the marginal loss method, as opposed to average losses, results in a reduction of the actual cost of meeting load.⁸⁴ In a

⁸² *Midwest Indep. Transmission Sys. Operator, Inc.*, 108 FERC ¶ 61,163, at P 241, *order on reh'g*, 109 FERC ¶ 61,157 (2004).

⁸³ *Atlantic City*, 115 FERC ¶ 61,132 at P 4.

⁸⁴ For example, suppose that there are two alternative generators that could serve an incremental load. One generator is located far from the load and can produce energy at a marginal cost of \$50 per MWh. However, because of its distance from the load, the marginal losses of delivering its energy to the load is roughly 10 percent. That is, in moving energy from the generator to the load, 0.1 MWh is lost for every 1 MWh delivered. Thus, in order to deliver 1 MWh to the load, the generator must produce 1.1 MWh. Thus, the marginal cost of delivering 1 MWh to the load would be the cost of producing 1.1 MWh, i.e., \$55. The second potential generator is located at the same location as the load, and thus, no losses would be incurred in delivering its energy to the load. The second generator can produce energy at a marginal cost of \$52 per MWh, and the marginal cost of delivering its energy to the load is also \$52 per MWh, since delivery would involve no losses. Under the marginal loss method, the second generator would be selected since the actual marginal cost of delivering energy to load is \$3 lower with the second generator (\$52) than with the first generator (\$55). However, under the average loss method, the effect of losses would be ignored. Thus, the first generator would be selected because its production cost (\$50) is lower than the second generator's production cost (\$52). The result is that the actual cost of serving the load would be \$3 per MWh lower

large geographic area, such as the CAISO's footprint, losses can be significant, and pricing them on a marginal basis is important to establishing nodal prices that accurately reflect the cost of supplying additional load at each node. These are the prices that are required to balance supply and demand at each location. An average loss mechanism results in prices that produce a higher cost dispatch and adds to uplift charges. Thus, we agree with the CAISO that an approach that promotes greater efficiency (i.e., uses marginal losses) is preferable. We continue to find that the CAISO's proposal to reflect marginal losses in its calculation of LMPs is appropriate because this approach assures a least-cost dispatch. Moreover, no party has shown that the use of marginal losses is unjust and unreasonable. We find that there are no disputed issues of material fact that require an evidentiary hearing and there is no need to convene a technical conference. Accordingly, we accept the CAISO's proposal to reflect marginal losses in its calculation of LMPs.

93. In *Atlantic City*, the Commission found that use of the marginal loss method results in over recovery of the ISO's expenditures because marginal losses increase as the number of MW of power moved on the grid increases. The Commission stated that it is a principle of mathematics that, whenever any variable is continuously increasing, the marginal value of the last unit exceeds the average of all the units. As a result, the Commission concluded that marginal losses will always exceed average losses and that more revenues will be collected from load than it has to pay to generators to cover the losses.⁸⁵

94. The Commission has recognized that implementation of marginal loss provisions should not be dependent on resolution of accounting procedures.⁸⁶ However, a method must be determined for disbursing the over-collected amounts. The Commission has found that, since the price customers are paying (based on marginal losses) is the correct marginal cost for the energy they are purchasing, customers are not entitled to receive any particular amounts through disbursement of the over-collections.⁸⁷ In fact, in *Northeast Utilities*, the Commission made clear that the method for disbursing the amounts of any over collections should not directly reimburse customers for their

(i.e., \$52 compared with \$55) under the marginal loss method than under the average loss method. *Id.* P 4, n. 2.

⁸⁵ *Id.* P 5.

⁸⁶ See *Midwest Indep. Transmission Sys. Operator, Inc.*, 102 FERC ¶ 61,196, at P 54 (2003) ("we do not believe that the lack of a specific crediting mechanism represents an impediment to relying upon marginal losses, nor do we believe that it is a reason for using a less efficient pricing mechanism, such as average losses").

⁸⁷ *Atlantic City*, 115 FERC ¶ 61,132 at P 24.

marginal loss payments, as such a reimbursement would interfere with the goal of basing prices on marginal losses and would undermine price signals to investors and load.⁸⁸

95. We find that the CAISO's proposed allocation of the over-collection allows the participants to pay the marginal cost of energy, and, thus, we accept the methodology. Further, the CAISO's proposed allocation is acceptable because it allows the revenues to be disbursed more quickly and it is responsive to those who would not have benefited from a reduction in the TAC charge (e.g., TORs and ETCs) under the CAISO's previous proposal. Regarding PG&E's proposal for an alternative allocation of the over-collection, we note that it can involve a level of arbitrariness (e.g., in the selection of a reference location). We further note that, even if it were possible to implement PG&E's proposed methodology, it would be directly at odds with our earlier rulings on the refunding of excess loss revenues, as set forth above in *Northeast Utilities*.⁸⁹ Consequently, we reject PG&E's proposal.

96. With respect to the State Water Project's argument that the over-collection should be allocated based upon day-ahead schedules rather than metered demand, we agree with the CAISO that allocating the over-collection based upon day-ahead schedules would create an improper incentive for market participants to engage in day-ahead bidding and self-scheduling practices designed to maximize payments for excess marginal loss charges. Also, with respect to Coral's suggestion on loss hedges, we agree with the CAISO that such mechanisms are still in their experimental stage. However, there is no reason why they should not be considered when it becomes feasible to implement them.

97. Finally, consistent with our directive on the LMP calculation, we direct the CAISO to provide more detail on the marginal loss calculation based on stakeholder input obtained in the Business Practice Manual stakeholder process. Accordingly, we direct the CAISO to file, within 30 days of completion of the stakeholder process on Business Practice Manuals and no later than 180 days prior to the effective date of MRTU Release 1, revised tariff sheets containing a detailed marginal loss calculation methodology.

II. Market Structure

98. In addition to the move to LMP, MRTU introduces a revised and expanded market structure and procedure. It consists of the day-ahead market, the RUC process, ancillary service provision, the HASP, the real-time market, and managing the reliability must-run (RMR) units.

⁸⁸ *Northeast Util. Serv. Co. v. ISO New England Inc.*, 105 FERC ¶ 61,122, at P 20 (2003), *reh'g denied*, 109 FERC ¶ 61,204 (2004).

⁸⁹ *Id.*

99. One of the most significant changes is the implementation of a day-ahead market, into which buyers (load) and sellers (supply) can submit bids to purchase and sell energy, which will then be cleared by the CAISO on an economic basis.⁹⁰ Generators with winning energy bids will be notified that they are committed for the following day, requiring the generator to be on-line and running the following day. In the day-ahead market, the CAISO also determines which generators are needed for providing ancillary services. Once generators submit bids to provide ancillary services, the CAISO clears those bids against its forecasted ancillary services needs, and subsequently notifies the winning ancillary services bidders of their commitment for the next operating day.⁹¹

100. According to the CAISO, the RUC process works as follows. Following the day-ahead market, the CAISO administers a process in which it looks to see if additional resources are needed, *i.e.*, residual unit commitment; it accomplishes this by comparing the amount of energy cleared in the day-ahead market with the CAISO's demand forecast. In the event that there is a significant discrepancy between the two, which could pose reliability problems for the CAISO in real time, the RUC process selects more generating units for commitment based on economic and locational factors. The generators selected through the RUC process also receive commitment notification.

101. The hour-ahead scheduling process, or HASP, is the first step of the real-time market. HASP is used primarily to determine how much energy the CAISO will import and export. HASP allows generators to make adjustments to their day-ahead schedules by placing additional energy or ancillary services bids for any capacity that was not committed in the day-ahead market. Load will not submit bids into HASP.

102. Based on the CAISO's demand forecast, generation bids and offers to import/export energy, the CAISO software calculates how much to import from and export to neighboring control areas. Only bids submitted for imports and exports clear

⁹⁰ The proposed timeline for the CAISO's markets is as follows. On the day preceding real time, all bids to purchase or sell must be submitted to the CAISO prior to 10:00 a.m. The CAISO will then produce a final day-ahead schedule before performing the day-ahead RUC procedure. At 1:00 p.m., the CAISO will publish the final schedules resulting from the day-ahead market including any additional unit commitment or capacity reservations secured under the RUC procedure. Under the simplified hour-ahead scheduling process, the deadline for offers to sell generation will be 75 minutes prior to the beginning of the operating hour (referred to as T-75 minutes), and at 45 minutes prior to the beginning of the operating hour the CAISO will publish pre-dispatch notices to those units that are not intra-hour dispatchable.

⁹¹ Although energy bids and ancillary services bids are separate inputs, the CAISO software considers the bids simultaneously and co-optimizes the system. That is, the software considers the trade-off between getting more energy or more ancillary services from a particular generator and chooses the most economical outcome.

the HASP and have a market-clearing price associated with them. This allows the CAISO to produce inter-tie schedules and communicate the import/export information to the neighboring control areas. The rest of the information submitted into HASP is used to determine real-time dispatch within the CAISO Control Area.

103. In the real-time market, the CAISO software compares generator bids to supply energy or ancillary services (submitted in HASP) with the CAISO forecast of demand on the system. As in the day-ahead market, the energy and ancillary services bids are co-optimized to produce the least cost outcome, given reliability constraints on the system. Any additional units committed in the real-time market will be notified that they need to be ready to generate.

104. In the day-ahead market, the CAISO also determines if it needs energy and ancillary services to be provided by reliability must-run (RMR) units. These units are selected as RMR due to their geographic location and ability to meet the reliability needs of the CAISO. RMR units have a contractual obligation to provide the CAISO with energy or ancillary services, as directed, at prices negotiated in the contract. The CAISO states that its software selects RMR units in the most efficient, reliable manner possible. The CAISO notifies RMR units of their commitment to provide energy or ancillary services for the next operating day. As in the day-ahead timeframe, RMR units are also considered in the real-time market for energy and/or ancillary services provision and will be notified of their need to generate.

A. Day-Ahead Market

105. Under the MRTU Tariff, the CAISO's day-ahead market performs a sequence of functions: the market power mitigation – reliability requirement determination process (also referred to as the pre-IFM runs), the IFM pricing run, and the RUC process.

106. After the submission of day-ahead bids is completed and the CAISO has validated the bids, the CAISO will perform the pre-IFM runs. The purpose of the pre-IFM runs is to determine the CAISO's needs for RMR generation and the appropriate mitigation for those bids that, according to the CAISO, may reflect local market power in the day-ahead market. The CAISO will perform two passes, or pre-IFM runs, under this process. In the first pass, the Full Network Model determines optimal dispatching by enforcing transmission limits only on lines pre-designated as competitive constraints. In the second pass, the thermal limits of all transmission lines are enforced. Once the pre-IFM process is completed, the mitigated bids and RMR dispatch schedules will be passed on for use in the day-ahead market and RUC. The pre-IFM process is further discussed *infra* in the section addressing market power mitigation.

107. Under MRTU Tariff section 31.3, the IFM is the optimization process to create the day-ahead LMPs for energy and ancillary services. For energy, the IFM optimally

commits and schedules resources to balance supply and demand subject to resource and network constraints. Supply and demand bids are submitted to the day-ahead market and used in the IFM optimization process, which results in a day-ahead schedule. The day-ahead schedule includes pairs of financially-binding LMPs and MWhs for each resource for which economic bids⁹² or self-schedules⁹³ have been submitted. Resources are committed and scheduled by the IFM optimization process for each hour of the next operating day.

108. Under MRTU Tariff sections 8.5 and 8.6, Scheduling Coordinators may submit to the IFM optimization process bids for resources certified for provision of ancillary services, along with the amount of MWs that the Scheduling Coordinator will self-provide for specific hours of the operating day. The CAISO notes that self-provided ancillary service capacity is not optimized through the IFM optimization process, but is used to offset the Scheduling Coordinator's ancillary services obligation. Resources may submit bids both to offer and to self-provide ancillary services, as long as the total offered ancillary services capacity does not exceed the resource's applicable certified maximum ancillary services capacity.

109. The CAISO further explains that self-provided ancillary services are evaluated for feasibility with respect to the relevant resource operating characteristics and regional constraints, and are then accepted prior to ancillary services bid evaluation in accordance with MRTU Tariff section 8.6.2. Under MRTU Tariff section 31.3.1.2, self-provision of ancillary services from RMR units and resource adequacy capacity will only be permitted from capacity that is not determined to be needed to meet anticipated demand in the day-ahead. In other words, the need for energy from these units will trump the request to self-provide ancillary services from that capacity. The CAISO notes that the Release 1 software will not have the capability to automatically apply this condition, so it plans to implement a "work-around" to achieve the same result.

110. The CAISO states that because ancillary services bids are evaluated simultaneously with energy bids in the IFM optimization process, the capacity of a

⁹² The MRTU Tariff defines economic bids as "A Supply and Demand Bid that includes quantity (MWh) and price (\$) for specified Trading Hours, which is not a Self-Schedule."

⁹³ The MRTU Tariff defines a self-schedule as:

The Bid component that indicates the quantities in MWhs with no specification of a price that the Scheduling Coordinator is submitting to the CAISO, which indicates that the Scheduling Coordinator is a Price Taker, Regulatory Must Run Generation or Regulatory Must-Take Generation, which includes ETC and TOR Self-Schedules and Self-Schedules for Converted Rights.

resource is optimized for use as energy or reserved for ancillary services, pursuant to MRTU Tariff section 31.3. Under MRTU Tariff section 8.3.1, the CAISO procures 100 percent of its ancillary services requirements based on the day-ahead demand forecast, net of self-provided ancillary services. The CAISO notes that the IFM optimization process employs a cascaded optimization among ancillary services bids, where higher quality ancillary services can replace lower quality ancillary services if this substitution results in a more efficient overall procurement of ancillary services.⁹⁴

Discussion

1. Scheduling Priority for Self-Schedules

111. SoCal Edison and Six Cities argue that in situations where the CAISO has to curtail demand, the CAISO should grant parties with “matched” supply and demand higher priority, while parties with “unmatched” demand should be curtailed first. SoCal Edison claims that this proposal is consistent with the intent of California’s resource adequacy framework which is designed to ensure that sufficient resources are available to reliably serve California load. Furthermore, SoCal Edison believes that it is absolutely necessary to establish a rule that ensures Scheduling Coordinators’ ability to fully schedule (subject to feasibility) both their supply and demand in the day-ahead market. To implement this result, SoCal Edison proposes changes to the priority list given in MRTU Tariff section 31.4.

112. PG&E states that the Energy Policy Act of 2005 (EPAct 2005)⁹⁵ evidences strong support for forward-planning by LSEs to ensure capacity sufficiency and stability of supply to load. According to PG&E, the CPUC has engaged in several initiatives towards the same end in California, most notably its Long-Term Planning Process (LTTP) and resource adequacy program. PG&E contends that through these initiatives, and as a result of appropriate planning, responsible LSEs assure that sufficient resources are available to serve their own load obligations. PG&E states that the MRTU Tariff, however, does not provide the necessary assurances that LSE load will in fact be met, even if the LSE fully schedules sufficient resources to meet its load obligations in the day-ahead market. PG&E further states that if non-economic adjustments⁹⁶ are necessary to clear the market, it is possible that the resources secured and self-scheduled by an LSE

⁹⁴ Higher quality ancillary services involve regulation of both frequency and load and generation balance. Lower quality ancillary services provide operating reserves for the system.

⁹⁵ Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 (2005) (EPAct 2005).

⁹⁶ Non-economic adjustments are schedule changes that are made to relieve congestion when all economic bids have been exhausted. *See* MRTU Tariff section 31.4.

to serve its load will either be purchased by entities outside of the CAISO or used to serve some other LSE who did not schedule sufficient resources. PG&E asserts that the Commission should require the CAISO to make a compliance filing that will assure, in the event non-economic adjustments are required, that market participants who provide balanced load and resource schedules are given scheduling priority.

113. The CAISO states that if the current balanced schedule requirement and market separation rule are eliminated, and as a result, nearly all self-scheduled demand in the day-ahead market receives the same scheduling priority, the IFM optimization process will be unable, in situations where supply is insufficient to serve all self-scheduled demand, to distinguish between the demand of those LSEs who bring sufficient supply to the day-ahead market and the demand of those who do not. The CAISO notes that this concern has been raised and discussed at various stakeholder meetings over the course of developing the MRTU market design, without yielding a workable solution. Further, the CAISO states that it is concerned that the commenters' proposed remedy to this issue would create incentives and unintended consequences that could potentially create severe inefficiencies in the CAISO markets. The CAISO states that establishing a special scheduling priority for balanced self-schedules would create incentives for parties to self-schedule supply resources rather than bid them into the day-ahead market. If this practice is adopted by a significant share of the total supply in the day-ahead market, the CAISO states, it could undermine some of the most important benefits of MRTU, namely the ability to optimize the use of supply resources to meet demand, provide reserves, and clear congestion.

114. The CAISO states that it intends to implement a feature to allow export demand to self-schedule in the day-ahead market or HASP as long as it is matched by supply capacity that is neither resource adequacy nor RUC capacity (often referred to as "unit-contingent exports" or "wheel-out" transactions). The CAISO states that such export self-schedules would have the same priority as internal demand self-schedules, but export self-schedules not matched by available supply capacity would have a lower priority to internal demand self-schedules. Unfortunately, the CAISO states, the protocols necessary to recognize and verify such export self-schedules are not possible to implement in Release 1, and therefore have been added to the list of Release 2 issues.

115. However, the CAISO has concluded that the inability of sufficiently-resourced LSEs to ensure that they can fully utilize their resource adequacy resources in the day-ahead market during times of supply shortage is too important to defer for resolution to Release 2. The CAISO therefore proposes to implement a solution, which consists of two elements. First, in the IFM optimization process, self-scheduled CAISO demand will have higher scheduling priority than self-scheduled exports that are not otherwise being supported by a corresponding amount of energy scheduled from non-resource adequacy generation resources. Second, the CAISO states that it will work to develop a manual procedure to enable exports, in both the day-ahead market and the HASP, to self-

schedule energy for exports that are served by generation from non-resource adequacy capacity in the day-ahead market, or by non-resource adequacy/non-RUC capacity in the HASP. Such self-schedules would have the same scheduling priority as self-scheduled internal demand in the day-ahead market, and as the CAISO demand forecast in the HASP. The CAISO believes that a manual procedure will be the only way to implement this feature in Release 1, but states that it will still include this item in the Release 2 agenda to develop an integrated software solution.

Commission Determination

116. We agree with commenters and the CAISO that the inability of sufficiently-resourced LSEs to ensure they can fully utilize their resource adequacy resources in the day-ahead market during times of supply shortage should be corrected in Release 1. However, we reject the commenters' proposal to grant parties with matched supply and demand higher priority than parties with unmatched demand in the event that non-economic adjustments are necessary to clear the market. As the CAISO stated, granting such priority could undermine the CAISO's ability to optimize the use of supply resources. More significantly, granting such a priority could create an incentive for parties to always self-schedule and, as a result, adversely impact the CAISO's ability to effectively manage congestion and maintain reliability efficiently. That is because self-schedules are bids indicating that the market participant wants its transaction to be scheduled regardless of the price. If a significant number of participants self-schedule, the CAISO may be unable to find enough generators that would voluntarily adjust their schedules when such adjustments are necessary to manage transmission constraints. Instead, we accept the CAISO's proposal to allow, in the IFM optimization process, self-scheduled CAISO demand to have higher scheduling priority for resource adequacy resources than self-scheduled exports because this will ensure that LSEs within the CAISO's Control Area can utilize resource adequacy resources when they are needed for the CAISO grid reliability. Accordingly, we direct the CAISO to make a compliance filing within 60 days of the date of this order revising the scheduling priority as discussed above.

117. The CAISO also commits to develop a manual procedure to enable Scheduling Coordinators, in both the day-ahead market and the HASP, to self-schedule exports that are served by generation from non-resource adequacy capacity in the day-ahead market, or by non-resource adequacy/non-RUC capacity in the HASP. We direct the CAISO to submit tariff sheets containing the detail of such procedure no later than 180 days prior to the effective date of MRTU Release 1.

2. Production Cost

118. SoCal Edison notes that, pursuant to section 31.3.1.1, the CAISO will run the IFM optimization process on a daily basis to procure energy and ancillary services, and

determine LMPs for each product while minimizing the total production cost based on submitted and mitigated bids, and respecting the operating characteristics of resources, the operating limits of transmission facilities, and a set of scheduling priorities. According to SoCal Edison, the CAISO incorrectly assumes that submitted bids equal production cost. SoCal Edison suggests that the language of section 31.3.1.1 should be corrected to accurately reflect that the IFM optimization process results in a minimization of the total bid costs based on submitted and mitigated bids.

Commission Determination

119. SoCal Edison makes a valid point that total bid costs are not necessarily equal to production costs, even though the market structure under MRTU provides an incentive to participants to bid in a cost-reflective way. Thus, we agree that, in section 31.3.1.1, “production costs” should be replaced with “total bid costs” to reflect that submitted bids do not necessarily equal production costs. Accordingly, we direct the CAISO to make a compliance filing within 60 days of the date of this order reflecting this change.

3. Bid Validation Software

120. According to SoCal Edison, section 30.7 states that the CAISO “shall validate submitted [b]ids pursuant to the procedures set forth in this [s]ection 30.7 and the rules set forth in the Business Practice Manuals.” SoCal Edison suggests that the CAISO should be directed to release the bid validation software to all Scheduling Coordinators. To the extent there are proprietary software issues, SoCal Edison believes that the CAISO could provide the Scheduling Coordinators the software at a charge.

121. In Appendix A to the CAISO reply comments, the CAISO states that it does not believe that this issue raised by SoCal Edison is germane to whether the MRTU Tariff is just and reasonable.

Commission Determination

122. We find that this issue is not relevant to the justness and reasonableness of the MRTU Tariff. Moreover, SoCal Edison has not demonstrated and explained why Scheduling Coordinators need access to this software.

4. Commitment of Extremely Long Start Resources

123. SoCal Edison notes that MRTU Tariff section 27.4.1 states that: “... [t]he CAISO will also utilize the [security constrained unit commitment] algorithm on a two-day-ahead basis to commit Extremely Long Start Resources, for which commitment in the [day-ahead market] does not provide sufficient time to start-up and be available to supply Energy during the next Trading Day.” SoCal Edison contends that it is unclear how the

CAISO will determine the commitment of Extremely Long Start Resources and requests further clarification of this process.

124. In response, the CAISO explains that MRTU Tariff section 27.4.1 calls for the CAISO to use its security constrained unit commitment algorithm on a 48-hour basis to commit extremely long start units that can respond in that timeframe. In addition, the CAISO reiterates that it intends to explore a multi-day unit commitment IFM and/or a longer than 48-hour RUC commitment after Release 1. The CAISO states that this approach will allow for a coordinated evaluation of the software systems prior to implementing a multi-day IFM unit commitment.

Commission Determination

125. We find that the CAISO has not adequately addressed SoCal Edison's concern. We, therefore, direct the CAISO to make a compliance filing within 60 days of the date of this order explaining how it will determine the commitment of extremely long start resources and how such commitment will be integrated with the normal day-ahead commitment process.

5. Minor Language Changes

126. SoCal Edison requests that the CAISO add the following italicized language to MRTU Tariff section 30.2 for clarification: "...Each Bid type can be submitted as either an Economic Bid or a Self-Schedule (*except for RUC Availability Bids, which cannot be self-scheduled*)..." SoCal Edison also proposes the following language to be added to MRTU Tariff section 30.5.1(b): "Energy associated with awarded Ancillary Services Capacity cannot be re-bid in the HASP or Real-time market."

127. The CAISO agrees to the clarifications and additions requested by SoCal Edison and commits to making the necessary tariff changes in its compliance filing.

Commission Determination

128. We direct the CAISO to submit tariff sheets containing these changes within 60 days of the date of this order.

B. Residual Unit Commitment Process

129. In the event that the CAISO determines that it does not have sufficient resources committed after the close of the day-ahead market to meet its next day's forecasted load, it proposes to run a RUC process⁹⁷ to commit additional capacity to be available in real

⁹⁷ See MRTU Tariff section 31.5.

time. The CAISO proposes to perform the RUC process immediately after the day-ahead market has run and the CAISO has established feasible and final schedules in the day-ahead market. According to the CAISO, a RUC process is necessary in case the total amount of load schedule in the day-ahead market does not meet the CAISO's load forecast. In essence, the RUC process is a reliability backstop that allows the CAISO to meet its reliability requirements.

130. The RUC process will procure, from resources internal to the CAISO Control Area,⁹⁸ minimum-load energy⁹⁹ and any available capacity by the CAISO in the day-ahead market. It will also procure energy from suppliers outside the CAISO Control Area if adequate transmission capacity is available over the inter-ties to accommodate the energy. In the event that the LMP does not cover a resource's RUC bid price, such resources will receive additional payment through the RUC uplift charge. Resources that do not participate in the day-ahead energy and ancillary services markets will not be eligible to participate in the day-ahead RUC process.

131. The CAISO will base the RUC procurement target on the difference between the CAISO's demand forecast for each hour of the next operating day and the hourly day-ahead energy scheduled for that day. The procurement target will account for load forecast errors and schedule changes expected in the HASP.¹⁰⁰ The RUC procedures may also adjust the procurement target to account for schedule changes by Participating Intermittent Resources¹⁰¹ to ensure that the CAISO does not over or under commit resources.

⁹⁸ The CAISO notes that the RUC process does not include exports when it commits additional resources to meet its load forecast.

⁹⁹ According to the CAISO, any minimum-load energy (*i.e.*, the energy produced while operating at a minimum output level) procured in the day-ahead RUC process is submitted to the HASP and the real-time market as a price-taker (*i.e.*, a self-schedule) and, if cleared against load bids, will receive the appropriate LMP.

¹⁰⁰ The CAISO states that to the extent that Metered SubSystems (MSSs) within the CAISO Control Area under-schedule in the day-ahead market, but have designated adequate resources under their control to meet their own load and reserve needs, the RUC will not procure capacity to cover their share of the next day's forecast, nor will the CAISO allocate treatment of MSSs under the MRTU Tariff.

¹⁰¹ A Participating Intermittent Resource is an intermittent resource that meets the requirements of the technical standards for participation in the CAISO's Participating Intermittent Resources Program. The Participating Intermittent Resource Program was created to accommodate projected growth of wind generation attributable to California's renewable supply requirements. Under the Participating Intermittent Resource Program, the CAISO forecasts and schedules wind output, and nets any imbalances over the course of the month.

132. The CAISO states that all capacity selected in RUC is eligible for the RUC availability payment,¹⁰² except for resource adequacy capacity and capacity from RMR Units designated as an RMR Dispatch in the day-ahead market. Resources may submit a bid for RUC availability as a component of their day-ahead market bids, up to a cap of \$250/MWh. The CAISO proposes to rescind a resource's entire RUC availability payment for a given hour if the resource engages in uninstructed deviations or does not respond to the CAISO's dispatch instruction. The CAISO proposes to net the RUC availability payment against each MW of RUC capacity that is scheduled or dispatched for energy or ancillary services. The CAISO also proposes that resources committed in RUC are eligible for recovery of start-up and minimum load cost compensation.¹⁰³

133. In order to ensure that resources committed in RUC are able to recover their start-up and minimum load bid costs, the CAISO proposes to implement a bid cost recovery mechanism in which bid costs¹⁰⁴ and market revenues¹⁰⁵ are netted over a trading day across all markets, and any revenue shortfalls are recovered through an uplift payment to relevant resources. The CAISO states that resources are only eligible for bid cost recovery for their start-up and minimum load costs to the extent the CAISO commits the resource.¹⁰⁶

134. The CAISO states that the RUC process will allocate costs in accordance with cost causation principles. Specifically, the CAISO will allocate RUC uplift costs in two tiers. In the first tier, the CAISO proposes to allocate RUC costs to Scheduling Coordinators that under-schedule their load in the day-ahead market.¹⁰⁷ In the second tier, the CAISO proposes to allocate any excess RUC cost not recovered in this manner (*i.e.*, if the total

¹⁰² The RUC availability payment is considered compensation for all eligible capacity awarded in the RUC process. The RUC availability payment is calculated for each resource based on the RUC price and the quantity dispatched by the CAISO.

¹⁰³ The CAISO states that this includes resource adequacy resources and RMR units that are not subject to an RMR Dispatch in the day-ahead market.

¹⁰⁴ Under the CAISO proposal, all internal generators, participating loads (typically pumps and pump storage facilities that the CAISO models as generators with negative generation capabilities and schedules and settles them at nodal prices), and System Resources, under certain conditions, are eligible to recover the following bid costs: energy bids, ancillary services bids, RUC bids, minimum load bids and start-up bid costs.

¹⁰⁵ According to the CAISO, market revenues include energy revenues, ancillary services payments and the RUC availability payment.

¹⁰⁶ See MRTU Tariff section 11.8.

¹⁰⁷ The CAISO cautions that market participants should not confuse the RUC availability payment costs with RUC uplift bid cost recovery costs. The latter, as discussed in the section on bid cost recovery, represent start-up and minimum load costs of RUC units that do not fully recover their bid costs through the market.

MWh of under-scheduled load is less than the total MWh of RUC procurement) to all metered demand on a *pro rata* basis.

Discussion

1. Local Market Power Mitigation for RUC Availability Bids

135. PG&E suggests that the Commission reconsider the CAISO's proposal not to mitigate RUC availability bids. PG&E argues that a vertical demand curve under RUC without any provisions for mitigating RUC bids, other than the \$250/MWh bid cap itself, does not provide adequate protection to the market, even given the adoption of System Resource adequacy requirements by the CPUC and local resource adequacy requirements. Further, PG&E argues that the lack of local market power mitigation for RUC decreases a resource's incentive to enter into resource adequacy contracts on reasonable terms, thus defeating the benefits of local resource adequacy.

136. In response, the CAISO states that the concept of local market power mitigation of RUC availability bids was rejected by the Commission as "complicated and intrusive" in the July 2005 Order. For this reason, the CAISO explains, the MRTU Tariff does not include market power mitigation for RUC availability bids.

Commission Determination

137. As noted above, the RUC process is a reliability backstop mechanism that the CAISO implements when the day-ahead bids from load do not procure sufficient resources to meet the CAISO's identified reliability needs. As such, we do not expect that the CAISO would procure RUC capacity on a regular basis. Furthermore, since resource adequacy units would be the first to be committed in the RUC process,¹⁰⁸ we expect it would rarely be necessary to procure RUC capacity from non-resource adequacy resources. Thus, contrary to PG&E's assertion, we find that resources would have a greater incentive to enter into resource adequacy contracts that guarantee a capacity payment as opposed to relying on the unlikely scenario that the CAISO might exhaust the available resource adequacy resources in its RUC process and therefore need to procure non-resource adequacy resources. Accordingly, we find that a \$250/MWh bid cap on RUC availability bids provides sufficient mitigation of any potential for market power. Furthermore, we note that we would not ordinarily expect the CAISO to exhaust the resource adequacy capacity available for commitment in RUC, except in periods of extreme shortage. If such an extreme shortage were to occur, a RUC availability price near the bid cap could be an appropriate reflection of supply and demand fundamentals.

¹⁰⁸ See MRTU Tariff sections 31.5.6 and 40.5.2(1)iii-iv.

2. Capacity Eligible for RUC Participation

138. Several commenters raise concerns about the treatment of import capacity from System Resources¹⁰⁹ under the RUC process.¹¹⁰ Powerex Corp. (Powerex) contends that the CAISO offers no reason for prohibiting the participation of non-resource adequacy resources that are also non-dynamic System Resources.¹¹¹ BPA argues that the exclusion of non-resource adequacy import capacity reduces the amount of energy available to the CAISO in the RUC process.

139. In its reply comments, PacifiCorp shares Powerex's concern about the exclusion of non-dynamic System Resources. PacifiCorp believes the lack of a clear justification for this exclusion is particularly conspicuous in light of California's historical dependence on imports of capacity and energy for resource adequacy and system reliability. In addition, Powerex contends that the inclusion of non-dynamic resource adequacy capacity sources in the RUC process is a clear indication that the CAISO can incorporate non-dynamic System Resources in the RUC process. PacifiCorp requests that the Commission direct the CAISO to: (1) justify the proposed exclusion from the RUC process of non-dynamic, non-resource adequacy System Resources; and (2) explore means by which non-dynamic System Resources could submit RUC Availability Bids, be considered for participation in the RUC process, and be eligible for capacity payments, as appropriate.

¹⁰⁹ A System Resource is generally a resource that is located outside the CAISO's control area. The CAISO defines a System Resource as:

A group of resources, [a] single resource, or a portion of a resource located outside of the CAISO Control Area, or an allocated portion of a Control Area's portfolio of generating resources that are either a static interchange schedule or directly responsive to that Control Area's Automatic Generation Control (AGC) capable of providing Energy and/or Ancillary Services to the CAISO Control Area, provided that if the System Resource is providing Regulation to the CAISO it is directly responsive to AGC.

¹¹⁰ See MRTU Tariff section 31.5.1.1.

¹¹¹ A Non-Dynamic System Resource can generally be described as a resource located outside the CAISO Control Area that is not able to respond to real-time dispatch instructions. The CAISO defines Non-Dynamic System Resource as:

A System Resource that is not capable of submitting a Dynamic Schedule. The CAISO defines Dynamic Schedule as "A telemetered reading or value which is updated in Real-Time and which is used as a schedule in the CAISO Energy Management System calculation of Area Control Error and the integrated value of which is treated as a schedule for interchange accounting purposes.

140. In its reply comments, the CAISO disagrees with commenters' contention that the exclusion of certain imports from RUC participation and bidding is problematic, and asserts that its decision is driven by reliability. With regard to non-dynamic System Resources that are not designated as resource adequacy capacity, the CAISO states that it will not have the ability to validate where imported RUC capacity will be physically coming from and cannot certify delivery of RUC service from such units. As a result, the CAISO contends that this resource would have the ability to earn a RUC availability payment and submit an energy bid with no physical limitation on the quantity of energy even though the RUC capacity may in fact be undeliverable because the needed import transmission capacity is not set aside.

141. SoCal Edison argues that the CAISO's proposal does not honor all bid parameters of System Resources. Specifically, SoCal Edison states that section 31.5.1.1 requires the CAISO to consider System Resources that are eligible to participate in RUC on an hourly basis. According to SoCal Edison, the MRTU Tariff does not consider other bid parameters, such as multi-block constraints submitted in conjunction with energy bids to the day-ahead market. SoCal Edison is concerned that by not honoring the bid constraints of a System Resource, the CAISO may commit the System Resource in RUC for a period that is inconsistent with the Scheduling Coordinator's offer for the resource. SoCal Edison's preference would be for the RUC process to honor all bid parameters of a resource, including a System Resource. However, if there is a Release 1 software limitation driving the inability to honor bid parameters, SoCal Edison requests the Commission to direct the CAISO to revise its software to honor multi-hour block constraints in RUC for Release 2.

Commission Determination

142. We find the CAISO's exclusion of non-dynamic System Resources designated as non-resource adequacy capacity is reasonable. The CAISO represents that it must exclude these resources from participating in RUC because these resources are unable to provide the CAISO with telemetering data that can be used for the procurement of RUC capacity. We also note that the CAISO raised a deliverability concern with regard to whether a non-dynamic System Resource designated as non-resource adequacy capacity is capable of responding to a RUC dispatch from the CAISO. We find that in such cases the CAISO runs the risk of operating at a sub-par level for meeting reliability needs. Therefore, we will not require the CAISO to include non-dynamic System Resources that are also non-resource adequacy capacity as participants under RUC.

143. We also find reasonable SoCal Edison's argument that the CAISO's proposal should honor multi-block constraint bids as a bidding parameter of System Resources under RUC. Accordingly, we direct the CAISO to examine whether such software changes could be implemented by Release 1 and report in a compliance filing within 60

days of the date of this order whether changes to Release 1 are realistic and if not when the CAISO can implement the software changes.

3. RUC Procurement Target for Capacity

144. Some commenters¹¹² raised concerns with regard to the CAISO's RUC procurement target as set forth in the proposed MRTU Tariff at section 31.5.3. Among the concerns raised are: (1) whether the RUC procurement target should include Participating Intermittent Resource Program units; (2) whether the MRTU Tariff should explain how the CAISO reflects resource procurement in the HASP under RUC; and (3) whether the MRTU Tariff inadequately defines the RUC procurement target and RUC Zones.

145. FPL supports the CAISO's efforts to develop RUC procurement targets with market participants. However, FPL contends that if the CAISO ignores the hour-ahead scheduling obligation of Participating Intermittent Resource units when setting the RUC procurement targets, it will inevitably over or under procure RUC capacity. Thus, FPL supports reasonable accommodations of Participating Intermittent Resource generation in the RUC targets and commits to actively participating in the development of these procedures later this year.

146. Six Cities and WPTF/IEP contend that the MRTU Tariff lacks detailed provisions concerning critical elements of the terms and conditions under which the CAISO will operate and set the RUC procurement targets.¹¹³ WPTF/IEP raise concerns with the CAISO's failure to define its RUC procurement target, and request that the Commission require the CAISO to include the specific procedures for setting the RUC procurement target in the tariff.

147. In its reply comments, the CAISO states that the MRTU Tariff clearly stipulates the elements in establishing the RUC procurement target.¹¹⁴ The CAISO asserts that it will use forecast CAISO demand (demand, not including exports, in the CAISO Control Area) at granularity that will likely be at the utility distribution company level. The CAISO continues to state that its forecast may be adjusted for: (1) expected HASP self-schedules; (2) entities that have opted-out of RUC; and (3) expected deliveries from intermittent resources that have been scheduled less than day-ahead. Therefore, the

¹¹² See, e.g., PG&E, SoCal Edison, IEP/WPTF, SMUD, SDG&E, FPL and CPUC.

¹¹³ For example, the Six Cities state that there is no provision in the MRTU Tariff that explains how resource procurement in the HASP will be reflected in the day-ahead and real-time RUC processes.

¹¹⁴ The CAISO states it believes that it may have inadvertently created unnecessary apprehension by implying that there exists an explicit formula for the procurement of RUC capacity. The CAISO states that this is not the case.

CAISO concludes that the RUC procurement target is not a MW value of RUC capacity, but rather the target is the adjusted demand forecast.

148. The CAISO also contends that there is no need to wait for the Business Practice Manual process to unfold before the Commission finds the RUC process is just and reasonable as part of the MRTU design. The CAISO reasons that all parties understand the basic construct of the RUC process, the role it plays, and the basic principles of its use. The CAISO also notes that there is a possibility of a future FPA section 205 filing if the methodology for determining RUC procurement target resulting from the stakeholder process rises to the level of jurisdictional rates, terms, and conditions of service. Notwithstanding, the CAISO contends that it sees no need for additional detail in the MRTU Tariff regarding the RUC procurement process.

149. PG&E claims that the MRTU Tariff fails to define RUC zones, or the methodology that the CAISO proposes to use to define such zones in MRTU Tariff section 31.5.3. SoCal Edison believes that the CAISO should include these zones in the MRTU Tariff for approval by the Commission prior to allowing market-based rate RUC participation. SoCal Edison contends that the flexibility to create RUC zones, and RUC procurement without the Commission's explicit acceptance, is impermissible under the FPA. In addition, SoCal Edison asserts that, since there is no RUC market power mitigation except the bid cap and special rules for resource adequacy resources, the MRTU Tariff needs additional safeguards to ensure the RUC zones produce just and reasonable results.

150. With respect to PG&E and SoCal Edison's concern regarding RUC zones, the CAISO indicates that the process by which the CAISO will identify specific RUC zones are implementation details that are being explored in an ongoing stakeholder process and the details will be committed to a Business Practice Manual.

Commission Determination

151. MRTU Tariff section 31.5.3 provides that the CAISO will base the RUC procurement target on the next day's hourly CAISO forecast of CAISO demand less the energy scheduled in the day-ahead market. We note that the tariff also provides that the CAISO will account for other adjustments to its forecast demand, such as load forecast errors and estimated incremental HASP bids including those from Participating Intermittent Resources. We find that the MRTU Tariff provisions on RUC provide market participants details of how the baseline RUC procurement target is established and how the CAISO will adjust its forecasted target under various circumstances, as discussed above.

152. However, we agree with PG&E and SoCal Edison that the MRTU Tariff fails to define RUC zones and the methodology that the CAISO will use to define those zones.

In addition, it is unclear how adjustments to specific RUC zones will affect rates or how the CAISO will allocate cost to market participants. For example, if the CAISO were to adjust its procurement target to reflect a change in a specific RUC zone, it is unclear whether the CAISO will allocate cost to under-scheduled load under Tier 1, metered demand under Tier 2 or the adjusted zone. We direct the CAISO to discuss the methodology for establishing RUC zones in stakeholder meetings. We also direct the CAISO to submit revised tariff sheets to include the definition of RUC zones and the methodology used to define a RUC zone within 60 days of the completion of its stakeholder process, but no later than 180 days prior to the effective date of MRTU Release 1.

4. Allocation of RUC Bid Cost

153. Turlock contends that Commission should reject the RUC cost allocation proposal in MRTU Tariff sections 11.8.6.5 and 31.5.4, because these provisions inappropriately allocate RUC costs to exports. Turlock believes that the CAISO should not charge exports for the excess system costs of RUC as proposed, because the RUC process does not consider expected exports after the close of the day-ahead market in its procurement of additional capacity. Accordingly, Turlock argues that the Commission should reject the RUC cost allocation proposal or, in the alternative, the Commission should order a full evidentiary hearing on this issue.

154. Six Cities oppose Turlock's proposal to exempt exports from any allocation of RUC costs to the extent exports are firm obligations of the CAISO Control Area. Six Cities argue that to the extent that the CAISO commits generation through the RUC process to support firm exports, the CAISO should treat the commitment the same as firm load within the control area. Six Cities believe that it is entirely appropriate that such exports bear an allocation of RUC costs.

155. SMUD also argues that the CAISO should not allocate RUC costs to LSEs located *outside* of the CAISO Control Area because the CAISO procures RUC to serve LSEs located inside the CAISO Control Area. TANC raised a similar concern in reply comments.

156. SoCal Edison disagrees with SMUD's argument that the CAISO should allocate RUC cost to only internal CAISO load. SoCal Edison states that the CAISO purchases RUC to ensure grid reliability, and parties that export power benefit from this reliability. As a result, the CAISO's proposal to allocate RUC "over-procurement" costs to both internal load and exports is appropriate.

157. The State Water Project argues that the CAISO should not allocate RUC costs to loads on whose behalf they were not incurred. Because the CAISO uses the State Water Project's bid-in load schedules as its component of the CAISO demand forecast, the State

Water Project contends that there can never be a “difference between the CAISO Demand forecast and the Demand that is Bid in and scheduled in the [day-ahead market]” with respect to the State Water Project’s load.¹¹⁵ The State Water Project argues that, by definition, the CAISO does not acquire RUC for its loads.¹¹⁶ Thus, the State Water Project contends that all RUC cost allocation provisions, including RUC availability payment cost and RUC Bid Cost Uplift, should be revised to provide that costs will be allocated only to deviations between a Scheduling Coordinator’s scheduled demand in the day-ahead market and the CAISO’s own independent demand forecast for that Scheduling Coordinator.

158. In its answer, the CAISO contends that the arguments regarding cost allocation are without merit. The CAISO states that the Commission has already determined that the CAISO’s proposed RUC cost allocation is just and reasonable. It further states that the two-tier cost allocation program for RUC follows cost causation principles and allocates residual costs to those who benefit from reliability of the CAISO-controlled grid.

Commission Determination

159. Under the MRTU Tariff, the CAISO proposes to allocate RUC-related costs to load under a two-tier process. First, the CAISO will allocate costs to LSEs that underscheduled in the day-ahead market, as compared to the CAISO’s demand forecast. Second, the CAISO will allocate RUC over-procurement costs to all metered demand, including exports. This same methodology for allocating RUC costs was included in the CAISO’s conceptual MRTU proposal. In the June 2004 Order, the Commission approved the CAISO’s proposal to assess the costs associated with the over-procurement of capacity to metered load and exports because the CAISO procures RUC in order to acquire the resources necessary to operate the CAISO-controlled grid reliably.¹¹⁷ With the exception of the modification ordered below in the Self-Provision of RUC section, we continue to believe that the CAISO’s proposed approach to allocating RUC over-procurement costs under the MRTU Tariff is reasonable and accordingly reject Turlock’s request for an evidentiary hearing. We conditionally accept for filing the CAISO’s proposal for allocation of RUC costs under MRTU Tariff sections 11.8.6.5 and 31.5.4, as modified in the body of this order.

¹¹⁵ The State Water Project states that the communication between it and the CAISO contained in Attachment A to its comments show that the State Water Project agreed to defer the question of self-provision of RUC on the understanding that its loads (which are not among the loads for which RUC is purchased) would not be charged any RUC costs.

¹¹⁶ The State Water Project notes that the same is true with respect to pump loads of the Metropolitan Water District of Southern California (Metropolitan).

¹¹⁷ June 2004 Order, 107 FERC ¶ 61,274 at P 58.

5. RUC Compensation

160. WPTF/IEP contend that the Commission should reject the CAISO's proposal to rescind RUC payments for uninstructed deviations.¹¹⁸ WPTF/IEP argue that the CAISO's proposal is at odds with the purpose of the RUC availability payment, as previously defined by the Commission.¹¹⁹ WPTF/IEP further argue that the rescission of the availability payment for uninstructed deviations is duplicative of other penalties either proposed by the CAISO or already contained in the tariff. WPTF/IEP state that the Commission has previously authorized the CAISO to impose uninstructed deviation penalties (UDP) in the event that a resource fails to operate per a CAISO instruction within a set tolerance band.

161. The CAISO disagrees with WPTF/IEP's argument that the Commission previously approved the concept of paying the RUC availability payment *regardless of dispatch*. The CAISO states that if a resource does not respond to dispatch instructions, its "availability" does not exist in practice. According to the CAISO, such "phantom availability" should not be compensated with a RUC availability payment. In addition, the CAISO disagrees that withholding the entire RUC availability payment for any deviation outside the tolerance band is unjust and unreasonable. The CAISO argues that undelivered RUC capacity has severe consequences by placing the CAISO in the position of having to procure additional resources in real time at increased costs. The CAISO contends that any proportional rescission of RUC availability payments would not appropriately recognize the resulting cost impact of failure to deliver promised capacity.

162. SoCal Edison supports the CAISO's proposal to rescind the availability payment for uninstructed deviations, arguing that to make a payment despite non-performance would be unjust and unreasonable. According to SoCal Edison, the CAISO proposes to implement "No Pay" for ancillary services due to issues related to non-performance; the CAISO rightly applies a similar concept for RUC in the MRTU market.

163. The CAISO also disagrees that the RUC availability payment rescission is somehow overly punitive or duplicative of UDPs. The CAISO states that UDPs will not go into effect until approved by the Commission. In addition, the CAISO states, the purpose of rescinding RUC availability payments is compensatory in nature. While the UDP will discourage deviations from schedule, the RUC availability payment is for the availability of resources *within* the tolerance band. The CAISO adds that a resource is not entitled to compensation if it fails to make capacity available in a manner that complies with the CAISO's RUC requirements. According to the CAISO, the two mechanisms play different roles and are not duplicative.

¹¹⁸ See MRTU Tariff section 31.5.6.

¹¹⁹ WPTF/IEP cite to the October 2003 Order, 105 FERC ¶ 61,140 at P 124.

164. Six Cities contend that the second and third paragraphs of MRTU Tariff section 8.10.8.1 are inconsistent. They argue that there should be a payment obligation for undispachable capacity, and that payment obligation should equal the cost incurred by the CAISO, if any, to replace the capacity. They also state that a payment obligation based on the replacement cost incurred by the CAISO will avoid the need for neutrality adjustments that could be required if the payment obligation is based on some other metric that results either in excess revenues or a revenue deficiency. The Six Cities also note that there is no definition for Undispachable RUC, and assert that the CAISO should either define or eliminate the term.

Commission Determination

165. We disagree with WPTF/IEP's contention that the CAISO's proposal to rescind the RUC availability payment is at odds with prior conclusions reached by the Commission.¹²⁰ Contrary to WPTF/IEP's argument, the Commission's guidance to reject the CAISO's proposal to rescind the RUC availability payment was not related to suppliers' failure to operate in accordance with a CAISO instruction. The Commission's guidance was to reject the CAISO's conceptual proposal to rescind the RUC availability payment when a unit is dispatched in real time. Under the MRTU Tariff, the CAISO proposes to rescind a resource's entire RUC availability payment for a given hour if the resource engages in uninstructed deviations or does not respond to the CAISO's dispatch instruction.

166. We accept the CAISO proposal, subject to further modifications. We find the CAISO's proposal to rescind the RUC availability payment when a resource does not respond to the CAISO's dispatch instruction is reasonable. We note that, when the CAISO provides a Scheduling Coordinator with a RUC schedule, the CAISO has committed to compensate a resource for being available to serve a reliability need. If the resource does not respond to its RUC schedule, the CAISO is forced to procure additional resources to meet its reliability needs in the real-time market. Under these circumstances, we find it reasonable for the CAISO to rescind the RUC availability payment of resources that fail to respond to the CAISO dispatch.

167. With respect to the CAISO's proposal to rescind the RUC availability payment of a resource that engages in uninstructed deviations, we find this proposal reasonable only when a resource is operating below the relevant tolerance band. If the resource responds to the CAISO's dispatch instruction under RUC and then deviates, the resource automatically places the CAISO in a position of having to procure additional resources to operate the CAISO Control Area reliably. In this situation, we find the rescission of the availability payment appropriate. However, if a resource responds to the CAISO's dispatch under RUC and the resource operates above the tolerance band, we find it

¹²⁰ See *id.* P 124.

inappropriate for the CAISO to rescind the RUC availability payment.¹²¹ We believe a resource should not be penalized with the rescission of its availability payment when it in fact is available and supplying the CAISO with at least as much energy as required by the RUC schedule. To the extent that it supplies the CAISO with more energy than required by the RUC schedule, this does not equate with a lack of availability. Accordingly, we direct the CAISO to make a compliance filing within 60 days of the date of this order that reinstates the RUC availability payment for resources operating above the tolerance band.

168. Finally, we disagree with WPTF/IEP's contention that the rescission of the RUC availability payment for uninstructed deviation is duplicative of other penalties. The rescission of the RUC availability payment and the uninstructed deviation penalty would penalize different behaviors. Rescission of the RUC availability payment would penalize a generator for failing to make its capacity available in real time. In contrast, the uninstructed deviation penalty (if it becomes operational) would penalize a generator for producing more energy than the grid operator instructs it to produce. Thus, the RUC availability payment is for a capacity-related product that the CAISO reserves in order to meet its expected operating needs in real-time. The rescission of this payment will only be based on a resource's inability to respond to the maximum capacity reservation under a RUC schedule. The uninstructed deviation penalty is related to energy. According to section 11.23 of the MRTU Tariff, the CAISO will calculate the penalty as the real-time energy price times an energy-price factor times the relevant scaled uninstructed deviation quantity in MWh outside the tolerance band (i.e., MWh deviation times the multiplier).¹²² Because these penalties are based on separate and distinct products, we reject WPTF/IEP's argument.

6. Self-Provision of RUC

169. SMUD states that although the CAISO decided not to allow entities to self-provide RUC, the MRTU Tariff does contain a provision for MSS¹²³ to opt-out of the RUC

¹²¹ For example, if the CAISO commits in the RUC process a resource for 50 MW of capacity and dispatches the resource for 50 MW of energy in real time, but the resource produces 60 MW of energy in real time, the RUC resource should receive an availability payment for the amount that corresponds to its RUC schedule (i.e., 50 MW). The CAISO should treat the excess energy (i.e., 10 MW) as uninstructed imbalance energy under section 11.5.2 of the MRTU Tariff.

¹²² We note that the CAISO proposes to suspend the uninstructed deviation penalty provisions, as described above, until it separately files under section 205 of the FPA to implement this penalty.

¹²³ An MSS is a geographically contiguous system located within a single zone which has been operating as an electric utility for a number of years, prior to the CAISO's operations date, as a municipal utility, water district, irrigation district, state

process. SMUD submits that there is no material difference between this “opt-out” provision and the RUC self-provision proposal that the CAISO considered and rejected for inclusion in Release 1. Further, SMUD argues that it is similarly situated to an MSS which has the right to opt-out of the RUC process because: (1) it self-provides for RUC; (2) it does not cause or benefit from the CAISO procurement of RUC; and (3) it has complete responsibility for the reliability of its own load. SMUD further argues that because unlike an MSS, SMUD is not located in the CAISO Control Area, it should be allowed to opt-out of the RUC process. SMUD requests that if the Commission does not direct the CAISO to include RUC self-provision in Release 1, it should require the CAISO to allow entities with outside control area load such as SMUD to opt-out of the RUC process.

170. The CAISO responds that there is no merit in SMUD’s collateral attack on the RUC process. First, the CAISO states that the MSS concept was created to accommodate the historic operations of governmental utilities operating within the CAISO Control Area. According to the CAISO, SMUD had an option of gaining an MSS status while remaining in the CAISO Control Area; instead, the CAISO points out, SMUD chose to form a separate control area, which renders it ineligible for MSS status. The CAISO further argues that to allow SMUD to opt-out of RUC would be equal to allowing it to cherry-pick certain aspects of MSS status without accepting the responsibilities that come with being a MSS, including, but not limited to, load-following deviation penalties and other provisions of the MRTU Tariff and MSS Agreement applicable to MSSs.

Commission Determination

171. The Commission previously accepted, in concept, that RUC costs associated with the day-ahead market will be borne first by the Scheduling Coordinators that under-scheduled load. Subsequently, any excess RUC costs not recovered from under-scheduled load will be allocated to all metered demand plus exports.¹²⁴ SMUD argues that entities with outside control area load should not be exposed to RUC costs because they can self-provide for RUC as a separate control area operator. Upon further review of the RUC mechanism, we find it inappropriate for the CAISO to allocate RUC costs to export schedules because the RUC process was not established to ensure that on-line capacity was made available to meet outside control area needs. To the contrary, we note that the RUC process was established in the event that the day-ahead market did not commit sufficient resources to meet CAISO demand, which refers to power delivered to load internal to the CAISO Control Area.¹²⁵ Because entities with outside control area

agency or federal power administration agency subsumed within the CAISO’s control area. *See* MRTU Tariff, Appendix A, Master Definitions Supplement.

¹²⁴ *See* October 2003 Order, 105 FERC ¶ 61,140.

¹²⁵ *See* MRTU Tariff, Appendix A, Master Definitions Supplement for the definition of CAISO demand.

load, such as SMUD, are responsible for the reliability of their own control areas, we believe that these entities are capable of self providing for operating requirements. Therefore, we direct the CAISO to modify, in a compliance filing within 60 days of the date of this order, section 11.8 of the MRTU Tariff to exclude the allocation of RUC costs to exports.

172. The CAISO, in its transmittal letter, states that, because most market participants do not believe the RUC self-provision feature is a priority for Release 1, the CAISO decided not to include the self-provision in this tariff filing. We direct the CAISO to continue to work with market participants on this issue and expect the CAISO to provide the Commission with reasons for the inclusion or exclusion of RUC self-provision no later than MRTU Release 2.

7. Other RUC Issues

173. FPL requests that the Commission require the CAISO to clarify that the availability obligation pursuant to RUC selection applies solely to those hours for which the CAISO selected the System Resource in the day-ahead market.

174. In response, the CAISO clarifies that MRTU Tariff section 31.5 provides that RUC procurement is a day-ahead market function that occurs for each distinct trading hour of the following day.

175. SoCal Edison requests that the CAISO confirm that RUC capacity cannot be self-provided. SoCal Edison states that MRTU Tariff section 30.2 is misleading because it states that “[t]here are three types of Bids: Energy Bids, Ancillary Services Bids, and RUC Availability Bids. Each Bid type can be submitted as either an Economic Bid or a Self Schedule. . .” SoCal Edison proposes the following language to address this issue: “There are three types of Bids: Energy Bids, Ancillary Services Bids, and RUC Availability Bids. Each Bid type can be submitted as either an Economic Bid or a Self Schedule (except for RUC availability bids, which cannot be self-scheduled . . .”

176. In response, the CAISO reiterates that there was not sufficient support from stakeholders to develop RUC self-provision in Release 1, nor were there sufficient indications from the Commission that RUC self-provision was a necessary feature at this time. Therefore, the CAISO states that SoCal Edison’s requested clarification is appropriate and commits to clarifying this section in a compliance filing.

177. Constellation/Mirant state that bids accepted from RUC units are not reflected in the day-ahead clearing prices if those bids are higher than the clearing prices that result from the pre-RUC dispatch. Because RUC is utilized to ensure that units needed in excess of bid-in load are committed, Constellation/Mirant argue that the fact that RUC commitments are not reflected in the day-ahead prices insulates LSEs from any

ramifications of under-bidding their load. Moreover, Constellation/Mirant contend that this market inefficiency sends inaccurate price signals to the day-ahead market.

178. The CAISO disagrees with Constellation/Mirant's argument. The CAISO contends that the MRTU design incorporates a financial disincentive to under-bidding load by allocating Tier 1 RUC costs first to those Scheduling Coordinators who do not bid all of their real-time demand in the day-ahead market. Moreover, the CAISO states that the MRTU design does not have a "balanced schedule" requirement that requires a Scheduling Coordinator to submit bids for all (or a substantial portion) of its demand in the day-ahead time frame.

179. WPTF/IEP state that resource adequacy resources committed by the CAISO in the day-ahead market or the RUC for part of their resource adequacy capacity are required to make available any remaining capacity as part of the resource adequacy capacity through real time without the CAISO having to issue a RUC schedule.¹²⁶ WPTF/IEP contend that the CAISO should not impose a "back door" offer obligation on units committed less than full output after the day-ahead market. WPTF/IEP assert that this problem can be easily remedied by requiring the CAISO to issue a RUC schedule to resource adequacy resources that are needed to be available the hour-ahead and in real-time. Specifically, WPTF/IEP request that the Commission require the CAISO to revise section 34.3 "Real Time Dispatch" and section 40.6.3 "Resource Adequacy" to impose this requirement only on units that have received a RUC schedule for capacity needed from resource adequacy resources.

Commission Determination

180. We note that the CAISO clarifies for FPL that the RUC procurement is a day-ahead market function that occurs for each distinct trading hour of the following day. We also note that the CAISO agrees with SoCal Edison's suggestion that section 30.2 of the MRTU Tariff is misleading. As a result, the CAISO proposes to modify the tariff language to clearly indicate that each bid type can be submitted as either an economic bid or a self schedule (except for RUC availability bids, which cannot be self-scheduled). Because the CAISO has clarified the comments raised by FPL and SoCal Edison, we find that no further discussion is needed, and we direct the CAISO to make the appropriate compliance filing within 60 days of the date of this order.

181. We note that the CAISO's RUC proposal is a reliability mechanism designed to procure capacity in advance of real time, making the energy from that capacity available to meet load in real time. We agree with Constellation/Mirant that the inability to reflect energy prices from RUC commitments into the day-ahead market clearing price may provide an incentive to LSEs to underschedule in the day-ahead market because

¹²⁶ See MRTU Tariff section 40.6.2.

underscheduling may suppress energy prices in the real-time market. This inefficient and distorted result could arise because LSEs may have an incentive to forego bidding physical schedules in day-ahead markets in expectation of better energy prices in the real-time markets. We believe that convergence bidding, as directed in this order, is the appropriate mechanism to address the incentive for LSEs to underschedule in the day-ahead market. We note that elsewhere in this order we are requiring the CAISO to file an interim proposal to counter such incentives for LSEs to underschedule in the day-ahead market until convergence bidding can be implemented, and we believe that LSEs will have a greater incentive to accurately bid load in the day-ahead market once the CAISO introduces convergence bidding.

182. We disagree with WPTF/IEP's concern that the CAISO should be required to issue RUC schedules to resource adequacy resources. Under the MRTU resource adequacy requirements, a supplier is obligated through its contracts with LSEs to bid into the day-ahead market or be subject to the CAISO's RUC process if the bid is not accepted. A resource adequacy obligation does not end with the RUC process; resources that are already running and have uncommitted resource adequacy capacity are required to make that capacity available to the CAISO. For this reason, we find it unnecessary for the CAISO to issue RUC schedules for unscheduled resource adequacy capacity because the capacity is already committed to ensure that the CAISO has adequate resources available to reliably operate the grid in the real time.

C. Hour-Ahead Scheduling Process and Real-Time Market

183. Following the day-ahead market, the CAISO proposes to implement HASP procedures. The purpose of the HASP is to provide an opportunity for the CAISO and Scheduling Coordinators to make adjustments to the day-ahead schedule to reflect changes in expected supply and load conditions. However, there will be no hour-ahead financial settlements, except for imports and exports.¹²⁷ All other transactions in the HASP will settle at the real-time prices.

184. The CAISO's HASP proposal includes: (1) a bid submission process that applies to market processes during the HASP and real-time market; (2) an hourly run of the real-time unit commitment process; (3) pre-IFM runs for bids submitted to the HASP and real-time market; and (4) hourly pre-dispatch which commits imports and exports at

¹²⁷ Currently, the CAISO operates a financially binding hour-ahead market. However, today's market closes 135 minutes before the operating hour and, according to the CAISO, is more costly to administer than HASP because all the hour-ahead data must be run through settlements and billing. The CAISO points out that moving from a financially binding hour-ahead market to an hour-ahead process that only schedules and does not settle (except for imports and exports) will allow the market to close 75 minutes before each operating hour.

scheduling points 45 minutes before each hour. Bids submitted in the HASP are used by the CAISO for both the HASP and the real-time market.

185. Under the proposed MRTU Tariff, Scheduling Coordinators may submit supply bids for the HASP and real-time market until 75 minutes prior to each trading hour in real time. Once the pre-IFM run has been performed, the HASP optimization determines feasible but non-binding schedules for generating units for each 15-minute interval of the trading hour, as well as binding hourly intertie schedules and System Resource ancillary service awards for that trading hour. The HASP may also commit resources whose start-up time is within the HASP time horizon.

186. The CAISO states that the HASP uses a security-constrained unit commitment optimization to simultaneously clear congestion and energy and to identify the optimal sources of any incremental ancillary services that may be needed.¹²⁸ Pursuant to MRTU Tariff section 33.6, bids submitted in the HASP for imports and exports at scheduling points that clear in the HASP will be issued binding pre-dispatch instructions by 45 minutes before each operating hour through HASP intertie schedules.¹²⁹ The CAISO further states that, pursuant to MRTU Tariff sections 33.1 and 33.2, any energy bids submitted to the HASP/real-time process that can respond to five-minute dispatch instructions will roll into the real-time dispatch process. Only energy and ancillary services from imports will be priced using LMPs produced by the HASP in accordance with MRTU Tariff sections 33.2 and 33.8.

187. The CAISO states that the HASP provides an opportunity for Scheduling Coordinators to self-schedule additional supply resources and wheeling transactions. To the extent Scheduling Coordinators wish to bid in HASP to supply energy, such bids will be treated as bids in the real-time market. The CAISO asserts that HASP self-schedules will not be modified by the real-time market so long as there are economic bids available to clear the real-time market. As set forth in MRTU Tariff section 34.10, to the extent that the CAISO does perform non-economic adjustments in real time and is obligated to decrease supply schedules, self-schedules will have a higher priority than economic bids submitted for the HASP and real-time market, but a lower priority than day-ahead schedules, participating load increases, RMR self-schedules, ETCs, TORs, and non-participating load increases.

¹²⁸ The CAISO notes that, as set forth in MRTU Tariff section 33.2, the demand used in this optimization is the CAISO's demand forecast, distributed to nodes based on load distribution factors.

¹²⁹ Once these pre-dispatch instructions are issued, they become the reference for System Resources for measuring real-time deviations, so that differences between day-ahead schedules and HASP pre-dispatch levels are not subject to any real-time uninstructed deviation penalties under MRTU Tariff section 11.23.

188. The CAISO states that, as set forth in MRTU Tariff section 34, the real-time market consists of three processes: short-term unit commitment,¹³⁰ real-time unit commitment and real-time dispatch. The CAISO contends that together these processes will optimize energy and ancillary services bids.¹³¹ The CAISO further states that there are three modes of the real-time dispatch: real-time economic dispatch, real-time contingency dispatch and real-time manual dispatch.¹³²

189. The CAISO states that dispatch instructions issued through the real-time market include energy from participating generators, participating loads, system units, and System Resources for ancillary services procured through the CAISO markets, self-scheduled, or dispatched in accordance with an RMR contract. The CAISO notes that the processes conducted in the real-time market optimize submitted supply bids against the CAISO forecast of CAISO demand plus the net HASP intertie schedules. Further, the CAISO explains, the real-time market will use an updated Full Network Model in clearing the market and will utilize the state estimator¹³³ to evaluate the most current status of the grid.

190. The CAISO states that, pursuant to MRTU Tariff section 34.8, during normal operating conditions, it will dispatch those resources that have contracted to provide spinning and non-spinning reserves, except for those reserves designated as contingency only, in conjunction with the normal dispatch of energy. In Release 1, the CAISO states,

¹³⁰ The short-term unit commitment utilizes the security constrained unit commitment optimization to commit medium start, short-start and fast start resources.

¹³¹ This optimization will be conducted to meet the following objectives: (1) satisfying real-time energy needs; (2) mitigating congestion; (3) allowing resources providing regulation service to return to the preferred operating point within their regulating ranges; (4) allowing recovery of operating reserves utilized in real-time operations; and (5) procuring voltage support required from resources beyond their power factor ranges in real-time.

¹³² The CAISO explains that the normal mode is the real-time economic dispatch, which in general will not utilize “contingency only” operating reserves, except when there is a shortage of energy bids to meet real-time demand and the CAISO is facing an imminent system emergency, but there is no transmission or generation contingency (significant outage or derate of a facility). The CAISO states that in such cases the “contingency only” operating reserves will be included with energy bid prices at the system bid cap rather than their submitted bid prices, to reflect the scarcity conditions, and will be eligible to set real-time LMPs, which the CAISO contends provides a mechanism for scarcity pricing of energy.

¹³³ The state estimator is a computer software program that provides the CAISO with a near real-time assessment of system conditions within the CAISO Control Area, including portions of the CAISO Control Area where real-time information is unavailable.

due to software design limitations, the ancillary services “contingency only” flag for a resource will be a daily selection. The CAISO contends that it will explore provisions for hourly designation of the “contingency only” flag in Release 2.

191. The CAISO states that real-time contingency dispatch is invoked when there is a transmission or generation contingency.¹³⁴ The CAISO describes the real-time manual dispatch as a fallback dispatch tool for CAISO operators in cases where the real-time economic dispatch or real-time contingency dispatch fail to arrive at a solution in a timely manner.¹³⁵ The CAISO adds that, pursuant to MRTU Tariff section 34.9, it may also conduct Exceptional Dispatches in the real-time process that are not part of the real-time dispatch process and may therefore require the issuance of forced shut-down or start-up instructions.

Discussion

1. CAISO’s Proposal of HASP Instead of Full Hour-Ahead Market

192. CMUA asserts that the CAISO's HASP proposal inadequately serves as a partial market mechanism between the day-ahead and real-time markets, and serves as a disincentive for load to meet any changes in demand from its day-ahead schedules. As CMUA understands the CAISO's MRTU proposal, load importing power in the HASP is paid the hour-ahead LMP for its import. CMUA says the CAISO has not adequately explained why the HASP settlement is not available for other load. NCPA asserts that the prohibition on submission of demand bids in the HASP, including self-schedules, appears to be driven more by CAISO preferences and software limitations than by any justifiable reason. NCPA urges the Commission to modify the MRTU design to allow for both demand bids and export bids in HASP, including self-schedules. NCPA and others advocate submission of demand side bids in the HASP.

193. Six Cities and CMUA cite the difference between what is paid to providers of imports, which are priced at the HASP LMP, and the real-time LAP price paid by an LSE as an example of increased price risk.

¹³⁴ The CAISO states that the real-time contingency dispatch can be invoked by its operators immediately upon identifying the need for it. The CAISO further explains that the real-time contingency dispatch incorporates the “contingency only” operating reserves at their actual bid prices, because circumstances are not scarcity conditions, but reflect the explicit intended use of such reserves.

¹³⁵ The CAISO states that the real-time manual dispatch is a very limited tool, however, in the sense that it simply provides a price-quantity supply stack for the system, issues dispatch instructions and determines system-wide energy clearing prices for each five-minute interval without enforcing internal transmission constraints.

194. Commenters state that the prohibition against self-scheduling by all load in HASP will increase price and congestion risks and is unduly discriminatory. Bay Area Municipals assert that the CAISO neither justifies nor explains why its proposal prohibits self-scheduling of load in the hour-ahead market, but permits self-scheduling of resources. Commenters urge the Commission to modify the MRTU Tariff to provide for the self-scheduling or adjusting of load in the hour-ahead market.

195. WPTF/IEP voice concern that the CAISO's proposal for procurement of ancillary services and energy in the HASP disparately impacts various products, which different resources are eligible to provide. WPTF/IEP and Williams are concerned that only imports are eligible to provide an hourly ancillary services product, to receive binding ancillary services dispatches, and to be settled at HASP prices, while in contrast, in-state generating resources are only eligible to participate in the 15-minute real-time market. The HASP design, WPTF/IEP assert, will lead to an unnecessary divergence in the rates and terms of ancillary services sales between internal resources and imports. WPTF/IEP suggest that HASP be modified to offer comparable products, for both internal and external units: (1) in binding ancillary services pre-dispatch instructions; (2) for unit commitment in 1-hour increments (in lieu of or in addition to 15 minutes); and (3) for financial settlement in a consistent manner.

196. While Williams does not oppose creating favorable market opportunities to encourage market participants to supply energy to the CAISO, Williams believes that such opportunities must be provided to all competitors. Thus, Williams opines that the Commission should level the playing field and not permit the CAISO to discriminate in favor of import supply resources.

197. BPA asserts that the current HASP proposal limits participation to System Resources (i.e., imports and self-schedules), which BPA states will frustrate price discovery by excluding legitimate suppliers from the full hour market, and also lead to greater volatility and distort prices by obstructing competition among bidders. BPA states that the Commission should adopt Amendment Nos. 66 and 69 concepts¹³⁶ and direct the CAISO to expand HASP to an open full-hour market that is available to all suppliers that may choose to offer real-time energy in full-hour blocks.

198. Coral asserts that MRTU violates the Commission's directives in the July 1 Order that the CAISO justify the elimination of the hour-ahead market through a cost/benefit study or compensate generators for the start-up and minimum load costs that they will incur due to the elimination of the hour-ahead market under the HASP proposal.

199. In contrast to other commenters, SoCal Edison contends that the added costs and administrative burdens (such as settlements), risks and disadvantages associated with a

¹³⁶ See Docket No. ER05-718, *et al.*

full hour-ahead market significantly outweigh the purported benefits. According to SoCal Edison, a full hour-ahead market may harm the market by forcing participants to submit bids to the CAISO at timelines that are further away from actual real-time delivery, and even further out-of-step with other markets in the WECC. Moreover, SoCal Edison notes that none of the other Commission-approved LMP markets have a full hour-ahead settlement process and does not believe that the Commission should order the CAISO to be the first to implement such a market.

200. The CAISO states that the difference between HASP products available to internal and external generation units is reasonable, given the different constraints faced by those resources. The CAISO asserts that WPTF/IEP's argument should be rejected. Under HASP, the CAISO explains, imports are eligible to provide an hourly ancillary services product, and to be settled at HASP prices (as opposed to real-time prices) because, due to current practices for scheduling hourly interchanges between the CAISO and neighboring control areas, imports cannot be dispatched on a five-minute basis (except as needed to respond to a contingency). Thus, imports do not have the option of choosing between hourly pre-dispatch and participation in the five-minute imbalance market. Instead, they must be pre-dispatched for an entire hour. The CAISO asserts that the Commission recognized this fact in its decision concerning mitigation of imports in the California refund proceeding.¹³⁷ The CAISO states that import energy plays a valuable role in its ability to meet demand in the CAISO Control Area, and thus, participation of imports in the CAISO's markets should be encouraged. Therefore, the CAISO has proposed a HASP design that recognizes the special limitations of imports, and therefore facilitates their participation in the CAISO markets.

201. However, the CAISO states, the fact that the CAISO has made provisions in its HASP design in order to accommodate import participation in the CAISO's markets does not mean that those provisions should be extended to internal resources. The CAISO contends that imports and internal resources are different in practice, and that difference justifies differing treatment. Although the CAISO would prefer to have all resources dispatched and settled on a five-minute basis, the CAISO believes that this simply is not feasible for many imports. The CAISO, however, explains that this does not mean that internal resources, which do not face the same limitations as imports in this regard, should be permitted to participate and settle on an hourly basis. Doing so would be tantamount to creating a full hour-ahead market, the CAISO asserts. According to the CAISO, the HASP proposal was specifically designed to avoid the need to create a full hour-ahead market.

¹³⁷ See *San Diego Gas & Electric Co. v. Sellers of Energy and Ancillary Serv.*, 105 FERC ¶ 61,066, at P 54 (2003) (noting that, unlike other types of energy, imports must be dispatched for a minimum of one hour).

202. The CAISO also asserts that it did not violate the Commission's July 2005 Order by not performing an additional cost/benefit analysis of the merits of HASP versus a full hour-ahead market. The CAISO argues that Coral's argument is spurious; according to the CAISO, the July 2005 Order contains no such mandate.¹³⁸ The CAISO highlights language in the July 2005 Order where the Commission noted that, notwithstanding the fact that the CAISO did not submit a cost-benefit study on HASP, "[the Commission] conclude[s] that the advantages outweigh the disadvantages of implementing HASP at this time."¹³⁹

Commission Determination

203. The CAISO explains in its transmittal letter the reasons why it opted for the HASP instead of a full hour-ahead market. Namely, its stakeholders stated a need to "(1) self-schedule, ahead of the operating hour, additional supply resources they obtain after the day-ahead market ... and (2) submit such self-schedules as close to the operating hour as possible."¹⁴⁰ In addition, the CAISO argues that, from a settlements perspective, having only two complete settlements (day-ahead and real-time) instead of three would reduce ongoing operating costs for all parties.

204. The Commission has recognized the advantages of a full hour-ahead market, as illuminated by commentors and as laid out in prior Commission orders. However, given the increased implementation and operating costs, as well as the amount of time necessary to develop a third market, we will not at this time require the implementation of a full hour-ahead market. Accordingly, we find that the benefits of implementing the CAISO's new market design, complete with LMP and a security-constrained financially-binding day-ahead market, outweigh the concerns commentors have raised with regard to implementing HASP in Release 1. We continue to agree with the commentors that a full

¹³⁸ In the July 2005 Order, the CAISO states that the Commission found that the CAISO had not "fully compl[ied]" with the Commission's prior order to submit, as part of the May 2005 filing, a study on the benefits and costs of a full hour-ahead market versus HASP. The Commission noted that failure to comply in the future could result in the rejection of the filing. Coral seems to have interpreted this admonition as a direct mandate to the CAISO to perform additional cost/benefit studies on the HASP proposal. However, given that the Commission approved the CAISO's HASP proposal in principle in the July 2005 Order, and nowhere else referenced any discrete requirement to perform additional studies, the CAISO contends that the more sensible interpretation of this phrase is as a warning that failure to comply with any future Commission directives could result in the Commission rejecting the filing at issue. The CAISO asserts that this interpretation is supported by the paragraph of the order cited by Coral. July 2005 Order, 112 FERC ¶ 61,013 at P 71.

¹³⁹ *Id.*, P 71

¹⁴⁰ Kristov Testimony at 71.

hour-ahead market is desirable and believe the CAISO should continue moving in that direction. For Release 1, however, we accept the HASP proposal.

205. Furthermore, we find that, within the HASP framework, demand would not benefit from having the ability to submit new bids, as suggested by some commenters. Because HASP is only financially binding for transactions at the interties, any demand that is not cleared and settled at the day-ahead price will be settled at the real-time price. Thus, allowing demand to submit schedule adjustments in HASP would not give LSEs an opportunity to lock-in an hour-ahead price. To provide that ability would require the development of a full-settlement, hour-ahead market.

206. Allowing schedule adjustments to be submitted by suppliers in HASP will, however, result in a benefit to suppliers, because it affords them the opportunity to adjust their supply schedules without incurring deviation penalties. LSEs, on the other hand, do not face similar penalties for underscheduling day ahead, and, thus, there is no benefit to LSEs submitting schedule changes in the HASP. LSEs will always pay the real-time price for the load that has not been covered by the day-ahead schedule.

207. With respect to WPTF/IEP's and Williams' argument that in-state generating resources should have the same bidding and settlement options as external resources, we disagree. As the CAISO explains, internal and external generating resources are not similarly situated. Unlike internal resources, imports cannot be dispatched on a five-minute basis except in a contingency.¹⁴¹ While the treatment of internal and external resources is different, it is not unduly discriminatory given such different operating characteristics.

2. Self-Scheduling of Exports

208. Six Cities state that the tariff is inconsistent regarding the scheduling of exports in HASP. Specifically, Six Cities note that section 33.3 prohibits the self-scheduling of exports and load in HASP, but section 40.6.7.1 indicates that a Scheduling Coordinator can self-schedule a wheeling-out transaction in HASP.

209. CMUA asserts that the lack of self-scheduling capability for exports in the HASP process is likely to disrupt commercial arrangements. The City of Roseville, California (Roseville) similarly argues that this prohibition is unjust, unduly discriminatory and inhibits Roseville's ability to serve native load. NCPA notes that it currently relies on the ability to adjust its exports in the hour-ahead market to enhance its load-following accuracy, and that the inability to self-schedule exports in HASP will likely increase NCPA's exposure to penalties under the MSS Agreement.

¹⁴¹ See CAISO Reply at 133.

210. As a matter of reliability, NCPA questions how the CAISO will reduce over-generation if self-scheduled exports are not allowed after the day-ahead market. Turlock also notes that requiring entities exporting out of the CAISO Control Area to submit export bids in the HASP will unduly burden exports and could affect the reliability of neighboring control areas by preventing them from receiving exports that they rely upon to meet their load requirements. Turlock lays out a scenario in which the CAISO, faced with less supply than its forecasted demand, could refuse to honor an export bid, and instead use the supply associated with that export to meet the CAISO's internal demand, thereby jeopardizing the neighboring control area's system reliability. Turlock asserts that the CAISO's proposed prohibition against exports being self-scheduled should be rejected.

211. The CAISO explains that the requirement that exports submit economic bids in HASP (and not self-schedules) is necessary to ensure that supply resources procured by LSEs serving load within the CAISO Control Area under their resource adequacy requirements, and RUC capacity procured by the CAISO as part of the day-ahead market, are fully available to meet the CAISO's forecast of CAISO demand (i.e., internal demand, excluding exports) for the upcoming trading hour. The proposed requirement that exports submit economic bids is merely a device that ensures, when available real-time supply is insufficient to meet both the forecast of CAISO demand and the bids of exporters, that CAISO demand will have priority.

212. The CAISO further notes that exports can submit economic demand bids at the price cap, and that such price-cap export demand bids will be treated differently from internal CAISO demand only when supply scarcity occurs, as described above. In hours when supply is sufficient to meet both CAISO demand and export demand, there will be no difference in treatment of price-cap export demand and CAISO demand.

213. The CAISO disagrees with commenters' arguments that treating CAISO demand and exports differently in HASP is unduly discriminatory. In particular, it notes that the implementation of resource adequacy requirements on LSEs who serve load within the CAISO Control Area means that CAISO demand and export demand are differently situated and therefore should be treated differently with respect to access to supply resources that have been procured under resource adequacy requirements or through the CAISO's RUC procedure. The CAISO states that, although it is committed to providing non-discriminatory access to the CAISO-controlled grid, its first responsibility must necessarily be to ensure the reliable operation of the grid.

214. Finally, the CAISO recognizes that the inferior scheduling priority of export demand compared to CAISO demand should not apply in circumstances when the export demand is served by a generation self-schedule from non-resource adequacy capacity or non-RUC capacity. The CAISO now proposes to implement a mechanism to enable Scheduling Coordinators to self-schedule exports in HASP, matched by generation from

capacity that is not committed for resource adequacy or RUC purposes. These self-scheduled exports will enjoy the same level of scheduling priority as CAISO Demand.

215. The CAISO recognizes the importance of accommodating this scheduling flexibility now, rather than waiting for Release 2. However, the CAISO points out that it will probably have to create a manual procedure for Release 1 to implement this feature, and then wait until Release 2 to install an integrated software solution.

Commission Determination

216. Through expressing a concern over the price risk between HASP import payments and real-time LAP prices, Six Cities in fact argue again in support of a full hour-ahead market, wherein the load would see the same LMPs as supply. As stated above, we recognize the benefits of a full hour-ahead market. However, for Release 1, we find that the proposed HASP process, as modified herein, is sufficient to allow the markets to function in a reasonable manner, and we therefore accept it, as discussed.

217. We agree with the concerns raised by Roseville, NCPA, CMUA and Six Cities in regard to self-scheduling of exports. The CAISO proposed certain modifications in its reply comments. We accept the modifications proposed by the CAISO, to treat export demand the same as CAISO demand, if that export demand is not served by capacity reserved for resource adequacy or RUC use. We direct the CAISO to confer with commenters and submit amended tariff sheets reflecting proposed modifications within 60 days of the date of this order.

3. Emergency Energy Settlements

218. BPA asserts that the MRTU Tariff should address the settlement of emergency energy. BPA states that the MRTU Tariff should specify that emergency energy will be settled at the real-time interval price without congestion charges, since emergency energy must by definition be deliverable. According to BPA, the current CAISO practice of paying the hourly average price fails to reflect the value of emergency energy delivered within an hour.

Commission Determination

219. We agree with BPA that the settlement of emergency energy should be addressed in the MRTU Tariff. We note that the MRTU Tariff is not to supersede any current contractual agreements that may exist. We direct the CAISO to make a compliance filing within 60 days of the date of this order providing a provision addressing the settlement of emergency energy in the MRTU Tariff.

220. On BPA's second point whether emergency imports should be settled without paying congestion charges, we disagree with BPA's argument that excluding congestion charges is reasonable. Energy flows depending on the network topology and the path resistance regardless of the path congestion. Even if the path of least resistance happens to be congested, the energy will nevertheless flow through this path. Accordingly, energy flowing over congested lines should be subject to congestion charges.

4. Bids on Out-of-Service Transmission Paths

221. Powerex states that Scheduling Coordinators should not be penalized for inadvertently submitting bids on out-of-service transmission paths. Powerex contends that the title and text of section 30.14¹⁴² should be amended to correct what appears to be an erroneous assumption about the respective responsibilities of the CAISO and Scheduling Coordinators. Powerex states that Scheduling Coordinators cannot be expected to have up-to-the minute information on the status of each and every path; it is the CAISO that is supposed to have this information, and to be responsible for processing bids correctly, based on having software that rejects bids that cannot be accommodated.

222. Powerex proposes that the title of this section be amended as follows: "30.14. CAISO Response to Prohibition on Bidding Across Out-of-Service Transmission Paths at Scheduling Points." Powerex also states that the first sentence of the section should be deleted.

Commission Determination

223. Powerex contends that Scheduling Coordinators should not be penalized for inadvertently submitting bids on out-of-service transmission paths. Powerex has misunderstood this tariff provision, as the CAISO has not changed the process by which bids submitted across out-of-services transmission paths will be handled, nor has it suggested that any penalty would be imposed. The process for rejecting or reducing such bids under MRTU remains the same as it currently is. Thus, we reject Powerex's requested changes to MRTU Tariff section 30.14.

5. Fifteen-Minute Ancillary Services Product

224. WPTF/IEP state that the creation of a new 15-minute ancillary services product will needlessly complicate settlements and increase operational complexity. WPTF/IEP

¹⁴² MRTU Tariff section 30.14 entitled "Prohibition on Bidding Across Out-of-Service Transmission Paths at Scheduling Points" provides: "Scheduling Coordinators shall not submit any Bids or ETC Self-Schedules at Scheduling Points [generally known as interties] using a transmission path for any Settlement Period for which the Operating Transfer Capability for that path is zero MW."

contend that the Scheduling Coordinator would have the responsibility to notify the plant that it was awarded a fifteen-minute ancillary services bid every 15 minutes to put the unit on automatic generation control, back off, and back on again, which could lead to an increase in missed intervals.

Commission Determination

225. We disagree with WPTF/IEP's argument against the creation of a new 15-minute ancillary services product, which includes regulation (up/down), spinning and non-spinning reserve. The Commission notes that the Electric Reliability Council of Texas (ERCOT) energy market is settled on 15-minute intervals. Additionally, PJM issues dispatch instructions for ancillary services every 5 minutes. Therefore, we accept the 15-minute ancillary services product for regulation (up/down), spinning and non-spinning reserve.

6. Contingency Only Reserves

226. WPTF/IEP note that under the MRTU proposal, all operating reserves procured in the HASP are contingency only.¹⁴³ WPTF/IEP contend that this market change could lead to a significant increase in the cost of reserves. WPTF/IEP state that in the current hour-ahead market, units have the option of selecting a "no" contingency flag that ensures that its reserve energy will be dispatched economically and absent this flexibility, there is no incentive to bid in reserves below generation costs.

Commission Determination

227. The current tariff allows Scheduling Coordinators to include with their bids an indication whether the capacity reserved (spinning reserves or non-spinning reserves) would be available to supply imbalance energy only in the event of an unplanned outage, a contingency, or an imminent or actual system emergency.¹⁴⁴ However, under the MRTU Tariff, operating reserves will be used only for contingencies, as RUC capacity can handle all other discrepancies between real-time and hour-ahead schedules. For this reason, even if market participants had an option to bid reserves as "no contingency," that option would never be exercised because the CAISO first procures additional resources in RUC and only then, in the event of contingency, the CAISO resorts to operating reserves.

¹⁴³ WPTF/IEP refer to MRTU Tariff section 33.7, which provides that "[a]ll operating reserves procured in HASP are Contingency Only Operating Reserves." The CAISO defines a contingency as a potential outage that is unexpected, viewed as possible, or eventually probable, which is taken into account when considering approval of other requested outages or while operating the CAISO Control Area.

¹⁴⁴ See CAISO tariff sections 8.5.7 and 8.5.8.

Therefore, we accept the CAISO's proposal for all operating reserves procured in HASP to be contingency only.

7. Participating Load

228. The State Water Project states that there is no valid reason that supports denying participating load¹⁴⁵ a right to submit formal schedules in the HASP. The State Water Project notes that hour-ahead changes in its very large loads are inevitable given unanticipated hydrological events, and such changes affect grid operations. The State Water Project believes that the CAISO's stated reason for denying load an ability to submit formal schedules in the hour ahead timeframe because "it is essential to use the CAISO Demand Forecast in HASP, rather than submitted Demand Bids and Self-Schedules, in order to enable the CAISO to pre-dispatch the optimal quantity of supplemental energy from imports" does not apply to the State Water Project's participating loads. It contends that the practical impact of denying participating load an ability to submit formal as opposed to informal schedules in the HASP time frame is to make compliance with ancillary services bidding requirements infeasible, and allocate costs to participating load for net negative uninstructed deviations that it in fact does not cause. The State Water Project states that the MRTU Tariff should be amended to permit formal scheduling of participating load in HASP.

229. The CAISO notes that MRTU Tariff section 33.3 allows self-schedules of supply in the HASP, but the definition of "supply" does not include participating load. The CAISO agrees that participating load should be included in the definition of "supply" so as to allow participating load to self-schedule in the HASP and be treated as a negative generator, and it will make that change in a tariff compliance filing.

Commission Determination

230. As explained in the CAISO's transmittal letter for the MRTU Tariff filing, for Release 1, participating loads will be treated in the same manner as pumped-storage hydro units. Thus, we agree with the State Water Project that participating loads be treated as generators and able to submit energy and ancillary services bids in the HASP. The CAISO also agreed with the State Water Project and committed to amend its definition of "supply" to include participating load. We direct the CAISO to make a compliance filing within 60 days of the date of this order with this amendment.

¹⁴⁵ Participating loads are pumps and pump storage facilities that the CAISO models as generators with negative generation capabilities and schedules and settles them at nodal prices.

8. Winning Day-Ahead Bids and Energy Rebid into the HASP

231. SoCal Edison states that, in the HASP/real-time market, the CAISO bidding rules allow parties to rebid any portion of their supply output that was not selected in the day-ahead market. However, section 30.5.2.1 indicates suppliers must submit an “Energy Bid Curve,” which, by definition, must contain “the prices and related quantity at which a resource offers Energy in monotonically increasing staircase function.”¹⁴⁶ Since parties are allowed to change their unselected bids in HASP, SoCal Edison is concerned that the residual day-ahead bid curve, combined with the HASP bid curve, may not be continuously increasing.¹⁴⁷

232. The CAISO addresses the hypothetical posed by SoCal Edison. First, the CAISO notes that there will not be any issues with respect to the requirement that the resource’s bid curve be continuously increasing, because, in HASP, the CAISO will assign a bid price of negative \$30/MWh to the range of the resource between 0 and 70 MW (i.e., the portion that was selected in the day-ahead market). What is actually rebid in HASP is only the 30 MW that did not clear the day-ahead market.

233. Finally, the CAISO explains that, if the resource is obligated to offer in real time because it is a resource adequacy resource but no bid is submitted, the CAISO will assign a “proxy” bid to the resource for the range between 70 and 100 MW. If the resource is not an resource adequacy resource, then the CAISO would not dispatch the additional 30 MW of energy, as that energy was not bid into any of the CAISO’s markets.¹⁴⁸

234. The CAISO agrees to clarify in a compliance filing that HASP/real-time market bids for a resource must be continuously increasing for the portions that are submitted.

¹⁴⁶ MRTU Tariff, Appendix A, Master Definitions Supplement. We note that the term monotonically increasing means continuously increasing.

¹⁴⁷ SoCal Edison presents the following example: consider a 100 MW unit that bids in the day-ahead market. Assume that 70 MW clears the auction at a price of \$85. The unit can rebid the remaining 30 MW in the HASP. Assume the 30MW is rebid at a price of \$10. The resulting combined day-ahead curve plus the rebid HASP curve is no longer continuously increasing. SoCal Edison is unclear how the HASP and real-time market will treat the price discrepancy between the 70 MW level at \$85 and the additional 30 MW bid at \$10, and seeks clarification on this issue.

¹⁴⁸ The one exception to this is that the CAISO could potentially dispatch this additional 30 MW pursuant to the CAISO’s Exceptional Dispatch authority.

Commission Determination

235. We accept the CAISO's offer to clarify the manner in which submitted energy bid curves must be continuously increasing and direct the CAISO to submit amended tariff sheets reflecting that change within 60 days of the date of this order.

9. Segments for Operational Ramp Rates

236. SoCal Edison opposes the CAISO's proposed reduction in the number of segments for operational ramp rates. SoCal Edison notes that currently the CAISO permits nine segments defined by a set of one to ten pairs¹⁴⁹ for operational ramp rates; however, MRTU Tariff section 30.10 states that the submitted operational ramp rate "...must be a staircase function with up to four segments." SoCal Edison contends that reducing the number of segments for the operational ramp rate is a step backwards from meeting the CAISO's stated purpose of MRTU, which is to better reflect the physical characteristics of the grid. SoCal Edison states that having only four segments would not allow it to accurately represent the operating characteristics of some of its resources and recommends keeping the operational ramp rate segments the same as today. To the extent software limitations are a factor, SoCal Edison states that it would support reducing the number of forbidden operating regions¹⁵⁰ (currently four) in exchange for increasing the number of operational ramp segments.

237. WPTF/IEP state that the change in ramp rate segments was not discussed in stakeholder policy sessions and that decreasing the number of ramp rate segments by more than fifty percent will significantly decrease accuracy. WPTF/IEP contend that for large generating units, four segments are insufficient for reliable plant operations and as a result, plants will be operated in an overly conservative manner. Further, this software limitation will therefore decrease a unit's ability to provide ancillary service and supplemental energy bids because it will be unable to provide an accurate bid connected to an accurate ramp rate. WPTF/IEP add that it is unlikely whether suppliers would be able to participate in a market, such as the ancillary service market, if they were constrained operationally and this possible reduction in participation is not beneficial to anyone.

238. The CAISO states that the reduction of operating ramp segments from nine to four will not negatively impact the operation of the CAISO's markets. The CAISO contends that this software-related change will not limit the CAISO's ability to accurately reflect the physical characteristics of the units because, except for a few resources, generating

¹⁴⁹ "Pairs" are sets of corresponding quantity and time.

¹⁵⁰ A forbidden operating region is a quantity range between which a generator cannot operate.

units in the CAISO's Master File use four or less segments for their operational ramp rates.

Commission Determination

239. We agree that reducing the number of segments for the operational ramp rate is limiting and fails to allow accurate representation of the operating characteristics of some resources. We note that the Commission has previously conditioned the approval of uninstructed deviation penalty provisions on software improvements that allow more accurate representation of ramp rates at various operating points of a unit.¹⁵¹ We also recognize that the CAISO is facing a software limitation. The CAISO states that this is a software-related change, implying that the software could have accommodated more than four, but does not. The CAISO has failed to justify the change, using neither the stakeholder process nor this filing to make its claim. Within 60 days of the date of this order, we direct the CAISO in its compliance filing to explain its decision to "change" from nine to four ramp segments, why the MRTU software cannot accommodate nine and what would be required (in terms of cost and time) to modify.

10. SLIC and SIBR

240. WPTF/IEP state that Release 1 does not provide for any type of automated communication between the Scheduling Logging for the ISO of California (SLIC), a web-enabled interface for transmission and generation owners to communicate outage information to the CAISO, and the Scheduling Infrastructure Business Rules (SIBR), the interface that accepts, validates, and modifies bids and trades for energy and then enters these bids and trades into a database for processing by other components of CAISO's management system. WPTF/IEP contend that absent any type of automated interface between these two systems, and absent manual intervention, SIBR could create bids over a unit's entire operating range even in those circumstances where the Scheduling Coordinator has submitted a SLIC derate; this could have major consequences in all aspects, from real-time operations to settlements.

241. SoCal Edison states that sections 30.7.3.3 and 30.7.3.4 (Validation Prior to Market Close and After Master File Update and Validation After Market Close) should be modified to account for known outages.

242. The CAISO states that SLIC derate recognition by SIBR is a proposed Release 2 design feature. The CAISO notes that, in the Release 1 design, SLIC does interact with the day-ahead market and real-time market. Even if SIBR passes on bids that do not reflect a derate, the CAISO states that the pre-IFM and real-time market applications will only utilize what the unit is capable of supplying.

¹⁵¹ July 2002 Order, 100 FERC ¶ 61,060 at P 141.

243. The CAISO states that the tariff sections referenced by SoCal Edison pertain to static data. The CAISO explains that, if a unit is on an outage, that information will be taken into account via input from SLIC and therefore the recommended modification is not necessary.

Commission Determination

244. We direct the CAISO to implement an interface between SLIC and SIBR as of the earlier of MRTU Release 2 or the time that SLIC derates become recognized by SIBR and SLIC interacts with the day-ahead and real-time markets. We agree with the CAISO that SoCal Edison's requested change to account for known outages is not necessary.

11. Exceptional Dispatch

245. Section 34.9 permits the CAISO to perform Exceptional Dispatches, which are manual dispatch instructions different from those derived from the real-time market optimization software. The CAISO can perform Exceptional Dispatches for reliability reasons (as specified in section 34.9.1) or for other reasons (as specified in section 34.9.2). Under section 34.9.1, the CAISO may perform Exceptional Dispatches to address a situation that threatens system reliability and that cannot be addressed by the real-time market optimization and system modeling. Under section 34.9.2, the CAISO may perform Exceptional Dispatches to address certain other specified situations, such as to perform ancillary services testing or pre-commercial operations testing for generating units. Exceptional Dispatches will not be used to establish LMPs.

246. According to WPTF/IEP, without a rationale, the CAISO included what it refers to as "Exceptional Dispatch" in several MRTU Tariff sections. WPTF/IEP also suggest that only in a very limited set of circumstances, should the CAISO be able to intervene in outcomes of the market systems and dispatch units outside of the market outcomes. In WPTF/IEP's opinion, the CAISO may call on generating units independent of market outcomes only to avoid or mitigate certain physical emergencies (such as an equipment failure).

247. WPTF/IEP believe that, as currently written, the CAISO's definition of "System Emergency" is so broad that it is difficult to determine when it is appropriate for the CAISO to intervene in market solutions. WPTF/IEP contend that the CAISO should either identify the conditions for which intervention is necessary and distinct from the System Emergency definition, or the definition should be narrowed.

248. Accordingly, WPTF/IEP request that the Commission direct the CAISO to remove a reference to Exceptional Dispatch in section 34.10, to remove the instances of inappropriate intervention in the marketplace from section 34.9, and revise the emergency criteria set forth in section 34.9 by narrowing them down.

249. The CAISO replies that the CAISO's Exceptional Dispatch authority is appropriately tailored, given the CAISO's responsibility for ensuring the reliable operation of the grid. In response to WPTF/IEP, the CAISO states that it has not proposed any change to the definition of System Emergency in the MRTU Tariff Filing (except for the editorial change of "ISO" to "CAISO").

250. The CAISO states that the more fundamental problem with WPTF/IEP's argument, however, is that it seems to be advocating for a regime in which the CAISO's ability to ensure reliability is limited to a strictly and narrowly defined set of circumstances. The CAISO believes that doing so would seriously compromise the CAISO's ability to fulfill its primary mission of ensuring the reliable operation of the CAISO Controlled Grid. The CAISO explains that because it is often difficult to predict the exact manner in which reliability problems will arise, some discretion on the part of an ISO is necessary to ensure reliable grid operations.

251. The CAISO states that WPTF/IEP provides no justification as to why the authority to issue an Exceptional Dispatch under specified circumstances would be unjust and unreasonable.

252. WPTF/IEP contend that the CAISO's proposal to keep the results of the manual dispatches from affecting the balance of the market prices destroys the market signals that MRTU was intended to produce. In WPTF/IEP's opinion, market prices should not be sheltered from Exceptional Dispatches used to clear the CAISO markets. Constellation/Mirant also assert that if the dispatch operators manually direct out-of-merit dispatch, the dispatched unit should be allowed to set the marginal clearing price.

253. The CAISO replies that Exceptional Dispatches are, by their very nature, designed to address specific reliability problems that occur outside of normal market operations. Therefore, the CAISO concludes, these dispatches do not accurately reflect the system-wide need, because units dispatched pursuant to this authority do not represent the marginal units, which are used to establish LMPs.

254. The CAISO further states that, fundamentally, Exceptional Dispatches are no different than the Out-of-Market and Out-of-Sequence dispatches which the CAISO has the authority to perform under its current market design and which do not set the market price.¹⁵² The CAISO sees no reason to change this with the implementation of the fundamentally identical Exceptional Dispatch mechanism.

255. Further, several parties raise issues concerning the allocation of the costs of Exceptional Dispatches. Specifically, WPTF/IEP contend that the CAISO should revise

¹⁵² The CAISO cites to *San Diego Gas & Electric Co., v. Sellers of Energy and Ancillary Serv.*, 102 FERC ¶ 61,317, at P 5.E & 23 (2003).

MRTU Tariff section 11.5.6.2.5.2 to eliminate allocation based on net negative uninstructed deviations,¹⁵³ as it suggests that the CAISO intends to intervene in markets to procure energy for net short positions, whereas Exceptional Dispatch is limited to certain emergency conditions.

256. The CAISO disagrees. It argues that Exceptional Dispatches made under emergency conditions also serve a portion of the CAISO's real-time net short load. Thus, the CAISO concludes, it is appropriate to allocate part of the cost of such dispatches to real-time net short uninstructed deviations.

257. SoCal Edison argues that the CAISO's proposed allocation to PTOs of certain Exceptional Dispatch costs relating to transmission-related modeling limitation in the Full Network Model is inappropriate, and that such costs should not be allocated to PTOs but rather to Scheduling Coordinators. SoCal Edison explains that because the CAISO, rather than the PTOs, is now responsible for grid planning and operation, the PTOs are not in the position to guarantee reliable grid operations and thus, should not be held liable for these costs.

258. The CAISO disagrees. According to the CAISO, PTOs should not be exempted from Exceptional Dispatch cost allocation related to "transmission-related modeling limitation in [Full Network Model]" merely because the CAISO is now in charge of coordinated transmission planning. The CAISO explains that these limitations are more often than not attributable to transmission maintenance, for which the PTOs have primary responsibility.

259. SoCal Edison states that, while it is strongly desirous of having all Exceptional Dispatch costs allocated to Scheduling Coordinators, in the alternative, it would recommend the CAISO modify MRTU Tariff section 11.5.6.2.5.1 to indicate that these costs are "Reliability Services Costs" and may be recovered through a PTO's reliability services rates.

260. The CAISO agrees with SoCal Edison that if the costs of transmission modeling limitation-related Exceptional Dispatches are to be allocated to PTOs, it should be

¹⁵³ The MRTU Tariff defines a Net Negative Uninstructed Deviation as:

The real-time change in Generation or Demand associated with underscheduled Demand (*i.e.*, Demand that appears unscheduled in Real-Time) and overscheduled Generation (*i.e.*, Generation that is scheduled in the DAM and does not appear in Real-Time), which are netted for each Settlement Interval, apply to a Scheduling Coordinator's entire portfolio, and include Demand, Generation, imports and exports.

clarified in the MRTU Tariff that such costs constitute “Reliability Service Costs,” so that the PTOs can recover them through their Reliability Service Costs rates. The CAISO commits to making the necessary tariff change in a compliance filing.

261. Six Cities and Metropolitan disagree with SoCal Edison’s proposal to allocate all Exceptional Dispatch costs to the Scheduling Coordinators of LSEs or to classify them as “Reliability Services Costs.” Six Cities and Metropolitan state that, in the case of costs associated with RMR designations, costs associated with RMR designations should be assigned to the PTO because PTOs are in the best position to reinforce the transmission system. Metropolitan adds that Exceptional Dispatches can be used for reasons other than grid reliability and therefore should not be defined as Reliability Services Costs.

262. The CAISO states that excess costs should be more consistently defined throughout the body of MRTU Tariff, including all cases where excess costs are incurred, not just from condition 2 RMR units.

263. SoCal Edison also objects to the manner by which Exceptional Dispatch costs associated with section 27.5.2 are applied to the PTO in whose service territory the transmission issue arose. SoCal Edison argues that, in the case of an MSS that is not a PTO, the costs would be allocated to the surrounding PTO. SoCal Edison argues that the MSS should be responsible for any costs related to Exceptional Dispatches issued on its behalf.

264. The CAISO agrees with SoCal Edison’s position that, if an MSS is unable to relieve congestion internal to its system, that any Exceptional Dispatches made by the CAISO to resolve this congestion should be allocated to the responsible MSS. The CAISO commits to making the necessary tariff modifications in a compliance filing.

265. SoCal Edison argues that the term “transmission-related modeling limitation” is not defined in the MRTU Tariff and could be interpreted to mean: (1) inaccuracies in the CAISO’s Full Network Model representation of the CAISO grid; (2) inaccuracies in the CAISO’s Full Network Model due to the failure to capture loop flow from adjacent control areas; or (3) more broadly to include the existence of any transmission constraint. SoCal Edison contends that lack of a proper definition for this term makes it difficult to determine when a PTO would incur such excess costs.

Commission Determination

266. We deny WPTF/IEP’s request to modify the proposed provisions for Exceptional Dispatch. WPTF/IEP objects that the definition of “system emergency” in the MRTU Tariff is too broad and that the proposal for Exceptional Dispatches would result in undue intervention in market outcomes. However, the CAISO has not proposed to change the definition of “system emergency” provided in the MRTU Tariff from the definition in the

CAISO's existing tariff, which the Commission has found to be just and reasonable. We note that in instances where a system emergency exists, or there is the potential, that cannot be addressed by the real-time market optimization software, it is reasonable for the CAISO to take whatever other actions may be available consistent with good utility practice to address the emergency. The proposal for Exceptional Dispatches would not result in undue intervention in market outcomes because section 3.9.1 does not authorize Exceptional Dispatches when the real-time market optimization software can address an imminent system emergency. We also disagree with WPTF/IEP and Constellation/Mirant that Exceptional Dispatches should be allowed to set the market price. LMPs should reflect the marginal cost of energy, in order to send accurate price signals. However, manual Exceptional Dispatch instructions differ from those derived from the real-time market optimization software. Units manually dispatched in Exceptional Dispatches need not represent the marginal units, and thus, we agree with the CAISO that it would not be appropriate for such units to set the market price. Units producing energy for Exceptional Dispatch are paid at least the higher of the applicable settlement interval LMP or the unit's bid price. For many types of Exceptional Dispatch, the unit may alternatively receive the default energy bid price (in the event that the energy does not have a bid price), which is higher than the applicable LMP, or the negotiated price as applicable to System Resources.¹⁵⁴

267. We do however share WPTF/IEP's and others' concern that Exceptional Dispatch should not become a frequent occurrence and should be reserved for genuine emergencies where the CAISO needs to take actions outside the market software for maintaining system reliability. Therefore, we direct the CAISO, for transparency reasons, to publish all instances of Exceptional Dispatch on its OASIS website beginning on the effective date of MRTU Release 1. The OASIS website report should include, at a minimum, total hourly volumes and hourly weighted average prices, by transmission operator service territory. We will monitor the occurrence of and the method by which CAISO employs Exceptional Dispatch and if necessary will direct changes.

268. We agree with the CAISO that PTOs should not be exempted from Exceptional Dispatch cost allocation related to a "transmission-related modeling limitation in [Full Network Model]" merely because the CAISO is now in charge of coordinated transmission planning. As the CAISO explains, these limitations primarily can be attributed to transmission maintenance, for which the PTOs have primary responsibility. PTOs also retain a significant role in the planning and construction processes for transmission investment. We therefore find that, if the costs of transmission modeling limitation-related Exceptional Dispatches are to be allocated to PTOs, it should be clarified in the MRTU Tariff that such costs constitute "Reliability Service Costs," so that the PTOs can recover them through their Reliability Service Costs rates. Accordingly,

¹⁵⁴ See, generally, MRTU Tariff section 11.5.6.

we direct the CAISO to make a compliance filing within 60 days of the date of this order with the necessary tariff change.

269. We direct the CAISO to define “transmission related modeling limitations” as discussed in section 11.5. We also direct the CAISO to more clearly define excess costs throughout the body of the MRTU Tariff, including all cases where excess costs are incurred, not just from condition 2 RMR units. We direct the CAISO to make these clarifications within 60 days of the date of this order.

12. Uninstructed Imbalance Energy

270. SoCal Edison asserts that because of differences in the load distribution factors used in the day-ahead and the real-time markets, Scheduling Coordinators that are perfectly balanced in the day-ahead market (i.e., they have scheduled 100 percent of their load day ahead) will likely receive imbalance charges in the real-time market and SoCal Edison objects to this outcome.

271. The CAISO states that SoCal Edison misunderstands the uninstructed imbalance energy calculation. The CAISO explains that only Scheduling Coordinators that have real-time deviations to their real-time LAP MWh quantity (as compared to their day-ahead LAP schedule) are charged (or paid) uninstructed imbalance energy.

272. SoCal Edison contends that there may be costs due to a redistribution of load in real time as compared to the day ahead. According to the SoCal Edison, the redistribution of load is the result of certain assumptions embedded in the Full Network Model. As a result, SoCal Edison states that the cost should be a general uplift to all metered load in the LAP, not based on deviations.

273. The CAISO clarifies that if no Scheduling Coordinators have any quantities of uninstructed imbalance energy, the costs associated with real-time re-dispatch will be allocated to the real-time imbalance energy offset¹⁵⁵ and charged to all Scheduling Coordinators *pro rata* based on their measured demand.

Commission Determination

274. We find that the CAISO has adequately addressed SoCal Edison’s concern by clarifying that uninstructed imbalance energy is calculated based on deviations between a

¹⁵⁵ Imbalance energy offset is the adjustment account used by the CAISO to offset balances to the settlement of certain charges, such as, for example, instructed and uninstructed energy. *See, CAISO, Settlement Guide, Imbalance Energy Offset, Charge No. 1401* (Sept. 8, 2004), available at <http://www.caiso.com/docs/2004/06/03/2004060313532329422.pdf>.

Scheduling Coordinator's day-ahead LAP schedule and its real-time LAP MWh quantity, not deviations in load distribution factors. We also find that the CAISO has adequately addressed how it will allocate uninstructed imbalance energy that is a result of real-time re-dispatch, not deviations. We, therefore, reject SoCal Edison's comments.

13. Unaccounted For Energy

275. SMUD argues that section 11.5.3 inappropriately proposes to allocate unaccounted for energy costs to real-time interchange export schedules. According to SMUD, the CAISO's proposal calculates unaccounted for energy in the control area and for each service area, and allocates charges to each Scheduling Coordinator based on the ratio of its metered demand and real-time interchange export schedules. SMUD asserts that export schedules could be interpreted to apply to wheel-throughs, which is unjust and unreasonable. SMUD states that the CAISO previously recognized that wheel-throughs should not be allocated unaccounted for energy costs, and offered a correction in Release 2.

276. The State Water Project states that the CAISO proposes to combine unaccounted for energy with instructed imbalance energy and uninstructed imbalance energy, and then allocate the sum of these costs to all load. Specifically, the State Water Project challenges proposed section 11.5, which states in part that:

[t]he CAISO shall settle [unaccounted for energy] as part of the Real-Time Market Settlements. To the extent that the sum of the Settlement Amounts for [instructed imbalance energy], [uninstructed imbalance energy], and [unaccounted for energy] does not equal zero, the CAISO will assess Charges or make Payments for the resulting differences to all Scheduling Coordinators based on a pro rata share of their Measured Demand for the relevant Settlement Interval.

277. The State Water Project argues that when the sum of settlement amounts of instructed imbalance energy and uninstructed imbalance energy does not total zero, the result is unaccounted for energy. The State Water Project contends that the socialized allocation of unaccounted for energy contravenes the Commission's order that the CAISO should allocate unaccounted for energy charges consistent with principles of cost causation.¹⁵⁶ Thus, the State Water Project argues that section 11.5 should be revised to remove the socialized cost allocation.

¹⁵⁶ The State Water Project cites to *Cal. Indep. Sys. Operator Corp.*, 101 FERC ¶ 61,219, at P 17 (2002), *order on clarification*, 103 FERC ¶ 61,042 (2003); 104 FERC ¶ 61,129 (2003); 109 FERC ¶ 61,183 (2004).

278. The CAISO argues that the State Water Project's proposed revision to section 11.5 should be rejected. The CAISO explains that entities, such as the State Water Project, that have proper metering arrangements, are permitted under MRTU Tariff section 11.5.3 to have their unaccounted for energy calculated separately and, according to the CAISO, nothing in section 11.5 changes that fact. The CAISO states that the change requested for section 11.5 would limit its ability to collect unaccounted for energy from entities throughout the CAISO Control Area, which would create a deficit that would have to be remedied by the CAISO through additional charges elsewhere.

Commission Determination

279. We agree with SMUD that the CAISO has not defined or clarified "export schedules" in section 11.5.3. We therefore direct the CAISO to make a compliance filing within 60 days of the date of this order to clarify export schedules in this context. We agree with the CAISO that MRTU Tariff section 11.5.3 adequately addresses the State Water Project's concern, because, under the MRTU Tariff, metering arrangements can be made to have unaccounted for energy calculated separately.

14. Minor Language Changes

280. In reference to MRTU Tariff sections 34.10.1 and 34.10.2, SoCal Edison states that dispatching priorities in the real-time market should be in the tariff, not in the Business Practice Manual. SoCal Edison also requests a definition of "slack" as used in section 34.10.1.

281. The CAISO commits to remove the language from section 34.10.2, which states that the dispatch priorities will be incorporated into a Business Practice Manual and asserts that the dispatching priorities that it will follow will remain in section 34.10. The CAISO also agrees to remove the term "slack" from section 34.10.1, as it believes that the term does not add any additional clarity.

Commission Determination

282. We direct the CAISO to submit tariff sheets containing the proposed modifications to sections 34.10.1 and 34.10.2 within 60 days of the date of this order.

D. Ancillary Services

283. Under the MRTU Tariff proposal, the CAISO will procure ancillary services in the day-ahead market to meet 100 percent of its anticipated need, based on its load forecast for the next day, minus any acceptable Scheduling Coordinator self-provision of ancillary services.

284. The CAISO states that, under MRTU, four types of ancillary services are procured: regulation up, regulation down, spinning reserve, and non-spinning reserve. Generally, the CAISO will not engage in economic deferment of ancillary service procurement to a subsequent market. Additional ancillary services procurement will be necessary only for post day-ahead changes in load forecast or system conditions (including outages of capacity previously committed to supply ancillary services). The CAISO proposes to procure additional ancillary services needed to meet system requirements from: (1) imports or System Resources in the HASP; and (2) generation internal to the CAISO Control Area in the real-time market.

285. The CAISO states that, in accordance with MRTU Tariff section 8.2.3.5, whenever possible it will increase its purchases of an ancillary service that can substitute for a lower quality ancillary service when doing so is expected to reduce its total cost of procuring ancillary services and energy while meeting reliability requirements. The CAISO notes that such substitution can only occur with bid-in ancillary services, not self-provided ancillary services. The CAISO explains that the co-optimization of energy and ancillary services means that the capacity of a resource with energy and ancillary services bids is optimally used either for an energy schedule or reserved for ancillary services in the form of ancillary services awards.

286. The CAISO further proposes to impose constraints in order to ensure that the required amounts of ancillary services are reasonably distributed across the system and if system conditions merit, it may identify sub-regions within the CAISO Control Area to ensure appropriate distribution and effectiveness of the procured ancillary services. The CAISO states that, pursuant to MRTU Tariff section 8.3.3, it can establish limits on the amount of ancillary services – a maximum, minimum, or both – that can be provided from or within the regions. The CAISO further states that, under MRTU Tariff section 8.6.2, prior to the evaluation of bids in the day-ahead market, HASP, and real-time market, the CAISO will determine if self-provision of an ancillary service is feasible with regard to resource operating characteristics and regional constraints and whether the resource is qualified to provide the ancillary service in the market for which it was submitted.

287. The CAISO states that due to software limitations, imports of self-provided ancillary services will not be allowed in Release 1, as reflected in MRTU Tariff section 8.1. As a result, the CAISO states, the provision of ancillary services over the interties with adjacent control areas is limited to ancillary services bids into the day-ahead market, HASP, and real-time market. The CAISO further states that congestion management and the ancillary services markets are performed simultaneously and both energy and ancillary services compete for transmission capacity on the interties. According to the CAISO, Scheduling Coordinators that want to use imported ancillary services to meet their ancillary service obligation may bid their ancillary service imports at \$0 or a negative price.

288. The CAISO states that ancillary service marginal prices are used to pay providers of ancillary services for providing the services through market bids. According to the CAISO, the ancillary services marginal prices reflect the resources' submitted ancillary service bid plus any opportunity costs in reserving capacity.¹⁵⁷ The CAISO further states that ancillary services marginal prices are location-specific. The CAISO will calculate an ancillary services marginal price for each resource for each type of ancillary service in each market.

289. As for ancillary services imports, the CAISO states that imports selected in the day-ahead market will be paid the ancillary service marginal price at the relevant intertie scheduling point and will be charged for congestion across the intertie. Pursuant to MRTU Tariff section 33.7, the CAISO will also conduct an hourly run of the real-time unit commitment process in the HASP with a time horizon that spans all of the next trading hour and results in a financial settlement for ancillary services imports. The CAISO proposes to perform the settlement for ancillary services from internal resources (as well as dynamically scheduled physical external resources) selected to provide ancillary services in real time on a 15-minute basis.

290. The CAISO states that the cost of procuring ancillary services will be allocated based on each Scheduling Coordinator's obligation for each service, as determined by its metered demand and its import and export schedules. As set forth in MRTU Tariff section 11.10.2, the CAISO proposes that the hourly user rates calculated for each ancillary service should include the cost incurred by the CAISO to procure the service collectively across the day-ahead market, HASP, and the real-time market. The CAISO notes that if ancillary service awards¹⁵⁸ and self-provided ancillary service capacity are unavailable during the relevant settlement interval, then payments will be rescinded in accordance with MRTU Tariff section 8.10.8.

Discussion

1. Ancillary Services Procurement

291. PG&E contends that the restriction of ancillary services procurement to the day-ahead market, to the exclusion of the HASP, is not justified. PG&E argues that the

¹⁵⁷ The CAISO also notes that, pursuant to MRTU Tariff sections 11.10 and 31.3.1.1, a bidder with an ancillary services bid price lower than that of the marginal ancillary service bidder may not be selected to provide the ancillary service if it has a higher opportunity cost as determined in the co-optimization of energy and ancillary services.

¹⁵⁸ The CAISO uses the term "award" to mean the notification by the CAISO indicating that a bid to supply an ancillary service has been selected to provide such service.

CAISO should procure ancillary services at projected least cost, in the day-ahead market and the HASP.

292. The CAISO requests that the Commission reject PG&E's comments. According to the CAISO, the issue raised by PG&E was previously before the Commission as part of the CAISO's conceptual MRTU filing.¹⁵⁹ The CAISO adds that PG&E has presented no new evidence that would have the Commission reconsider its earlier decision.

293. Further, the CAISO states that it believes it can procure 100 percent of forecasted requirements day ahead without excessively driving up the cost of the procured ancillary services for two reasons. First, the CAISO explains that under the resource adequacy must-offer obligation, resource adequacy capacity submitted as a supply bid into the day-ahead market can be optimally scheduled either for energy or awarded ancillary services, even if the resource does not explicitly submit capacity bids for ancillary services. Thus, the CAISO states that the day-ahead IFM optimization should have a considerable pool of potential ancillary services capacity in all hours except under extreme circumstances.¹⁶⁰ Second, the CAISO notes that the IFM optimization is configured to assign greater priority to the award of ancillary services than to scheduling energy; therefore, if insufficient supply has been bid into the day-ahead market to clear both energy demand and meet the ancillary services requirement, the IFM optimization will procure the ancillary services first and schedule less demand if necessary.¹⁶¹

294. Six Cities support the objective of minimizing the costs for ancillary services, but explain that the CAISO's proposal to procure 100 percent of anticipated ancillary services requirements in the day-ahead market will have significant benefits in promoting reliability for the CAISO Control Area and should be approved. Six Cities state that this practice will allow the CAISO time to react, through the RUC process, if, for any reason, supplies of ancillary services are inadequate.

Commission Determination

295. We reject PG&E's proposal to require the CAISO to procure ancillary services in the day-ahead market and the HASP for cost purposes. The procurement of 100 percent of ancillary services in the day-ahead market with subsequent adjustments in the HASP and real-time market to address load changes that occur from day-ahead to hour-ahead is appropriate and PG&E has not demonstrated otherwise. Accordingly, we are reluctant to depart from the guidance we previously provided.¹⁶² We recognize the benefits of a

¹⁵⁹ The CAISO cites to June 2004 Order, 107 FERC ¶ 61,274 at P 107.

¹⁶⁰ See Kristov Testimony at 55.

¹⁶¹ *Id.*

¹⁶² See June 2004 Order, 107 FERC ¶ 61,274 at P 107.

financially-binding hour-ahead market, but do not find that MRTU as proposed is unjust and unreasonable without one.

2. Ancillary Services Substitution and Secondary Market

296. WPTF/IEP and Coral state that at the time of the conceptual filing, the CAISO offered the substitution of an ancillary service for a greater amount of a lower quality ancillary service as a way to mitigate Scheduling Coordinators' inability to buy back or trade ancillary services due to the elimination of the full hour-ahead ancillary services market. WPTF/IEP and Coral contend that the MRTU Tariff, however, does not reflect the same function of the ancillary services substitution, but rather limits Scheduling Coordinators' rights to substitute and implements punitive payment measures. In support, WPTF/IEP quote MRTU Tariff section 11.10.1.2 providing that "...the substitution will be exposed to a price difference between the [ancillary service marginal prices], or if self-provided, between the [ancillary service marginal price] and the user rate,¹⁶³ if any." WPTF/IEP argue that this tariff provision is not only ambiguous given that there will be marginal price and user rate differences between the day-ahead and HASP market, but there could be marginal price and user rate locational differences between the originally provided unit and the substituted unit. WPTF/IEP and Coral conclude that by limiting substitution and subjecting those who substitute to price risks, the CAISO is not accommodating bilateral transactions in the HASP. WPTF/IEP, the State Water Project and Coral state that the Commission should direct the CAISO to conform its tariff language addressing substitution of ancillary services to the design submitted in the conceptual filing.

297. In response, the CAISO explains that it did originally propose, based on stakeholder discussions, to implement the type of ancillary services substitution requested by WPTF/IEP and Coral; however, because of constraints associated with the development of the CAISO's MRTU software, the broad sort of ancillary services substitution will not be available in Release 1. The CAISO states that it informed its stakeholders when it became aware of this fact in mid-2005. Moreover, the CAISO has committed to stakeholders to include this item in the list of upgrades for Release 2. The CAISO agrees that the type of ancillary services substitution requested by WPTF/IEP represents an improvement of the HASP design; however, the lack of such substitution does not render the CAISO's Release 1 proposal unjust and unreasonable.

298. SoCal Edison also disagrees with WPTF/IEP's argument. SoCal Edison states that the Commission must recognize that the CAISO optimization for ancillary services is both locational and subject to a host of operational and grid constraints. SoCal Edison explains that ancillary services prices vary locationally as well as by hour. In addition,

¹⁶³ The user rate for each service is a system-wide hourly rate for that service for the relevant operating hour.

SoCal Edison states that the CAISO proposal is consistent with representations made to stakeholders earlier, as the CAISO provides suppliers with a method to substitute ancillary services if a unit fails between day-ahead and near real-time.

299. Coral argues that the CAISO's proposal to eliminate the hour-ahead market for ancillary services (except imports) and become the only purchaser of ancillary services will result in the elimination of a secondary market, which would give the CAISO monopsony power over ancillary services. According to Coral, the CAISO would not only be able "to dictate ancillary services prices, but would allow it to effectively confiscate the capacity value of generating units free of charge." Coral asserts that in order to participate in the day-ahead and real-time markets, generators must be maintained in "fast-start mode," which is costly. Coral concludes that the high costs associated with operating in "fast-start mode" will create incentives for potential providers to avoid the CAISO's ancillary services markets but rather sell their ancillary services to other market participants on a bilateral basis. This, in Coral's opinion, will inevitably reduce the amount of capacity available for ancillary services.

Commission Determination

300. We recognize that the instant ancillary services proposal does not provide for suppliers' ability to buy back and/or trade ancillary services, as originally discussed by stakeholders and the CAISO. However, the main component from the CAISO's conceptual proposal – a Scheduling Coordinator's ability to substitute one generating unit for another in the event of an outage after the day-ahead market closes – has been preserved.

301. According to the CAISO, the Release 1 software will not have the capability to provide Scheduling Coordinators with the ability to substitute ancillary services for reasons other than an outage. However, the CAISO commits to explore this issue for inclusion in Release 2. We agree with WPTF/IEP and Coral that additional flexibility could increase the efficiency to the ancillary services procurement process. In Release 1, we find it reasonable that the CAISO will limit substitution opportunities to units that are in the appropriate location and whose bids clear in the relevant market.

302. WPTF/IEP, Coral, and the State Water Project question the CAISO's proposal to expose a Scheduling Coordinator to the price difference between the day-ahead and HASP markets when substituting one unit for another. These parties provide no reason why a deliverable substitute resource should not be paid the ancillary service market price or user rate resulting from the HASP optimization. By allowing a Scheduling Coordinator to substitute resources in the event of an outage, the CAISO is giving the Scheduling Coordinator a way to hedge against otherwise unknown ancillary service costs. While it is true that the Scheduling Coordinator may be exposed to some ancillary service pricing divergence between the day-ahead market and the HASP run, this

exposure simply reflects the reality that the Scheduling Coordinator is bidding a different unit into a different market.

303. Coral argues that the CAISO's proposal deprives the ancillary services market of a secondary market. We reiterate our finding above that the advantages of implementing the HASP in Release 1 appear to outweigh any potential disadvantages of the financially non-binding nature of the HASP. Accordingly, we accept for Release 1 the CAISO's proposal regarding the substitution of ancillary services. However, we direct the CAISO to address the ancillary services flexibility issue in future MRTU releases.

3. Ancillary Service Cost Allocation

304. WPTF/IEP request that the Commission direct the CAISO to align ancillary service cost allocation with ancillary service procurement costs by allocating any regional procurement costs to load within the specific region. WPTF/IEP argue that allocation of ancillary service costs to loads regionally, based on the true cost of procurement within each region, would eliminate both the cost shifts and the unbalanced incentives to self-provide instead of bidding in ancillary services.

305. SoCal Edison argues that the MRTU proposal creates the potential for inefficient outcomes and cost-shifting opportunities. SoCal Edison explains that, because under section 11.10.2 the CAISO does not enforce any constraints for self-provision of ancillary services, this provides incentives for Scheduling Coordinators to "over" self-provide from low cost ancillary services regions, and shift the costs of the resulting ancillary services procurement to other Scheduling Coordinators.

306. The CAISO disagrees with commenters. The CAISO responds that it limits ancillary services self-provision based on ancillary services regional limits. The CAISO contends that with the MRTU functionality and design, it is reasonable to allocate ancillary services procurement costs to all loads on a system-wide (or control area) basis. The CAISO further explains that regionally-procured ancillary services count toward meeting the ancillary service requirements for the entire control area.¹⁶⁴ The CAISO states that under the MRTU Tariff, energy and all ancillary services are optimized together (as opposed to sequential optimization under the current CAISO tariff) across all regions within the CAISO Control Area (as opposed to zonal procurement when ancillary services procurement is split under the current CAISO tariff). Therefore, the CAISO concludes, whether and where ancillary services capacity is awarded depends on co-optimization that minimizes both energy and ancillary services bid costs, and meets the energy and ancillary services needs of the system.

¹⁶⁴ See Rahimi Testimony at 114.

307. Next, the CAISO states that the ancillary services requirements in the MRTU Tariff are based on WECC and North American Electric Reliability Council (NERC) standards and are control area-wide requirements. According to the CAISO, the requirements do not vary as they relate to load; the same requirements apply to all loads in the control area. The CAISO concludes that because the ancillary services requirements for a particular service are “system” requirements, it is reasonable to allocate costs of meeting these system requirements on a system basis to load in the control area.

308. Finally, the CAISO notes that the system costs of the high voltage transmission system are allocated among all users of the transmission system despite differences in the high voltage transmission costs across the control area. The CAISO argues that it is just and reasonable when each Scheduling Coordinator pays its proportionate share of costs related to the control area-wide ancillary services requirements. The CAISO asserts that this is true notwithstanding the fact that a greater or lesser percentage of the system costs may take place in a particular region in a particular settlement period.

Commission Determination

309. We agree that the CAISO’s procured ancillary services support the use of the entire CAISO Control Area, and therefore we find that it is appropriate to allocate the costs associated with ancillary services procurement to all load in the CAISO Control Area. With respect to SoCal Edison’s concern that an entity may choose to self-provide ancillary services from a low-cost region that is not deliverable, we find that the CAISO has adequately explained that, under MRTU, it will enforce regional limits on ancillary service self-provision, and entities’ self-provided quantities will be reduced proportionately according to each entity’s share of the total quantity if the CAISO’s ancillary service needs have been satisfied in a given region.¹⁶⁵ However, we agree with SoCal Edison and WPTF/IEP that certain features of the proposed MRTU Tariff may create incentives for inefficient self-provision of ancillary services. We address this issue below in the section on self-provision of ancillary services.

4. Self-Provision of Ancillary Services

310. Six Cities state that MRTU Tariff section 8.1 prohibits self-supply of ancillary services utilizing imports, although section 8.3.2 permits use of imports for ancillary services bids. Six Cities contend that it is not appropriate to preclude self-supply of ancillary services using imported resources where the same resources could be bid in to supply ancillary services in the CAISO’s markets. Furthermore, Six Cities state that section 8.6.4.3, which refers to the use of System Resources for self-provision of ancillary services, is inconsistent with the restrictions in sections 8.1 and 8.4.7.2, which

¹⁶⁵ See CAISO Reply at 160-161; *see also* Rahimi Testimony at 115-116.

prohibit the use of imported resources to self-supply ancillary services. Six Cities argue that the testimony of Mr. Rahimi makes clear that the restriction will increase price risk for LSEs seeking to self-provide ancillary services.

311. The CAISO states that there is an error in MRTU Tariff section 8.3.2: the second sentence of section 8.3.2 provides that Scheduling Coordinators are allowed to bid (but not self-provide) regulation from resources located outside the CAISO Control Area by dynamically scheduling such resources. However, according to the CAISO, the next sentence erroneously provides that: “[e]ach System Resource used to bid or self-provide Regulation must comply with the Dynamic Scheduling Protocol in Appendix X.” The CAISO states that the words “or self-provide” should be removed. The CAISO states that it will provide the conforming changes to the MRTU Tariff in a compliance filing.

312. The City of Vernon, California (Vernon) and the State Water Project argue that market participants should have equal opportunities to the CAISO to self-provide or sell ancillary services from imports. The State Water Project contends that failing to allow other market participants to seek to buy competitive resources from imports, while granting the CAISO sole ability to use imports for this purpose, is antithetical to basic market principles. The State Water Project states that many market participants, including the State Water Project, have long-term firm resources outside of the CAISO Control Area.

313. SoCal Edison states that some consideration of both the location of load and the location of a Scheduling Coordinator’s resources used for self-provision appears necessary to provide the correct incentives for participants to self-schedule in a way that reduces cost shifts and limits the additional procurement required by the CAISO. In response to these comments the CAISO reiterates that the reason for the initial limitation on imports of self-provided ancillary services is a software limitation in Release 1.¹⁶⁶ In addition, the CAISO states that it committed to investigate allowing self-provision of ancillary services over the interties, and included this issue on the list of items to be considered as part of the Release 2.¹⁶⁷

314. The CAISO further explains that allowing imports of self-provided ancillary services in Release 1 would lead to an inefficient allocation of intertie transmission capacity. The CAISO states that in order to accept imports of self-provided ancillary services, the CAISO would have to reserve transmission capacity for imports of self-provided ancillary services prior to the market optimization of bid-in imports of energy

¹⁶⁶ See CAISO Transmittal Letter at 53; *see also* Rahimi Testimony at 117.

¹⁶⁷ See CAISO Transmittal Letter at 95-96.

and ancillary services. As a result, the CAISO states, imports of self-provided ancillary services would be given a higher priority for the use of intertie transmission capacity.¹⁶⁸

315. The CAISO adds that while it is not identical to the ability to self-provide ancillary services through imports, Scheduling Coordinators will have the option of bidding the imports of ancillary services into the market at \$0 (or a negative) price.¹⁶⁹ The CAISO states that as noted by Dr. Rahimi, depending on the relationship between the ancillary services marginal price and the user rate, an entity bidding its capacity into the ancillary services market as a price taker (*i.e.*, bidding a \$0 or negative price) may end up paying more or less than an entity that decided to self-provide ancillary services *via* imports.

316. In response to the concern over the options available to market participants with long-term firm resources outside of the CAISO Control Area, the CAISO explains that under MRTU, a Scheduling Coordinator with firm imports into the CAISO Control Area receives credit for the ancillary services from the sending control area. The CAISO adds that a Scheduling Coordinator is entitled to receive a credit for operating reserves behind firm imports even if the importing Scheduling Coordinator has no load obligation and even if the Scheduling Coordinator does not engage in an Inter-Scheduling Coordinator Trade (Inter-SC Trade)¹⁷⁰ of energy or ancillary services.

317. In addition, the CAISO states that market participants with ETCs will be allowed to self-provide ancillary services over the intertie if the ETC involves transmission service or import capacity over an intertie and if the contract allows the ETC rights holders to self-provide ancillary services. If an ETC does not contain such terms, the limitation on self-provision of ancillary services from outside the CAISO Control Area will apply to this ETC.

318. SoCal Edison contends that because the CAISO does not enforce any constraints for self-provision, this creates incentives for Scheduling Coordinators to over self-provide from low-cost ancillary services regions, and shift the costs of the resulting ancillary services procurement cost to other Scheduling Coordinators. SoCal Edison recommends that the Commission order the CAISO to address this issue.

¹⁶⁸ According to the CAISO, this issue does not arise with the design of the current (*i.e.*, pre-MRTU) markets because the CAISO runs congestion management prior to the running of the ancillary services markets. In other words, with the design of the current markets, the CAISO states that it knows the amount of transmission capacity that is available on the interties for imports of ancillary services and can accept self-provision of ancillary services accordingly.

¹⁶⁹ See Rahimi Testimony at 117-118.

¹⁷⁰ See section below regarding Inter-SC Trades.

319. Six Cities argue the large LSEs must be required to spread any self-provision of ancillary services in proportion to the load at each node on their systems. Six Cities state that in the absence of such a requirement, tying the self-provision of ancillary services to the location of load would restrict opportunities for self-provision by smaller, localized LSEs, while allowing the larger LSEs to self-provide ancillary services on an aggregate basis with no overall improvement in the proximity of ancillary services to loads.

320. Six Cities further state that, pursuant to MRTU Tariff section 8.2.3.2, the imposition of the 100 percent spinning reserve requirement for exports unreasonably discriminates against LSEs that have firm off-system obligations.

321. In response, the CAISO states that Six Cities' concerns arise because of the elimination of the last two sentences in section 8.2.3.2, which originally stated that additional operating reserves could be non-spinning reserves. However, the CAISO explains section 8.2.3.2 was not intended to require all additional operating reserves to be spinning reserves. Accordingly, the CAISO proposes to include a statement in section 8.2.3.2 in a compliance filing that additional operating reserves can be spinning reserves.

322. SMUD states that in order to promote efficiency and least cost solutions, the Commission should require the CAISO to treat ancillary services already being provided under the terms of a contractual commitment as self-provision. SMUD argues that the MRTU Tariff unnecessarily precludes self-provision of ancillary services that, while not bid with the CAISO, stand ready to meet a Scheduling Coordinator's or Scheduling Coordinator customer's ancillary services needs. SMUD contends that the Commission should order the CAISO to clarify or modify its tariff so that it explicitly treats ancillary services provided pursuant to a contractual obligation as self-provision under MRTU Tariff section 8.6.2.

323. The CAISO states that the provisions of the MRTU Tariff allow ancillary services provided pursuant to a contractual obligation to be treated as self-provision. The CAISO explains that all that an entity is required to do to self-provide ancillary services is to furnish a submission to self-provide in the day-ahead or real-time markets and have the CAISO accept that submission, on the condition that the contractual ancillary services will be feasible with regard to resource operating characteristics and regional constraints.

Commission Determination

324. The CAISO reports that Release 1 software is incapable of allowing the use of imports for self-providing ancillary services. However, the CAISO's software does provide for ancillary services to be bid into the market where there are contracts that specifically identify self provision and operational characteristics and constraints have been addressed. Thus, on balance, we find the proposal as discussed and modified below is reasonable. Moreover, requiring the software to be modified to permit self-provision

of imported ancillary services would delay implementation of MRTU and its associated benefits.

325. As we noted in the section on ancillary service cost allocation, we share SoCal Edison's and Six Cities' concerns that the proposed MRTU Tariff rules for ancillary service self-provision, absent enforcement of regional constraints, could distort cost allocation among Scheduling Coordinators who decide to self-provide during periods when the CAISO must procure ancillary services in constrained regions.¹⁷¹ In particular, we are concerned that the proposed MRTU rules may allow Scheduling Coordinators to meet their ancillary service obligations in a constrained region leaving the CAISO to have to procure additional ancillary services. This inefficient and distorted incentive arises because under the MRTU Tariff, there can be a difference between: (1) the locational price paid to ancillary service suppliers in a region (which constitutes the marginal cost of providing ancillary services in that region); and (2) the credit (which constitutes a financial benefit) to the Scheduling Coordinator from self-providing an ancillary service resource in that region. Moreover, Scheduling Coordinators serving loads in different regions would be charged distorted prices due to self-provision of ancillary services from regions other than the constrained region where the load is located.

326. We direct the CAISO to modify the MRTU Tariff to ensure that all provisions of ancillary services, self-provided or not, are subject to the same regional constraints in a compliance filing to be submitted no later than 180 days prior to the effective date of MRTU Release 1.

327. We also find that SMUD's concern regarding the treatment of ancillary services provided pursuant to contractual obligations has been sufficiently addressed by the CAISO. The CAISO has clarified that providers of ancillary services pursuant to contractual agreements have an option under the MRTU Tariff to schedule these ancillary services as a self-provision as long as there are no adverse operational constraints or characteristics that would prevent use of the ancillary services. Accordingly, we reject SMUD's request for further tariff modification.

5. Section 8.6.1 Cross-Reference to Section 11.10.2

328. Six Cities state that under the MRTU Tariff, the CAISO proposes to delete from section 8.6.1 of the currently effective CAISO tariff the language describing the basis for allocation of ancillary services requirements. Six Cities add that the allocation method appears to be included in section 11.10.2 and state that for clarity, section 8.6.1 should be amended to include a cross-reference to section 11.10.2.

¹⁷¹ Ancillary Service Regions can include the system region, the expanded system region or any sub-regions identified by the CAISO for procurement of ancillary services.

329. The CAISO agrees to put a cross reference in section 8.6.1 to the ancillary services obligations of Scheduling Coordinators set forth in MRTU Tariff sections 11.10.2, 11.10.3, and 11.10.4 and will make this change in a compliance filing.

Commission Determination

330. We direct the CAISO to include a cross reference to sections 11.10.2, 11.10.3, and 11.10.4 in MRTU Tariff section 8.6.1 and direct the CAISO to make a compliance filing within 60 days of the date of this order reflecting this change.

6. Self-Provision for Black Start Services

331. Six Cities state that the Commission should require the CAISO to revise section 8.6.3 to allow self-provision for black start services. Six Cities contend that there is no reason for not allowing Scheduling Coordinators to self-provide black start service. In response, the CAISO states that the change that Six Cities seeks is unrelated to the MRTU Tariff filing; the current CAISO tariff does not allow self-provision of black start service and MRTU does not alter this fact. The CAISO notes that black start service is currently procured through individual contracts with Scheduling Coordinators for RMR units and other generating units with black start capability.

Commission Determination

332. We note that the CAISO does not propose to change the black start provision under the MRTU Tariff. Six Cities have failed to explain how their concern is related to the MRTU Tariff, and they have not given us sufficient information to make ruling. Accordingly, we reject Six Cities' comments on this issue.

7. Reports of Failures to Pass Performance Audits

333. Six Cities state that section 8.9.7(a) provides that the CAISO will report to the CPUC failures by resource adequacy resources to pass compliance tests. Six Cities and TANC argue that for resource adequacy resources not subject to the CPUC's jurisdiction, the report should be submitted to the relevant local regulatory authority, not the CPUC, as proposed in section 8.9.15 for reports of failures to pass performance audits.

Commission Determination

334. We agree with Six Cities that failures to pass compliance tests by non-CPUC resource adequacy resources should be submitted to the relevant local regulatory authority and not the CPUC. We, therefore, direct the CAISO to make a compliance filing within 60 days of the date of this order adding such language to section 8.9.7(a).

Additionally, we direct the CAISO to notify us of any resource adequacy resource failing a compliance test or failing to pass a performance audit.

8. Ramping Standards to Sell Regulation

335. Powerex contends that the MRTU Tariff fails to establish specific ramp rate standards.¹⁷² Powerex states that though the MRTU Tariff would require that the maximum amount of regulation to be offered be reached within a period that may range from 10 minutes to 30 minutes, it does not, however, set standards for ramping, *i.e.*, the increases and decreases in MW/minute. Powerex states that otherwise, non-responsive units, with very low ramp rates in their regulation bids, could obtain regulation payments while providing little or no reliability benefits. Powerex asserts that the Commission should direct the CAISO to include in the MRTU Tariff minimum ramp rates for regulation services, such as 5 or 10 MW/minute.¹⁷³

336. The CAISO responds that entities seeking to provide regulation must provide a regulating ramp rate, pursuant to MRTU Tariff section 30.5.2.6. The CAISO states that there is no need to establish a specific regulating ramp rate standard.

Commission Determination

337. We agree with the CAISO that there is no need to establish a specific regulating ramp rate standard. The NERC's Disturbance Control Standard provides that reserves must reach full output within ten minutes after communication from the ISO.¹⁷⁴ The MRTU Tariff provides the same. We do not believe that the MRTU Tariff should be required to explicitly set forth the rate at which the full output is reached within the required time constraint. The NERC-set standards are met as long as there is a requirement that ancillary services must be received within the required period of time. We, therefore, accept MRTU Tariff section 8.4.1.1 as proposed.

¹⁷² Powerex refers to section 8.4.1.1, which states that a generating unit offering regulation "must be capable of achieving at least the ramp rates (increase and decrease in MW/minute) stated in its Bid for the full amount of Regulation capacity offered."

¹⁷³ Powerex contends that specifying a minimum ramping rate has several advantages: (1) it ensures that providers of regulation service perform up to pre-defined standards that are designed to meet the system's needs; and (2) requiring regulation providers to meet a minimum ramp rate ensures that resources that are truly responsive are providing regulation service and thereby provide a significant reliability benefit.

¹⁷⁴ NERC, *Standard BAL-001-0 Real Power Balancing Control Performance* (Apr. 1, 2005), available at ftp://www.nerc.com/pub/sys/all_updl/standards/rs/BAL-001-0.pdf.

9. Multi-Segment Bidding

338. Powerex notes that under the MRTU Tariff, energy bids will consist of a multi-segment price/quantity curve. Powerex contends that multi-segment bidding¹⁷⁵ should also be allowed for certain ancillary services. In support, Powerex explains that multi-segment bids allow bidders to submit bids that reflect the marginal variable production costs at various output levels of the generators or System Resources. Powerex states that this approach would enable Scheduling Coordinators to structure their ancillary services bids around a unit's operating characteristics, and offer more capacity for ancillary services, when that capacity cannot be made available except at higher prices to reflect those operating characteristics.

339. At a minimum, Powerex states that the CAISO should offer a multi-segment bid curve for dynamic System Resources that represent more than a single generating unit. Powerex argues that allowing in-state and out-of-state multi-unit resources identified by the same Scheduling Coordinator resource identification to submit ancillary service bids with a multi-segment capacity bid curve would facilitate more accurate evaluation of the characteristics of the underlying physical units and the value of the ancillary service capacity at each MW-level, which will foster more efficient dispatch of ancillary services.

340. In response, the CAISO contends that the suggestion by Powerex is an unnecessary complication. The CAISO states that ancillary services are unloaded capacity and the operating cost (\$/MWh) of providing ancillary services should not depend on how much of the capacity is unloaded. Therefore, the CAISO states that the main cost variation to keep more or less capacity unloaded is the "opportunity cost" of energy. However, the CAISO explains, this is offered through the energy bid curve, which is not restricted to a single segment, so the CAISO argues that a single economic bid segment for ancillary services capacity suffices. The CAISO adds that under the existing CAISO tariff, there is a single price segment for ancillary services bids.

Commission Determination

341. While Powerex's proposal to introduce multi-segment bidding for certain ancillary services may provide incremental benefits for some types of ancillary services, we do not find it a necessary element of Release 1. Additionally, Powerex argues for capacity bid curves for "certain ancillary services bids,"¹⁷⁶ but does not specify which services require multi-segment bids. Therefore, we direct the CAISO to file a report to the Commission,

¹⁷⁵ Multi-segment bidding is the process by which Scheduling Coordinators submit quantities of energy or ancillary services to an ISO with corresponding prices, which vary with differing levels of output.

¹⁷⁶ Powerex Comments at 22.

before making its MRTU Release 2 filing, addressing the potential benefits of including this element.

10. Day-Ahead Ancillary Services Imports that are Undispatchable

342. Powerex contends that the CAISO should credit day-ahead ancillary services imports that are undispatchable with the real-time congestion price when the intertie capacity can be allocated to other resources. Powerex explains that when the import ancillary services provider fails to deliver part or all of the awarded ancillary services capacity because of a transmission derate prior to the publishing of the HASP schedules and awards (*i.e.*, 45 minutes before the operating hour), the curtailment of the import ancillary services schedule will result in intertie transmission being freed up for use in HASP. Powerex suggests the CAISO should treat undispatchable day-ahead ancillary services the same as non-delivered day-ahead energy imports. Powerex asserts that a failure to credit undispatchable ancillary services for intertie transmission capacity released in HASP is not only unjustifiable and inequitable, but would discourage participation in the ancillary services markets because it disproportionately exposes import ancillary service providers to curtailment and transmission risks, relative to energy import schedules.

343. SoCal Edison disagrees with Powerex, stating that the transmission reserved for ancillary services in the day-ahead market and associated congestion rents are used to fund CRR holders, and real time congestion rents are earmarked for other uses, such as the treatment of ETCs. SoCal Edison explains that relieving or mitigating an ancillary service importer of its obligation to pay the congestion charge is equivalent to imposing on the CRR holders or other users of the grid an obligation to pay for the congestion on the ancillary service importer's behalf. Additionally, SoCal Edison offers that there should be no credit of congestion costs if "upstream" transmission is curtailed making the ancillary service undeliverable, since ancillary service importers should have every incentive to ensure they have a firm and reliable transmission path.

344. The CAISO believes Powerex has identified a legitimate concern and therefore agrees to make tariff revisions to address Powerex's concern. Specifically, the CAISO commits to modify the MRTU Tariff to reflect that if a day-ahead import of ancillary services becomes undispatchable due to a transmission derate and it frees up transmission capacity on the intertie, the CAISO will pay the Scheduling Coordinator the lower of the day-ahead and HASP congestion shadow price on the intertie. The CAISO, however, highlights that its proposed revisions address Powerex's concern only when there is a transmission derate and not when the import ancillary service award is reduced by an entity for economic reasons. The CAISO states that it will provide the conforming changes to the MRTU Tariff in a compliance filing.

Commission Determination

345. We find that the CAISO's proposed modifications to the MRTU Tariff are reasonable. We agree that day-ahead ancillary services imports that become undispatchable due to a transmission derate prior to the publishing of HASP schedules should be paid by the CAISO the lower of the day-ahead and HASP congestion shadow price on the intertie. This approach is comparable to the treatment of non-delivered energy imports under the MRTU Tariff.¹⁷⁷

346. We also find that SoCal Edison's concerns are misplaced. The funds for the credit will not come from CRR holders or ETC rights holders. Congestion revenues for CRRs holders and "perfect hedges" for ETCs rights holders¹⁷⁸ are mainly collected through day-ahead congestion charges. A congestion charge credit for non-delivered ancillary services imports will be funded in real time by users of the same capacity that was freed up when the day-ahead ancillary services imports were curtailed.

347. Accordingly, we accept the CAISO's proposal to provide conforming changes to the MRTU Tariff in a compliance filing to address Powerex's concern and direct the CAISO to make a compliance filing within 60 days of the date of this order reflecting these changes.

11. Ancillary Service Export Capability

348. WPTF/IEP state that, while the CAISO seems eager to obtain access to ancillary service supplies outside the CAISO Control Area, it has declined to accommodate exports of ancillary services. WPTF/IEP contend that this lack of parity creates a bias and unjustly limits the business transactions of ancillary service providers.

349. Turlock adds that prohibiting generation owners from exporting ancillary services constitutes a regulatory taking for which compensation is required. Turlock states that if the CAISO is permitted to trap generation in its control area, entities in neighboring control areas which either own part of a generation facility or have long-term contracts to purchase ancillary services from a facility located in the CAISO's Control Area will be deprived of their ownership or contract rights. Turlock notes that this deprivation of rights will jeopardize reliability in the neighboring control areas, result in the abrogation of existing contracts, and will deter entities from building generation in the CAISO Control Area. Turlock adds that the CAISO's proposal to prohibit the export of ancillary services should be rejected or, in the alternative, the Commission should order a full evidentiary hearing to address this matter.

¹⁷⁷ See MRTU Tariff section 11.5.

¹⁷⁸ See section on ETCs below.

350. The CAISO notes that Turlock cites to MRTU Tariff section 8.4.7.2 in support of its contention that the MRTU Tariff unjustly prohibits exports of ancillary services. According to the CAISO, Turlock refers to the following tariff language: “There is no provision for exports with regard to Ancillary Services Bids. The functionality necessary to accept such Bids does not exist in the CAISO scheduling software.” The CAISO states that similar tariff language is included in the current CAISO tariff. The CAISO explains that the MRTU-related changes to this language simply replaced the words “external exports” with “exports” and capitalized the word “Bid” in the first sentence quoted above. The CAISO argues that the MRTU edits to the sentence in section 8.4.7.2 did not change the ability of market participants with regard to exports of ancillary services.

351. The CAISO further contends that Turlock is incorrect in its claim that the CAISO is “permitted to trap generation in its Control Area” and can allegedly deprive entities in neighboring control areas of their ownership or contract rights. The CAISO states that the CAISO Control Area relies on imports from other control areas to meet its needs and the CAISO has a keen interest in cooperating with its neighboring control areas.

352. With regard to exports of ancillary services the CAISO notes that bids to export ancillary services are not allowed under the existing CAISO tariff or the proposed MRTU Tariff. However, pursuant to MRTU Tariff section 8.4.7.2, entities may arrange for exports of ancillary services prior to the HASP by arranging for on-demand obligations to other control areas.

353. At this time, Six Cities oppose adoption of provisions allowing exports of ancillary services. According to Six Cities, the modification requested by WPTF/IEP and Turlock could undermine reliability of the CAISO Control Area and impose additional costs on LSEs within the CAISO Control Area. Six Cities state that a sale of ancillary services to an entity outside the CAISO Control Area could become a control area obligation if the seller contracting to export the ancillary services fails to provide to the CAISO the capacity to support the export.

354. SoCal Edison contends that the Commission should disregard WPTF/IEP’s arguments that the CAISO must allow exports of ancillary services to reciprocate for imports of ancillary services. SoCal Edison also states that no other control area in the WECC has an organized ancillary services market, and thus, the contention that the CAISO is obligated to sell ancillary services to other control areas is nonsensical.

Commission Determination

355. We find that the CAISO has sufficiently addressed the concerns raised with regard to the export of ancillary services and has explained that such provisions have not

changed from the current CAISO tariff.¹⁷⁹ We note that Scheduling Coordinators may arrange for exports of ancillary services prior to the HASP by arranging for on-demand obligations to other control areas. We direct the CAISO to develop software to support exports of ancillary services in the future through stakeholder processes and to propose necessary tariff changes to implement this feature no later than Release 2. Accordingly, we deny Turlock's request for evidentiary hearing as unwarranted at this time.

12. Interruptible Exports Providing Non-Spinning Reserve

356. SoCal Edison contends that section 8.3.4, "Sales of Interruptible Exports as Non-Spinning Reserve," should be deleted from the MRTU Tariff. SoCal Edison states that the issues addressed in this section did not receive enough stakeholder discussion to reach a consensus. SoCal Edison is concerned that under MRTU, a Scheduling Coordinator may sell an interruptible import and then schedule an interruptible export and collect a non-spinning reserve payment. SoCal Edison explains that if the CAISO interrupts the export, the Scheduling Coordinator will interrupt its interruptible import, and as a result, the CAISO will receive no reliability benefit from interrupting the export. Until all of the cost allocation and reliability issues are resolved, SoCal Edison states that the MRTU Tariff should not allow interruptible exports to sell non-spinning reserve.

357. The CAISO responds that SoCal Edison has identified a legitimate concern. The CAISO accepts SoCal Edison's suggestion to prohibit the eligibility of interruptible exports to provide non-spinning reserves to the CAISO Control Area. The CAISO states that it will provide the conforming changes to the MRTU Tariff in a compliance filing.

Commission Determination

358. We direct the CAISO to include conforming changes to the MRTU Tariff, which will prohibit the eligibility of interruptible exports to provide non-spinning reserves and to make a compliance filing within 60 days of the date of this order reflecting this modification.

13. Rebidding Associated Energy

359. SoCal Edison contends that section 30.5.1(b) should clarify that energy associated with committed ancillary service capacity bids cannot be rebid. SoCal Edison states that the IFM optimization process will have considered these bids when awarding the services, and effectively awarded a contract with a strike price based on the energy bids. SoCal Edison argues that parties should not be allowed to modify the terms of the

¹⁷⁹ Section 8.4.7.3.1 of the CAISO's current tariff provides in pertinent part that "[t]here is no provision for external export with regard to Ancillary Services bids. The functionality to accept such bids does not exist in the ISO scheduling software."

contract by changing their energy bids. In addition, SoCal Edison contends that rebidding creates the potential situation in which a unit's full dispatch curve in the HASP/real-time market is not able to continuously increase.

360. In response, the CAISO requests that the Commission reject SoCal Edison's proposed modification. The CAISO states that the Commission has previously determined that energy associated with an ancillary services award can be rebid.

Commission Determination

361. As we stated in a previous order, "since fuel costs can increase between the day-ahead and real-time markets, sellers of both RUC capacity and ancillary services should be permitted to submit energy bids that reflect their actual marginal costs of supply in that market."¹⁸⁰ We continue to find that the CAISO's proposal to provide ancillary services suppliers with an opportunity to rebid energy associated with ancillary services is reasonable. We, therefore, reject SoCal Edison's argument and confirm that energy associated with an ancillary services award can be rebid.

14. Section 8.4.5 Communication Equipment

362. SoCal Edison recommends that section 8.4.5 (Communication Equipment)¹⁸¹ be modified to include the self-provision of ancillary services. SoCal Edison contends that the revised language should read as follows: "A Scheduling Coordinator that has submitted a self provided, Bid in, or contracted for Ancillary Services shall ensure that the Generating Unit, System Unit, Load or System Resource concerned is able to receive and implement Dispatch Instructions."

363. In response, the CAISO states that in the MRTU Tariff, it uses the term "schedule" to denote a schedule that is issued by the CAISO, while the term "Bid" indicates a submission to the CAISO, and the change noted by SoCal Edison was the result of an editing decision not to use the word "schedule" when referring to submissions by Scheduling Coordinators. The CAISO explains that the change was not intended to change the requirements in section 8.4.5 for those entities that self-provide ancillary services, as those entities are capable of receiving and implementing CAISO dispatch instructions themselves. Consequently, the CAISO agrees with SoCal Edison's suggestion and proposes to revise the sentence as follows: "A Scheduling Coordinator that has provided a Submission to Self Provide an Ancillary Service, has submitted a Bid

¹⁸⁰ September 2004 Order, 108 FERC ¶ 61,254 at P 25.

¹⁸¹ Section 8.4.5 states the following: "...A Scheduling Coordinator that has submitted a Bid in or contracted for Ancillary Services shall ensure that the Generating Unit, System Unit, Load or System Resource concerned is able to receive and implement Dispatch Instructions."

in or contracted for Ancillary Services shall ensure that the Generating Unit, System Unit, Load or System Resource concerned is able to receive and implement Dispatch Instructions.” The CAISO commits to make this change in a compliance filing.

Commission Determination

364. We find that the CAISO has addressed SoCal Edison’s concern. We direct the CAISO to make a compliance filing within 60 days of the date of this order incorporating this change.

15. Restrictions on the Amount of Ancillary Services at an Intertie Point

365. WPTF/IEP state that part of the CAISO’s proposal regarding regional treatment involves setting constraints to potentially limit the amount of ancillary services at intertie points. However, given that ancillary service providers at the interties must compete for transmission capacity, WPTF/IEP argue that that capacity should already be treated as part of the day-ahead market. WPTF/IEP state that the CAISO has provided no basis for the restrictions nor has it sufficiently specified the levels of any such restrictions. WPTF/IEP contend that the Commission should direct the CAISO either to remove any additional limitations or to file the levels of the limits and the specific rationale for why additional limits must be imposed.

Commission Determination

366. We share WPTF/IEP’s concern that ancillary services on intertie points may be subject to arbitrary limits. Ideally, energy and reserves on intertie points should be co-optimized in a similar way as is done internally within the CAISO. However, we recognize that there may be limits on how much of the CAISO’s reserve requirement can be met by external resources. We understand that the CAISO will follow a procedure that co-optimizes energy and reserves subject to any limits that may apply on externally procured reserves. To the extent such limits do apply, we direct the CAISO to make this information available on the CAISO OASIS to ensure transparency in the CAISO’s procurement of ancillary services.

16. Formula for Non-Spinning Reserves Obligation

367. SoCal Edison believes that the formula for non-spinning reserves in MRTU Tariff section 11.10.4.2 is invalid. SoCal Edison posits that the appropriate formula should be similar to the formula for spinning reserves in section 11.10.3.2.

368. In its response, the CAISO accepts SoCal Edison's proposal and proposes to change the language in section 11.10.4.2 in a compliance filing with further clarifying changes to read as follows:

Each Scheduling Coordinator's hourly net obligation for Non-Spinning Reserves is determined as follows: the Scheduling Coordinator's total Ancillary Services Obligation for Operating Reserve for the hour,¹⁸² multiplied by the ratio of the CAISO's total Ancillary Services Obligation for Non-Spinning Reserves in the hour to the CAISO's total Operating Reserve obligations in the hour, reduced by the accepted Self-provided Ancillary Services for Non-Spinning Reserves, plus or minus any Non-Spinning Reserve Obligations for the hour acquired or sold through Inter-SC Trades of Ancillary Services.

369. Additionally, the CAISO proposes to clarify sections 11.10.2.1.3, 11.10.2.2.2, 11.10.3.2 and 11.10.4.2 by changing their title to be "Hourly Net Obligation for Regulation Down Reserve," "Hourly Net Obligation for Regulation Up," "Hourly Net Obligation for Spinning Reserves," and "Hourly Net Obligation for Non-Spinning Reserves," respectively.

Commission Determination

370. We direct the CAISO to make a compliance filing within 60 days of the date of this order addressing SoCal Edison's concern regarding the formula for non-spinning reserves in section 11.10.4.2 and clarifying the titles of sections 11.10.2.1.3, 11.10.2.2.2, 11.10.3.2 and 11.10.4.2..

17. Ancillary Services Regions

371. SoCal Edison objects to the CAISO's introduction of ancillary service procurement "Regions" and "Sub-Regions" under MRTU Tariff sections 8.1, 8.2.3 and 8.3.3. SoCal Edison states that ancillary services procurement regions must be clearly defined prior to implementation. SoCal Edison and Cities/M-S-R also argue that there appears to be little limit on the CAISO's discretion in the establishment of sub-regions. Cities/M-S-R add that the details concerning how the CAISO establishes sub-regions for ancillary services provision should not reside in the Business Practice Manuals since the Business Practice Manuals are not reviewed by the Commission. In Cities/M-S-R's opinion, matters as important as ancillary services provision should be included in the MRTU Tariff. Further, the Cities/M-S-R are concerned that, without proper review and

¹⁸² The CAISO notes that, if negative, the Scheduling Coordinator's total Ancillary Services Obligation for Operating Reserve for the hour is multiplied by the Negative Operating Reserve Obligation Credit Adjustment Factor.

implementation, a division of the control area into sub-regions is likely to result in a discriminatorily favorable treatment of ancillary services providers within sub-regions.

372. WPTF/IEP suggest the CAISO should codify in its tariff: (1) the methods the CAISO will use to determine ancillary services regions; (2) a requirement that the CAISO will not procure ancillary services from which the associated energy cannot be deployed under contingency conditions; and (3) to specify the periodicity under which the CAISO will reconsider the application of new regions.

373. In response, the CAISO acknowledges that the MRTU Tariff introduces new terms; however, its division of the control area into regions and sub-regions is consistent with NERC/WECC requirements that ancillary services should be procured regionally where and when system conditions dictate. The CAISO also points out that a similar provision exists in the current tariff.¹⁸³

374. The CAISO further states that it intends to provide more details on locational procurement of ancillary services under the MRTU Tariff than exists in the current CAISO tariff; however, these details should be appropriately placed in Business Practice Manuals. The CAISO states that the MRTU Tariff contains requisite details on rates, terms, and conditions of service with regard to ancillary services requirements sufficient to satisfy the Commission's "rule of reason."

375. SoCal Edison also argues that it must be demonstrated to the Commission that the regions and sub-regions are workably competitive prior to allowing market-based ancillary services bidding. SoCal Edison explains that since there is no ancillary services market power mitigation except the bid cap, SoCal Edison contends that the MRTU Tariff requires additional safeguards to ensure the ancillary services regions and sub-regions are competitive. SoCal Edison and the CPUC believe that the MRTU Tariff should clearly define all regions and sub-regions, and the procurement constraints that will apply to these areas.

376. The CPUC argues that ancillary services should be subject to local market power mitigation, otherwise generators may exercise market power that could have a significant financial impact on retail customers. To address this possibility, the CPUC asserts that the Commission should order the CAISO to explore the implementation of mitigation measures, such as local market power mitigation, for ancillary services procurement at regional or sub-regional levels.

377. In response, the CAISO states that it will not establish ancillary services regions that create new market power concerns. With the initial implementation of MRTU, the CAISO states that it will not specify ancillary services regions any more granular than the

¹⁸³ The CAISO refers to section 8.2.4 of the current CAISO tariff.

present congestion management zones, which should help to ensure that the exercise of local market power in the ancillary services markets is not a problem. The CAISO also states that it will continue to use its Local Area Reliability Service criteria and the designation of RMR resources to address local reliability concerns.

378. Coral states that the operating reserve procurement under the MRTU Tariff is inadequate to ensure reliability for load pockets. Coral argues that since MRTU provides for procurement and payment of operating reserves on a zonal basis rather than a load pocket basis, and no longer includes replacement reserves, this fails to provide uniform reliability and increases the possibility of load dropping within discrete load pockets, solely to lower the costs paid by LSEs. Coral asks the Commission to direct the CAISO to procure both operating reserves and replacement reserves on a load pocket basis. Coral asserts that, to meet the WECC Minimum Operating Reliability Criteria, the CAISO should retain replacement reserve ancillary services in the MRTU Tariff not just for the zone in general, but for load pockets as well.

379. In response, the CAISO states that it will consider the ancillary services needs of load pockets within the CAISO Control Area. The CAISO states that Coral's comments ignore the use of RMR contracts to provide ancillary services within load pockets. Regarding Coral's comments about continuing to require or procure replacement reserves, the CAISO contends that this requirement is unnecessary under the MRTU market design. The CAISO explains that under MRTU, the must-offer obligation for resource adequacy resources and the RUC process will ensure that sufficient capacity is available to meet real-time needs and make it unnecessary for the CAISO to procure replacement reserves.

Commission Determination

380. We agree with SoCal Edison and others that the granularity of ancillary services regions and sub-regions can have an impact on ancillary services costs. However, this is not entirely different from the impact of binding transmission constraints on energy prices. Accordingly, not enforcing applicable transmission constraints and procuring ancillary services in the wrong locations not only sends the wrong price signals but can result in market rates that are unjust and unreasonable. Moreover, it can adversely impact reliability. Therefore, we direct the CAISO to procure ancillary services on a more granular basis and require that criteria for defining this granularity be included in the MRTU Tariff. We, therefore, direct the CAISO to revise its MRTU Tariff to include the description of: (1) how the Full Network Model optimization will apply to reserves as it does to energy; and (2) if the Full Network Model optimization does not apply to reserves, how the CAISO will determine the definition of an ancillary services region or sub-region. The CAISO states that granularity for ancillary services procurement will initially correspond to the zones that currently exist. We direct the CAISO to explain fully in a compliance filing the circumstances under which it will become necessary to

define more granular zones for ancillary services procurement. We direct the CAISO to make this compliance filing within 180 days of the date of this order.

381. While there are no special mitigation measures for market power in ancillary services other than the bid cap (to be reduced from the current \$400/MWh¹⁸⁴ to \$250/MWh under the MRTU Tariff), we believe the CAISO's proposal to use a combination of RMR and market resources to manage ancillary services procurement is reasonable. At the same time, we are concerned that the use of RMR can mask market price signals for ancillary services. Accordingly, we will require that the CAISO include in its tariff the procedures for the use of RMR and market procurement for ancillary services. In the compliance filing directed above, the CAISO should also clearly describe the granularity method that will be followed for allocating ancillary services costs. We also expect the CAISO's Department of Market Monitoring to monitor for market power problems involving ancillary services, and to notify the Commission promptly if such problems arise.

382. Some parties propose that the CAISO should continue to procure replacement reserves¹⁸⁵ under the MRTU Tariff. We disagree. The use of replacement reserves was envisioned to cover differences between the CAISO's load forecast and the scheduled resources. Under the MRTU Tariff, this function will be performed by RUC and it will no longer be necessary to procure replacement reserves. Absent any other need for the CAISO to procure replacement reserves, we deny the request to direct the CAISO to continue procuring replacement reserves.

18. Ancillary Services Associated with Firm Imports

383. SoCal Edison states that the current MRTU Tariff allows parties to separate and sell the ancillary services associated with firm imports. According to SoCal Edison, this separation may create a property rights problem, particularly where parties have existing contracts, and provides an avenue for sellers to attempt to get paid twice for the ancillary services associated with the firm energy. SoCal Edison contends that the CAISO should eliminate the explicit payment for ancillary services associated with imports. At a minimum, for existing contracts, SoCal Edison states that the CAISO should treat firm imports as is done under the current tariff (that is, not to allow the ancillary services to be

¹⁸⁴ *Cal. Indep. Sys. Operator Corp.*, 114 FERC ¶ 61,135 (2006).

¹⁸⁵ Under the CAISO's current tariff, Replacement Reserves are defined as generating capacity dedicated to the CAISO, capable of starting up if not already operating, being synchronized to the CAISO's controlled grid, and ramping to a specified operating level within a 60-minute period, the output of which can be continuously maintained for a two-hour period. Replacement Reserves also include Curtailable Demand that is capable of being curtailed within 60 minutes and that can remain curtailed for two hours.

separately sold off but simply reduce the Scheduling Coordinator's ancillary services requirement as the import is scheduled against load).

384. The CAISO states that SoCal Edison is correct that under the CAISO's current tariff, firm imports are backed by operating reserves from the sending control area and the Scheduling Coordinator with scheduled load can use the ancillary services associated with the firm import to reduce the Scheduling Coordinator's ancillary services requirements. In addition, the CAISO states that an issue arises either when the operating reserves behind a firm import exceed the operating reserve requirements of the Scheduling Coordinator's load, or when the Scheduling Coordinator with the firm import has no load. The CAISO explains that under the current CAISO tariff, a Scheduling Coordinator with an excess of operating reserves associated with a firm import receives a credit for such reserves if, and only if, that Scheduling Coordinator sells the ancillary services to another Scheduling Coordinator with a positive load obligation. The CAISO states that if the Scheduling Coordinator with no load that imports firm energy sells it only as energy and provides no ancillary services, it receives no credit of any kind. Under the MRTU Tariff, the CAISO states that a Scheduling Coordinator will receive a credit for operating reserves behind firm imports even if the importing Scheduling Coordinator has no load obligation and the Scheduling Coordinator does not engage in an Inter-SC Trade¹⁸⁶ of energy or ancillary services. The CAISO explains that the credit for these "negative Operating Reserves" under MRTU is limited to the amount that offsets positive ancillary services obligations net of qualified self-provision system-wide. In short, the CAISO states, it is reasonable to compensate imports for the reduction in overall system ancillary services procurement that they allow. The CAISO states that the limitation of credits to the amount usable by the CAISO to meet its operating reserve requirements is reasonable as well, since importers should not be paid for services that are not useful to the CAISO Control Area.

385. Regarding SoCal Edison's double payment concerns, the CAISO states that there is neither double payment nor underpayment for ancillary services behind firm imports. The CAISO explains that for an ETC, the ETC schedule must be balanced, which means the firm import cannot exceed the ETC load. Therefore, the CAISO argues, the ancillary services behind the firm import cannot exceed the ETC's ancillary services load obligation. In addition, if an ETC rights holder were to self-provide additional ancillary services from other resources in its portfolio, the CAISO contends that that ETC rights holder deserves to be paid the user rate for the excess self-provision to the extent it is needed by the CAISO. The CAISO states that its proposal ensures that there will be no double payment by counting the self-provided ancillary services against the Scheduling Coordinator's obligation first, and pro-rating the ancillary services behind the firm imports when that sum exceeds the CAISO's ancillary services requirements.

¹⁸⁶ See section below on Inter-SC Trades.

386. Powerex argues that the Commission should reject both of SoCal Edison's suggestions. Powerex states that in the current CAISO market design and consistent with WECC rules, when firm imports are scheduled into California, the energy need not be covered by operating reserves in the importing region; instead, the exporting control area carries the reserves required to cover the exported energy. Powerex states that even SoCal Edison seems to concede that energy importers should get the credit for the reserves associated with their energy and notes that SoCal Edison suggests it anticipates contract disputes with suppliers from external control areas. However, Powerex states that the Commission should not prejudge the rights or obligations of any party to such contracts, and instead accept these proposed MRTU Tariff provisions.

Commission Determination

387. We find that the CAISO's proposal to allow ancillary services credits for firm imports is reasonable. This proposal ensures that when there is a need for ancillary services in the CAISO's market, suppliers of these services are appropriately compensated. Moreover, the CAISO proposal ensures that suppliers do not receive double payment for their ancillary services and that they are not inappropriately compensated for their services when the market already has sufficient supply. For example, if a Scheduling Coordinator with a firm import sells that import to another Scheduling Coordinator serving load in the CAISO, it would not be appropriate to credit the importing Scheduling Coordinator for the associated ancillary services and also credit the Scheduling Coordinator that purchased the same ancillary services. Under MRTU, sales of firm imports into the day-ahead market will not be matched with load. Thus, simply reducing the Scheduling Coordinator's ancillary services requirement would not work. Further, unbundling ancillary services from firm imports will ensure that suppliers continue to be credited for their ancillary services contribution. At the same time, load that is served by the firm imports will not automatically receive ancillary services credits to ensure there is no double crediting. We, therefore, reject SoCal Edison's contentions.

19. Operating Reserve Requirements

388. SoCal Edison raises an issue with sections 11.10.3.2 and 11.10.4.2 that require Scheduling Coordinators to carry 100 percent operating reserve requirements for load served by interruptible imports. Since interruptible imports increase the CAISO's operating reserve requirements, SoCal Edison seeks clarification on how, under the MRTU Tariff, the CAISO will treat sales of interruptible imports to the day-ahead market. SoCal Edison states that its understanding is that the CAISO will not allow sales of interruptible imports in its market because imported power bid into the CAISO market is required to be firm. If this is not the case and in fact the CAISO intends to allow interruptible imports to be bid into the market, SoCal Edison argues that the sellers of interruptible imports must be charged for the additional operating reserve burden they place on the CAISO.

Commission Determination

389. We agree with SoCal Edison that the MRTU Tariff needs clarification as to how the CAISO will handle the sale of interruptible imports in the day-ahead market. We direct the CAISO to make a compliance filing within 60 days of the date of this order clarifying the processes for handling interruptible imports in the MRTU Tariff.

20. Duplicative CAISO Ancillary Services Purchases

390. The State Water Project states that sections 8.3.3 and 8.2.3.2 allow the CAISO to acquire ancillary services for transactions that use transmission lines that are within the CAISO's Control Area but not turned over to the CAISO's operational control. The State Water Project is concerned that non-CAISO-controlled grid transactions will be forced to pay for ancillary services acquired by the CAISO on their behalf. According to the State Water Project, the Commission has authorized the CAISO to procure ancillary services only for transactions using the CAISO-controlled grid. The State Water Project, however, believes that the CAISO may procure ancillary services for non-CAISO-controlled grid only on a case-by-case basis, balancing grid reliability with the need to avoid excessive ancillary services purchases.

391. In its response, the CAISO states that it is responsible for ensuring that there are sufficient ancillary services available to maintain the reliability of the CAISO-controlled grid consistent with the WECC and NERC criteria and contends that this requirement is left unchanged by the MRTU Tariff.

Commission Determination

392. As the State Water Project accurately points out, in a prior order, the Commission found that the CAISO is responsible for procuring ancillary services only for the CAISO-controlled grid.¹⁸⁷ The State Water Project, however, has failed to identify specific language in sections 8.3.3 and 8.2.3.2, which authorizes the CAISO to procure ancillary services for transactions not on CAISO-controlled transmission lines. Section 8.2.3.2 sets forth the requirements for spinning and non-spinning reserves; section 8.3.3 describes procurement of ancillary services using ancillary services regions. We,

¹⁸⁷ *Cal. Indep. Sys. Operator Corp.*, 107 FERC ¶ 61,152, at P 28 (2004), *reh'g denied*, 111 FERC ¶ 61,078, *order denying clarification*, 113 FERC ¶ 61,133 (2005). This finding was fact-specific and concerned ancillary services improperly procured by the CAISO in connection with transactions scheduled on the California-Oregon Transmission Project and on transmission facilities owned and operated by SMUD and Western. *Id.* at P 3. The Commission did not consider the CAISO's argument that procurement of ancillary services for off grid transactions was needed for reliability purposes. The CAISO's reliability argument was rejected as untimely. *See id.* at P 32.

therefore, reject the State Water Project's contention because it is unsupported. We find that there is no need for the CAISO to change the MRTU Tariff language regarding the purchases of ancillary services. The CAISO states that it is responsible for ensuring that there are sufficient ancillary services available to maintain the reliability of the CAISO-controlled grid consistent with WECC and NERC criteria and contends that this requirement is unchanged by the MRTU Tariff. We find that the CAISO must continue to procure ancillary services in compliance with the WECC and NERC standards for reliability purposes.

21. Congestion Charges for Imports of Ancillary Services

393. BPA states that ancillary services imports, but not ancillary services within the CAISO Control Area, will be charged for congestion under the MRTU Tariff. BPA disagrees with the CAISO's assertion in the transmittal letter to the instant filing that this charge on imports is necessary because ancillary services imports compete with energy imports for intertie capacity. BPA argues that it is not credible for the CAISO to assume that ancillary services within its control area will never compete with energy for available transmission capacity (ATC); for example, Path 26 experiences occasional congestion that could affect ancillary services deliverability. If the CAISO calculates ancillary services congestion costs throughout its system, BPA states that the congestion charge for within-control area ancillary services will be zero if the system operates as the CAISO expects, but will indicate congestion costs where appropriate. BPA states that without a system-wide ancillary services congestion charge, internal ancillary services on congested paths will escape the same types of congestion costs that will be routinely charged to imports. BPA contends that if it is technically infeasible for the CAISO to calculate congestion charges within its system, it should not do so for imports either.

394. The CAISO requests that the Commission reject BPA's implication of undue discrimination or unequal treatment between the congestion costs paid by entities importing ancillary services and entities supplying ancillary services internal to the CAISO Control Area. The CAISO states that while the CAISO co-optimizes energy and ancillary services both for supply offered internal to the control area and for the energy and ancillary services that are offered over the interties, the entities supplying energy and ancillary services internal to the CAISO Control Area are not similarly situated with entities supplying energy and ancillary services over the interties. For internal resources, the CAISO states that the transmission congestion internal to the CAISO Control Area does not affect the co-optimization of energy and ancillary services. The CAISO explains that there is no competition for transmission between energy and ancillary services; rather, the competition for transmission occurs at the resource level, i.e., whether the resource capacity is used for ancillary services or energy.

395. The CAISO states that unlike in the case of internal congestion, the co-optimization of energy and ancillary services is affected by the constraints on the

interties. According to the CAISO, for this reason, the ancillary services marginal price at an intertie includes the opportunity cost of energy at the scheduling point and the intertie congestion price. However, the CAISO states that, as shown in the testimony of Dr. Rahimi, after reducing the intertie ancillary services marginal price by the intertie congestion price, the entity providing the ancillary services import will still receive its bid price or better.¹⁸⁸

Commission Determination

396. We agree with the CAISO that internal CAISO ancillary services and ancillary services offered over the interties are not similarly situated; thus, they are co-optimized with energy differently. Transmission congestion internal to the CAISO Control Area does not affect the co-optimization of energy and ancillary services in the same way that intertie congestion affects the co-optimization of energy and ancillary services over interties. Energy and ancillary services schedules will be co-optimized on a resource level within the CAISO Control Area. Additionally, ancillary services regions will be established to ensure appropriate distribution of ancillary services within the CAISO Control Area and price variation between these regions will reflect the impact of congestion. On the other hand, ancillary services capacity and energy will compete for transmission over interties, because imported ancillary services will require a transmission allocation in the day-ahead market. Thus, if ancillary services imports contribute to congestion on an intertie, the supplier of the ancillary services import will be charged the applicable congestion usage charge. We note that, even with the intertie congestion charge, entities providing ancillary services imports will still receive their bid price or better. Thus, we find that the CAISO has justified its treatment of imported ancillary services. Accordingly, we reject BPA's assertion that congestion should not be charged to imported ancillary services.

22. Ancillary Service Prices, Schedules, and Associated Energy Bids

397. MRTU Tariff section 30.5.2.6 states that a Scheduling Coordinator may submit ancillary service bids for each type of ancillary service by providing (among other information) a separate price in \$/MW per hour for each ancillary service and an energy bid associated with the capacity bid. Based on these and other bids, section 31.3 states that the IFM optimization process will utilize a set of integrated programs to optimally commit resources, determine day-ahead schedules and ancillary service awards, and calculate the related LMPs and ancillary service marginal prices (ASMPs). The LMPs and ASMPs would be calculated based on multi-part supply bids (including start-up bids, minimum load bids, and energy bid curves), and the capacity reservation bids for ancillary services as well as self-schedules by Scheduling Coordinators. The Master

¹⁸⁸ See Rahimi Testimony at 146-153.

Definitions Supplement in Appendix A to the MRTU Tariff defines ASMP as “the marginal cost of providing an ancillary service in the relevant resource location (\$/MW).”

398. The CAISO responds that, as a result of implementing its proposed changes to co-optimization of conditionally qualified self-provided ancillary services, the CAISO is also proposing to eliminate the requirement that ancillary services bids be accompanied by an associated energy bid, as specified in section 30.5.2.6. However, the CAISO states that this change is conditional on the outcome of the CAISO’s evaluation of its ability to automate the first step of the three-step verification process for LAP-clearing constraints. The CAISO states that it will inform its stakeholders and the Commission of the resolution of this evaluation and whether such changes will be feasible for Release 1. According to the CAISO, assuming the CAISO is able to automate the first step of the three-step verification process for LAP-clearing constraints, ancillary services bidders would remain free to include an associated energy bid. However, the CAISO proposes to no longer require that such an energy bid be included. The CAISO notes, however, that under the CAISO’s proposal all awarded ancillary services and all accepted submissions to self-provide ancillary services must submit associated energy bids in HASP/real-time. The CAISO states that there are several reasons for this proposed change.

399. First, the CAISO states that there is already an exception to the requirement that ancillary services bids must have an associated energy bid, which is that self-provided ancillary services in the day-ahead market are not required to submit an associated energy bid. Second, the CAISO states that the requirement is unnecessary for resources that are under obligation to offer energy bids (i.e., resource adequacy and RMR resources) since they will have an energy bid inserted for them if they do not include one. Third, the elimination of the requirement that ancillary services bids must be accompanied by an associated energy bid will assist in the implementation of other MRTU Tariff sections, *i.e.*, section 8.6.2 - Right to Self Provide Ancillary Services, and section 31.3.1.2 - Reduction of LAP Demand.

Commission Determination

400. The MRTU Tariff does not describe in sufficient detail how the CAISO will determine which resources will be scheduled to provide ancillary services in the day-ahead market and how ancillary service marginal prices will be calculated. In particular, the proposed tariff does not state whether foregone energy opportunity costs¹⁸⁹ will be considered in determining whether to schedule a resource to provide energy or ancillary services. The proposed tariff also does not state whether foregone energy opportunity

¹⁸⁹ Foregone energy opportunity cost is the operating profit from selling energy that the resource would forego if it is scheduled to provide ancillary services instead. The foregone energy opportunity cost (per MWh) is calculated as the difference between (1) the applicable LMP at the resource’s node; and (2) the resource’s energy bid.

costs will be considered as a component of the marginal cost of providing an ancillary service for purposes of calculating ancillary service marginal prices. We direct the CAISO to revise its proposed MRTU Tariff to clarify whether (and if so, how) foregone energy opportunity costs are considered in establishing ancillary service schedules and in calculating ancillary service marginal prices. If the CAISO intends that foregone energy opportunity costs not be considered in establishing ancillary service schedules and/or in calculating ancillary service marginal prices, the CAISO must provide a rationale. We direct the CAISO to make a compliance filing within 60 days of the date of this order complying with these directives. We defer ruling on the CAISO's proposal to eliminate the requirement that ancillary services bids be accompanied by an associated energy bid, pending our review of the CAISO's compliance filing. If the CAISO intends that foregone energy opportunity costs be considered in establishing ancillary service schedules and/or in calculating ancillary service marginal prices, we direct the CAISO to explain in its compliance filing how it would determine the foregone energy opportunity costs of resources that do not include associated energy bids in their bids to provide ancillary services.

23. Minor Language Changes

401. PG&E points out that in Appendix K, the acronym "ASRP" is repeated without clarification and requests that it be expanded to read Ancillary Service Requirements Protocol (ASRP). The CAISO commits to make the change requested by PG&E in its compliance filing.

402. SoCal Edison contends that a sentence in MRTU Tariff section 8.3.1, which states that, "the CAISO will procure Regulation Up and Regulation Down in the Real-Time Market" is misleading. SoCal Edison explains that tariff language earlier in this section provides that the CAISO is required to procure 100 percent of its forecasted requirements in the day-ahead market and may procure additional ancillary services in subsequent markets if its forecasted requirements change. SoCal Edison and Six Cities recommend that this sentence be stricken from the section. The CAISO agrees with SoCal Edison and Six Cities and commits to remove the last sentence of the second paragraph of MRTU Tariff section 8.3.1 in a compliance filing.

403. SoCal Edison notes that MRTU Tariff section 8.3.5 states that "[t]he CAISO shall procure Regulation Up, Regulation Down, Spinning, and Non-Spinning Reserves on a daily, hourly and Real-Time basis in the IFM, HASP and [real-time market] respectively..." SoCal Edison contends that this language conflicts with section 8.3.1, which provides that "[i]n the [d]ay-[a]head [m]arket, the CAISO procures one-hundred (100) percent of its Ancillary Service requirements based on the Day-Ahead Demand Forecast net of Self Provided Ancillary Services." SoCal Edison recommends that the word "shall" in section 8.3.5 be changed to "may" in order to resolve the conflict.

404. In response, the CAISO states that there is no conflict between the two MRTU Tariff provisions cited by SoCal Edison. While it is true that section 8.3.1 provides that the CAISO will procure 100 percent of its ancillary service requirements in the day-ahead market, the CAISO states that it is also true that there can be incremental ancillary service needs to be met in the HASP and real-time market.

Commission Determination

405. We direct the CAISO to make a compliance filing within 60 days of the date of this order reflecting the change proposed by PG&E concerning Appendix K.

406. We direct the CAISO to revise MRTU Tariff section 8.3.1 to address SoCal Edison's and Six Cities' concerns by making a compliance filing within 60 days of the date of this order reflecting this deletion.

407. We also find that the CAISO's clarification of the two MRTU Tariff sections addresses SoCal Edison's concerns. The CAISO will procure 100 percent of the ancillary service requirements in the day-ahead market. This will be based on its forecast. To the extent forecasted need changes in the hour ahead and in real time, the CAISO tariff provides that additional ancillary services will be procured. We, therefore, reject SoCal Edison's request for a change in the language of MRTU Tariff section 8.3.5.

E. Reliability Must Run Units

408. The CAISO addresses the need for additional generating capacity within a local reliability area by awarding one-year Reliability Must Run (RMR) contracts to local generators. These contracts ensure that RMR units are made available to the CAISO in order to meet local reliability needs. Under the terms and conditions of these contracts, a RMR owner may select from one of two conditions (i.e., Condition 1 or Condition 2) of how its unit will operate when dispatched by the CAISO to meet local reliability.¹⁹⁰ Under Condition 1, the owner of the RMR unit is paid a certain percentage of its annual fixed costs. In addition, the owner may participate in market transactions and retain all revenues from such market transactions. In contrast, the owner of a Condition 2 RMR unit is paid 100 percent of the unit's fixed costs. The Condition 2 RMR unit may not participate in market transactions unless the CAISO issues a dispatch notice for the unit. When the CAISO dispatches the unit for reliability purposes, the owner must bid all capacity at prices determined by formulas in the contract.

¹⁹⁰ MRTU Tariff section 41.9 provides for the CAISO to dispatch Condition 2 RMR units to provide energy through an exceptional dispatch for reasons other than those prescribed in the RMR contract. For example, the CAISO may require energy from a Condition 2 RMR unit to: (1) meet forecast demand and operating reserve requirements; or (2) manage congestion.

409. The CAISO proposes changes to its RMR provisions in the MRTU Tariff that, according to the CAISO, conform the RMR provisions to the new market structure under MRTU. The CAISO will continue to issue RMR dispatch notices consistent with the RMR contract for all of the products and services that the CAISO is entitled to under the RMR contract. The changes under MRTU that most affect RMR units are: (1) dispatch of RMR units through the pre-IFM runs in the day-ahead, HASP and real-time markets; and (2) the elimination of the concepts of “Inter-Zonal Congestion” and “Intra-Zonal Congestion” because they are no longer relevant under LMP.

410. Under MRTU, the CAISO proposes to commit RMR units through the pre-IFM runs described in MRTU Tariff sections 31.2 and 33.4. This process results in issuances of RMR dispatches under MRTU for local reliability and to manage congestion consistent with the RMR contract. Whether in the day ahead or in real time, the first pass of the pre-IFM run is the Competitive Constraint Run under which only transmission lines pre-designated as “competitive” are considered.¹⁹¹ The CAISO states that the second pass of the pre-IFM run is the All Constraint Run during which all transmission constraints are enforced.¹⁹² As provided in MRTU Tariff sections 31.2.2.1 and 33.4, the CAISO will designate a dispatch as an RMR dispatch when its dispatch level following the second pass is greater than the first pass.¹⁹³ The CAISO asserts that RMR dispatches issued as a result of the pre-IFM runs are consistent with its dispatch authority under the RMR contract since the pre-IFM runs generate dispatches for meeting local reliability needs and managing congestion. The CAISO states that it may also issue manual RMR dispatch notices outside of the pre-IFM runs at any time consistent with the RMR contract.

411. The CAISO also proposes to conform the RMR provisions under MRTU Tariff section 41.5.1 to be consistent with the new market structure. Specifically, the CAISO provides that market bids submitted in the day-ahead market or HASP for dispatch in real time, shall be understood as a notice of intent to provide service from a substitute unit rather than the unit identified in the CAISO’s dispatch notice.¹⁹⁴ CAISO notes that whenever it designates a dispatch as an RMR dispatch, any MWh quantities dispatched in the second pass of either the pre-IFM or HASP runs will be settled as a market transaction under the RMR contract and be paid the relevant LMP.

¹⁹¹ The initial competitive transmission path assessment will consider the current inter-zonal interfaces plus local constraints out of local generation pockets.

¹⁹² Other than those defined “competitive” above, the CAISO will consider all transmission paths as non-competitive, but will periodically evaluate those paths based on forward looking assessments.

¹⁹³ The CAISO states that dispatches flagged as RMR shall constitute RMR dispatch notices pursuant to the RMR contract.

¹⁹⁴ The CAISO references section 5.2 of the RMR contract.

412. The CAISO states that it is preserving its right under the RMR contract to issue an out-of-market dispatch of a RMR Condition 2 unit for reasons other than to meet local reliability needs or to manage congestion in the event no other units are available and physically capable of meeting the identified requirement. *See* Exceptional Dispatch, MRTU Tariff section 41.9. The CAISO asserts that these occurrences are not treated as dispatches pursuant to the RMR contract, but rather exceptional dispatches under the CAISO tariff. As such, these dispatches will be paid and allocated in accordance with section 11.5.6 of the CAISO tariff.

Discussion

1. Tariff Modifications

413. SoCal Edison objects to MRTU Tariff section 11.5.6.3.2 (Allocation of Costs from Exceptional Dispatch Calls to Condition 2 RMR units), which states "...All costs associated with Energy provided by a Condition 2 RMR Unit operating other than according to a dispatch notice issued under the RMR Contract shall be allocated in accordance with section 11.5...." SoCal Edison argues that the reference to section 11.5 is incorrect and should be changed to 11.5.6.2.5.1. In addition, SoCal Edison protests the language in this section that states: "...Until either the RMR Contract Counted MWh, Counted Service Hours or Counted Start-Ups exceed the relevant RMR Contract Service Limit, any cost incurred for Energy provided under the RMR Contract above the rate specified in equation 1a or 1b as set forth in Section 11.5.6.3.1 shall be allocated in accordance with section 11.5.1..." SoCal Edison contends the reference to section 11.5.1 is inappropriate and recommends that it be changed to section 11.5.6.2.5.2.

414. PG&E states that Appendix G (*pro forma* Must Run Agreement) of the MRTU Tariff has not been updated and is missing necessary detail. PG&E asserts that the *pro forma* Must Run Agreement is very complicated and has been modified and discussed through a stakeholder process. PG&E states that Appendix G should be modified to reflect the following:

- All references to the "PX" market must be replaced with the "CAISO" market;
- Applicable sections of the *pro forma* agreement included in the "Offer of Settlement", in FERC Docket Nos. ER98-441-000 *et al.*, must be incorporated into the *pro forma* RMR Agreement;
- Detail must be provided to determine how the Scheduling Coordinator Credit is to be priced;
- The "Condition 2" option in the current *pro-forma* RMR Agreement should be removed as unnecessary.

415. The CAISO agrees that MRTU Tariff section 11.5.6.3.2 should be modified as SoCal Edison requests and proposes to make the changes in a future compliance filing.

416. With regards to PG&E's concern, the CAISO states that Appendix G is a placeholder (similar to the current CAISO tariff) for the *pro forma* RMR agreement under MRTU. The CAISO states that the *pro forma* RMR agreement¹⁹⁵ was never filed as a part of the current CAISO tariff and should not be included in the MRTU Tariff. The CAISO contends that the filing of a *pro forma* RMR Agreement would require, as PG&E notes, a stakeholder process. Moreover, the CAISO argues that no filing of an RMR Agreement is necessary because the MRTU Tariff allows the CAISO to dispatch RMR resources consistent with RMR contracts.

Commission Determination

417. We note that the CAISO agrees with SoCal Edison's claim that the MRTU Tariff does not accurately reference the correct section for allocating exceptional dispatch instruction costs and the CAISO proposes to make a future compliance filing with the Commission to reflect the correct section. As a result, we find the CAISO has adequately addressed SoCal Edison's concern and direct the CAISO to make a compliance filing within 60 days of the date of this order reflecting the proposed modification. With respect to PG&E's concern regarding the *pro forma* Must Run Agreement, we note that the agreement was not submitted as part of the MRTU Tariff filing. Because this agreement is not before us in this proceeding, we find that the proposed modifications to the *pro forma* Must Run Agreement are outside the scope of the instant tariff filing. We also note that the CAISO indicates in Appendix G of the MRTU Tariff that the Must Run Agreement will be filed with the Commission upon settlement of certain terms and conditions related to MRTU. We direct the CAISO to continue its efforts to address the *pro forma* Must Run Agreement concerns, as raised by PG&E, through the stakeholder process and file any amendments with the Commission as necessary and appropriate.

2. RMR Compensation

418. WPTF/IEP and Williams point out that under the proposed pre-IFM runs, if an RMR unit is dispatched in the second pass above the levels to which it was dispatched in the first pass, the portion of the unit's bid above its first pass level is reset to the lower of its cost-based RMR contract bid or its market bid. However, WPTF/IEP note that in the same situation, a non-RMR unit's market bid is replaced with its default energy bid. WPTF/IEP question the need for this disparate treatment, except for those units with Condition 2 RMR contracts. WPTF/IEP contend that the cost-based bids for RMR units

¹⁹⁵ The *pro forma* Must Run Agreement was negotiated through settlement in Docket No. ER98-441-000, *et al.*

in the pre-IFM should be eliminated, and urge the Commission to require the CAISO to use the default energy bids rather than the RMR contract bid for Condition 1 RMR units.

419. WPTF/IEP state that it is unclear how energy is counted toward a unit's RMR contract service limits because Condition 1 RMR owners are no longer in control of whether the energy dispatched to the CAISO is pursuant to a RMR contract or through the market. Thus, WPTF/IEP request clarification of how the CAISO will count Condition 1 RMR units in the first and second pass of the pre-IFM runs.

420. The CAISO states that WPTF/IEP appear to confuse the determination of RMR dispatch levels through the pre-IFM runs with pricing. According to the CAISO, the primary purpose of the pre-IFM runs is to determine the level of dispatch needed from RMR units for local reliability. Since the CAISO has the contractual right to RMR energy at costs specified in the RMR contracts, the CAISO states that the MRTU Tariff uses RMR proxy bids instead of default energy bids for amounts of capacity specified in the RMR contracts in the second pass of the pre-IFM runs. The CAISO further explains the RMR Condition 1 units, like non-RMR units, will be paid the nodal prices determined in the day-ahead market for the dispatch levels determined in the first pass that cleared the IFM optimization process. The CAISO also explains that it is possible for an RMR proxy bid (or a default energy bid) to set the nodal price, if RMR energy is needed from a Condition 2 RMR unit or a Condition 1 unit, to the extent the Condition 1 unit did not submit bids into the day-ahead market or that bids submitted failed to clear the first pass.

421. With respect to WPTF/IEP's comment regarding RMR owners no longer having control of whether a RMR operates pursuant to the RMR contract or through the market, the CAISO states that WPTF/IEP misunderstands the election process. The CAISO explains that a Condition 1 RMR owner can elect RMR contract compensation by submitting a bid in the day-ahead market or by submitting a bid higher than the clearing price resulting from the first pass. It further states that an RMR owner can elect market compensation by submitting competitive bids in the day-ahead market or by submitting a bid of zero, thereby accepting the market clearing price. The CAISO asserts that this is very similar to the way the original RMR pre-dispatch process worked when the California Power Exchange was in existence, as it provided a day-ahead market for RMR energy. Accordingly, the proposed mechanism for MRTU is more in line with the RMR contract as originally written, and the process is simplified because the election is automatically based on the RMR owner's choice of whether to submit a bid in the day-ahead and, if so, at what price.

Commission Determination

422. We reject WPTF/IEP's request to require the CAISO to use the default energy bid rather than the RMR contract bid for Condition 1 units. We find it appropriate for the CAISO to maintain a distinction between Condition 1 RMR units and non-RMR units as

it relates to compensation. In general, the RMR contracts give the CAISO the right to call on certain generators to meet local reliability needs as determined by an annual RMR study.¹⁹⁶ Those units needed for local reliability are issued an RMR contract in exchange for a specified dollar amount paid to the generators.

423. With respect to the WPTF/IEP request for clarification, we direct the CAISO to make a compliance filing within 60 days of the date of this order clarifying how energy is counted toward its contract service limits.

3. RMR Units Providing Ancillary Service

424. WPTF/IEP state that the CAISO proposes to procure 100 percent of its forecasted ancillary services requirements in the day-ahead market. It further states the CAISO has the ability to instruct any market unit to provide ancillary services in real-time using the real-time unit commitment software. For these reasons, WPTF/IEP contend that the CAISO can fully meet its ancillary services needs through market mechanisms as opposed to RMR contracts. As a result, WPTF/IEP recommends that the Commission direct the CAISO to adopt tariff language committing the CAISO to use its market mechanisms to procure ancillary services whenever possible, and to acquire ancillary services through RMR contracts only where the need cannot be met through the market.

425. The CAISO contends that WPTF/IEP seek to alter the CAISO's contractual right to obtain ancillary services under the RMR contract. In addition, the CAISO states that WPTF/IEP want to alter pre-existing tariff language that is substantively unchanged under MRTU. It asserts that ancillary services can be procured in two ways. First, the CAISO may issue RMR dispatch notices for ancillary services, but only if there is a bid insufficiency in the CAISO's markets as defined in the RMR contract. Second, for RMR Conditions 2 units, once the unit has received an RMR dispatch notice, the RMR owner is contractually obligated to submit cost-based bids pursuant to Schedule M for its remaining capacity into the next available market.

Commission Determination

426. Our review of the MRTU Tariff indicates that the CAISO will use market mechanisms that are similar to the standards sought by WPTF/IEP. The CAISO proposes to procure 100 percent of its forecasted ancillary services in the day-ahead market. MRTU Tariff section 41.5.3 provides for the CAISO to call upon RMR units in any amount that the CAISO has determined is necessary at any time after the issuance of day-ahead schedules for the trading day if: (1) the CAISO requires additional ancillary services; (2) all day-ahead ancillary services bids have been selected; and (3) the CAISO

¹⁹⁶ The CAISO's role in addressing the need for RMR generation is addressed in MRTU Tariff section 41.

determines that a bid insufficiency condition in accordance with the RMR contract exists in the HASP, and that it requires more of an ancillary service. We find these provisions address WPTF/IEP's concern that the CAISO use its market mechanisms to procure ancillary services and RMR contracts only where the need cannot be met through the market. Therefore, we require no further modifications.

4. RMR Capacity under RUC

427. WPTF/IEP contend that the participation of Condition 2 RMR units in RUC may be problematic because the CAISO may designate the capacity for not only local area requirements but also control area shortfalls. WPTF/IEP state that RMR contracts require generating units to be used only to meet local area reliability requirements. As a result, WPTF/IEP urge the Commission to require the CAISO to make clear in the MRTU Tariff that Condition 2 RMR capacity cannot be selected in RUC for any reason other than to meet a local reliability need.

428. In its answer, the CAISO states that if the IFM optimization process, which is based on bid-in load, clears below the dispatch level of RMR Condition 2 units determined in the second pass of the pre-IFM runs, the difference will be inserted in the RUC process. Because the difference between the first and second passes of the pre-IFM runs identifies the dispatch levels to meet any local reliability need, the CAISO states that RMR Condition 2 units inserted as a self-schedule in the RUC process will serve local reliability needs in the day-ahead market.

Commission Determination

429. We find that WPTF/IEP's assertion that the CAISO may designate Condition 2 RMR capacity for not only local area requirements but also a control area shortfall is unfounded. We agree with the CAISO that the difference between the first and second passes of the pre-IFM runs identifies the dispatch levels to meet any local reliability need. Therefore, we believe that RMR Condition 2 units inserted as a self-schedule in the RUC process will serve local reliability needs in the day-ahead market. MRTU Tariff section 31.5.1.3 states that if a resource is determined to have a RMR requirement for any trading hour of the next day, either by the pre-IFM runs or by the CAISO through a manual RMR dispatch notice, and if any portion of the RMR requirement has not been cleared in the IFM optimization process, the entire portion of the RMR requirement will be represented as a self-schedule in the RUC process.¹⁹⁷ Because the RUC process is a reliability backstop that allows the CAISO to meet its reliability requirements, we find it

¹⁹⁷ We understand that the issuance of an RMR self-schedule in the RUC process means the RMR owner will be considered a "Price-Taker" of energy if dispatched by the CAISO in real-time. The RMR unit is not eligible for the RUC availability payment and is included in RUC as a self-schedule.

unnecessary for the CAISO to include any clarifying language regarding Condition 2 RMR units in the tariff. In addition, we note that MRTU Tariff section 41 provides a reasonable amount of detail regarding the procurement procedures of RMR units by the CAISO. As a result, we reject WPTF/IEP's request.

F. Convergence Bidding

430. As filed, the MRTU Tariff does not include provisions to implement convergence bidding.¹⁹⁸ Convergence bidding is used successfully in several of the RTOs, and we note that the Commission's June 2004 Order, and subsequent orders that addressed convergence bidding, directed the CAISO to implement convergence bidding with Release 1, or to explain fully why this should not be done, and the date when it would be implemented.¹⁹⁹

431. The CAISO acknowledges the potential benefits of convergence bidding but states that it cannot implement convergence bidding simultaneously with Release 1 of MRTU without significantly delaying the implementation of MRTU. The CAISO asserts that the challenges associated with implementing convergence bidding with MRTU fall into two categories: (1) the challenges associated with the development, testing, and implementation of software to implement convergence bidding; and (2) the need to make critical policy determinations about the design of a convergence bidding feature.

432. To address the concerns raised by stakeholders, the CAISO states that it is initiating an expedited stakeholder process where convergence bidding will be considered for implementation under MRTU "Release 1A," a faster track than other items designated as potential Release 2 items. The CAISO states that its best estimate for a date when it would be feasible to implement convergence bidding is approximately twelve months after the start of the MRTU.

Discussion

433. Commenters express competing views on largely three issues: (1) the timing of implementation of convergence bidding; (2) the necessity of convergence bidding with respect to the overall market design; and (3) revision to MRTU if there is not to be

¹⁹⁸ 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 represent financial transactions, are submitted like other bids, and are recognized by system operators as not being physical.

¹⁹⁹ See June 2004 Order, 107 FERC ¶ 61,274 at P 159; September 2004 Order, 108 FERC ¶ 61,254 at P 75-76; January 2005 Order, 110 FERC ¶ 61,041, at P 33 (January 2005 Order); July 2005 Order, 112 FERC ¶ 61,013 at P 173-174.

convergence bidding in Release 1. Several commenters, e.g., NRG Companies, Powerex, Coral, WPTF/IEP, PacifiCorp, EPSA, EPIC, and SESCO, state that the Commission should direct the CAISO to implement convergence bidding simultaneous with Release 1. They argue that convergence bidding is a critical market design feature and the CAISO should not be permitted to implement MRTU without it because the MRTU market design absent convergence bidding is highly flawed. Some claim that the Commission has repeatedly directed CAISO to implement convergence bidding in Release 1 and that the CAISO has been on notice for almost two years that the Commission has concluded that convergence bidding is needed to promote competition in these markets.

434. Williams states that the Commission should not simply accept the CAISO's unsupported assertion that the incorporation of convergence bidding into Release 1 will result in a twelve month delay of Release 1; and WPTF states that the Commission should provide its staff and market participants the opportunity to test the CAISO's claims during an on-the-record technical conference, at which the CAISO should make its vendors and software/systems development engineers available for questioning. They add that the Commission should be wary of the CAISO's recent proposal to accelerate deployment of convergence bidding.

435. EPSA argues that, through a combination of technical conferences and settlement proceedings, MRTU market implementation can proceed on schedule even with the addition of a convergence bidding mechanism. However, EPSA adds that, even if these processes prove to take longer than expected, any extra time spent ensuring a well functioning competitive market would be well spent.

436. Conversely, SoCal Edison, CPUC and SDG&E argue that convergence bidding should come after there is assurance that the markets are well functioning. SoCal Edison argues that convergence bidding can be used to exploit market design flaws, and although the Commission believes that price convergence between the day-ahead and real-time market is beneficial, such a belief must be premised on the assumption that these markets are functioning properly. SoCal Edison believes that it is simply unjust and unreasonable to implement convergence bidding until the new market has demonstrated it is functioning properly.

437. However, other commenters maintain that convergence bidding is necessary now for the market. PacifiCorp, for example, argues that convergence bidding would provide the necessary and appropriate mechanism to facilitate consistency and eliminate any bias between prices in the day-ahead and real-time markets. Additionally, PacifiCorp believes that the ability to submit convergence bids for exports and/or imports would allow Scheduling Coordinators to hedge price and congestion exposure in the day-ahead market as they deem appropriate.

438. WPTF/IEP, Williams, Coral, EPIC and SESCO believe that without incorporating convergence bidding into Release 1 the potential exercise of demand-side market power could result in the day-ahead market clearing at prices below competitive levels. WPTF/IEP add that the CAISO fails to demonstrate that its Release 1 is just and reasonable without convergence bidding and that permitting the CAISO to further delay implementation of convergence bidding would thwart the development of competitive markets in California.

439. WPTF/IEP assert that under the proposed market design a form of virtual bidding will exist in Release 1, but it will be limited to use by LSEs; LSEs will bid their load into the day-ahead market and specify a ceiling price above which they will not pay in the day-ahead market. NRG Companies assert that the lack of a penalty for underscheduling is just one of several reasons why the MRTU proposal does not provide adequate incentives for load to schedule accurately in the day-ahead market. Constellation/Mirant point out that the CAISO proposal does not provide for corrective actions by the CAISO when bids submitted by load are consistently lower than expectations of real-time load.

440. Coral adds that the CAISO's failure to include convergence bidding in Release 1 provides the LSEs with monopsony power that will allow them to strategically underschedule and artificially suppress the day-ahead energy price.

441. In its response, SoCal Edison takes issue with some market participants' use of the term "underschedule," and asserts that load simply decides not to purchase energy in the day-ahead market. SoCal Edison argues that contrary to protestors' assertions, this decision is not equivalent to one-sided application of convergence bidding and does not indicate monopsony power.

442. However, WPTF/IEP and NRG Companies argue that if the Commission does not direct the CAISO to incorporate convergence bidding into Release 1, the Commission must take other action so that the Release 1 design is not unduly discriminatory. Powerex points out that the CAISO is proposing to eliminate the current 95 percent forward scheduling requirement without also proposing to implement convergence bidding. Powerex, CMUA, WPTF/IEP, Williams and NRG Companies argue that the 95 percent forward scheduling requirement should be retained until convergence bidding is implemented. NRG Companies add that the CAISO has failed to justify the elimination of a forward scheduling requirement in the day-ahead market in the absence of convergence bidding in Release 1. WPTF/IEP point out that, in response to protests on the CAISO's August 2, 2005 convergence bidding compliance filing, the CAISO indicated that the 95 percent scheduling requirement could be retained under MRTU until convergence is implemented.²⁰⁰

²⁰⁰ See CAISO August 2, 2005 Compliance Filing, Docket No. ER02-1656-030 (August 2, 2005 Compliance Filing).

443. CMUA states that, while it cannot currently endorse convergence bidding, it is concerned about large LSEs underscheduling and believes that this jeopardizes reliability and results in cost shifts to other LSEs that schedule accurately. CMUA believes that, at a minimum, the 95 percent forward scheduling requirement should be retained for a transitional period. Six Cities urge the Commission to require the CAISO to retain the current 95 percent day-ahead scheduling requirement until the MRTU Tariff has been in place long enough that all parties are confident that the overall market structure will result in consistently reliable supplies of energy to meet demand.

CAISO Response

444. The CAISO maintains that it cannot incorporate the convergence bidding feature into Release 1 without a significant delay in the implementation of MRTU. The CAISO asserts that it is initiating an expedited stakeholder process to consider the implementation of convergence bidding sooner than Release 2.

445. The CAISO argues that the current 95 percent forward scheduling requirement, established under Amendment No. 72,²⁰¹ was implemented as a stopgap measure. The CAISO believes that a day-ahead scheduling requirement would not be necessary or appropriate under the MRTU market design. The CAISO points out that there is no need to match supply and demand schedules because there is a formal day-ahead energy market which allows market participants to submit demand bids that can be satisfied by other market participants submitting supply offers. The CAISO argues that it is not clear how the 95 percent requirement would be implemented under MRTU in which day-ahead schedules result from the market.

446. Lastly, the CAISO argues that there is no justification for a technical conference on the infeasibilities of implementing convergence bidding, and that contrary to the assertions made by commenters, the CAISO has complied with previous Commission directives concerning convergence bidding.

Commission Determination

447. In the January 2005 Order, the Commission again directed the CAISO to either: (1) submit tariff sheets to implement convergence bidding simultaneously with the implementation of the day-ahead market; or (2) if it does not believe the simultaneous implementation to be feasible, explain why and inform the Commission of a date when it would be feasible to implement it.²⁰² The CAISO stated in its May 2005 conceptual

²⁰¹ See *Cal. Indep. Sys. Operator Corp.*, 113 FERC ¶ 61,187 (2005), *order on reh'g and clarification*, 115 FERC ¶ 61,168 (2006) (Amendment No. 72).

²⁰² See January 2005 Order, 110 FERC ¶ 61,041 at P 33; September 2004 Order, 108 FERC ¶ 61,254 at 75; June 2004 Order, 107 FERC ¶ 61,274 at 159.

filing that it was not feasible to implement convergence bidding simultaneously with the day-ahead market without delay of the implementation schedule, but failed to comply with either of our corresponding directives.²⁰³ Therefore, in the July 2005 Order, the Commission directed the CAISO to comply within 30 days and file a full explanation of the alleged infeasibilities.²⁰⁴

448. The CAISO's compliance filings did not provide any of the substantive information required by the Commission.²⁰⁵ While the CAISO indicates that it will expedite its consideration of the implementation of convergence bidding, this response neither explains the CAISO's deficiency in complying with previous Commission directives, nor addresses the potential economic incentives for buyers to underschedule in the day-ahead market in Release 1, and the market inefficiencies that could result.²⁰⁶

449. As discussed in previous orders, convergence bidding improves market performance in several ways. Convergence bidding has the effect of expanding the number of competitors and the number of bids into the day-ahead market. By expanding the number of offers to buy and sell in the day-ahead market, convergence bidding helps to prevent the exercise of market power.²⁰⁷ Without convergence bidding, participants with market power may have the ability 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.²⁰⁸

450. Convergence bidding reduces the price differences between the real-time and the day-ahead markets, thus reducing the incentive for buyers or sellers to forego bidding physical schedules in day-ahead markets in expectation of better prices in the real-time markets. Additionally, incorporating convergence bidding into the CAISO's tariff will facilitate the CAISO's management of grid operations by allowing it to distinguish clearly between physical bids and bids submitted for financial purposes.

451. Convergence bidding has proven to be a valuable market design feature in other LMP-based electricity markets. If included in the CAISO's market, convergence bidding could provide such benefits as improving day-ahead and real-time price convergence, as

²⁰³ See CAISO's May 13, 2005 Amendments Filing, Docket No. ER02-1656-026, at 60.

²⁰⁴ See July 2005 Order, 112 FERC ¶ 61,013 at P 174.

²⁰⁵ See CAISO August 2, 2005 and March 15, 2005 compliance filings, Docket No. ER02-1656-030.

²⁰⁶ We note that the compliance filings required in our July 2005 Order concerning the implementation of convergence bidding have been superseded by the MRTU Tariff filing and comments filed in that proceeding.

²⁰⁷ See July 2005 Order, 112 FERC ¶ 61,013 at P 175.

²⁰⁸ See June 2004 Order, 107 FERC ¶ 61,274 at P 158.

well as reducing the exercise of market power.²⁰⁹ However, while we are concerned about the lack of convergence bidding in Release 1, we also are concerned that requiring the implementation of convergence bidding with Release 1 could further delay the implementation of MRTU and its associated benefits. Clearly we agree with commenters regarding the considerable benefits of convergence bidding, but we must also weigh these benefits against the importance of MRTU itself. We find that the harm of further delaying the substantial benefits of MRTU outweigh the potential benefits that are to be gained by implementing convergence bidding in Release 1.

452. However, while we will not require the implementation of convergence bidding simultaneously with Release 1, we agree with commenters that Release 1 must include provisions to offset LSEs' incentive to underschedule in the day-ahead market. Accordingly, we direct the CAISO to develop and file interim measures, no later than 180 days prior to the effective date of MRTU Release 1 to address the potential economic incentive for LSEs to underschedule in the day-ahead market until the successful implementation of convergence bidding has been achieved. Additionally, we direct the CAISO to file tariff language for our review for the implementation of convergence bidding within 12 months after the effective date of MRTU Release 1.

G. Inter Scheduling Coordinator Trades

453. Under MRTU, the CAISO continues to provide settlement services for Scheduling Coordinators that enter into bilateral transactions of energy and ancillary services at generation nodes and at aggregated pricing points within the CAISO Control Area (Inter-SC Trades).²¹⁰ The CAISO states that its proposal was approved in principle by the Commission in a June 2005 Order.²¹¹ The CAISO states that the seller's choice contracts must be settled through the Inter-SC Trade proposal in accordance with the seller's choice settlements.²¹² However, the CAISO explains that this settlement service is voluntary and parties to other bilateral contracts (existing or new) have the option to settle their contracts without using this mechanism.

²⁰⁹ See *supra* n. 202.

²¹⁰ The CAISO explains that the MRTU Inter-SC Trade proposal is integrally linked with the settlement of the seller's choice problems associated with certain bilateral energy contracts entered into by the State of California during the 2000-2001 energy crisis. These contracts have delivery provisions that could give the seller the choice of delivering power at any node within the CAISO's control area.

²¹¹ See *Cal. Indep. Sys. Operator Corp.*, 111 FERC ¶ 61,384 (2005) (June 2005 Order).

²¹² On June 10, 2005, the Commission approved settlements entered into by the parties to the seller's choice contracts. See *Cal. Ind. Sys. Operator Corp.*, 111 FERC ¶ 61,385 (2005); see also *Cal. Ind. Sys. Operator Corp.*, 111 FERC ¶ 61,386 (2005).

454. The CAISO states that the Inter-SC Trade provision is beneficial in settling other bilateral energy contracts because it provides: (1) a settlement service for the contractual delivery of energy and ancillary services; (2) a counter payment to offset the double-energy payment that occurs when scheduling bilateral contracts in the forward energy market;²¹³ and (3) a method for the allocation of congestion costs and marginal losses between the counter parties.²¹⁴

455. The CAISO states that the Inter-SC Trade settlement proposal contains two essential elements: (1) MRTU Tariff section 28.1.6 that sets forth a physical validation procedure for Inter-SC Trades at specific generation nodes; and (2) MRTU Tariff section 27.3 that creates EZ (Existing Zone) Gen Trading Hubs for each of the pre-existing congestion management zones, NP15, SP15 and ZP26.

456. Under MRTU Tariff section 28.1.6, Inter-SC Trade settlement services at generation nodes are subject to a physical validation procedure. Scheduling Coordinators must demonstrate (either directly or through an Inter-SC Trade with another Scheduling Coordinator) that their trade is supported by a transmission feasible generation resource scheduled at the same generation node at a level that is greater than or equal to the amount of the Inter-SC Trade. The CAISO asserts that, by limiting the settlement of Inter-SC Trades at generation nodes to trades that can be physically validated, it can ensure that the seller has scheduled resources at the generation node and that the seller's resources do not exceed the physical limitations of the grid at the delivery node. The CAISO states that, although Inter-SC Trades will not eliminate the accrual of congestion charges by buyers, the physical validation procedure reduces the congestion charges associated with Inter-SC Trades to a level commensurate with the actual congestion in the forward energy market.²¹⁵

457. Under MRTU Tariff section 28.1.6, Inter-SC Trades at trading hubs and LAPs are not subject to physical validation. The CAISO explains that the ability of parties to use

²¹³ The double-energy settlement arises because schedules resulting from bilateral contracts are settled in the CAISO's forward energy market and also settled by the parties according to the terms of the contract. As a result, the buyer pays twice and the seller is paid twice.

²¹⁴ Congestion costs are allocated according to the CAISO market prices at the location of the Inter-SC Trade and at the points where the counter parties schedule load and generation.

²¹⁵ The CAISO explains that this outcome is the result of limiting the settlement of seller's choice contracts at individual nodes to the physical capacity of the grid at those nodes. The CAISO also states that, because the CAISO will issue CRRs that reflect the physical capacity of the grid, it should be possible for buyers, including those under seller's choice contracts, to obtain sufficient CRRs to protect them financially from the congestion charges resulting from delivery under those contracts.

the Inter-SC Trade mechanism at trading hubs and LAPs without the need to provide physical validation is similar to the zonal Inter-Scheduling Coordinator Trade mechanism available under the current market design.²¹⁶

458. MRTU Tariff section 28.1.2 does not permit Inter-SC Trades at interties.²¹⁷ In support, the CAISO explains that bilateral deliveries at interties are easily settled without the use of Inter-SC Trade settlement services. The CAISO states that, unlike scheduling at a generator node (which can only be scheduled by the Scheduling Coordinator for that generator), any Scheduling Coordinator can schedule at an intertie, thereby making it unnecessary to provide Inter-SC Trade settlement services.²¹⁸

Discussion

1. Definition of Aggregated Pricing Node and Trading Hubs

459. California Energy Resources Scheduling Division of the California Department of Water Resources and Sempra Generation (CERS/Sempra) generally support the CAISO's proposal but seek clarification regarding two narrow issues concerning the proposed definitions of aggregated pricing nodes and trading hubs. CERS/Sempra state that the definition of aggregated pricing nodes is inconsistent with the conceptual Inter-SC Trade settlement proposal and may threaten the understanding reached by the parties in the seller's choice settlement agreements.²¹⁹ They assert that under MRTU the definition of aggregated pricing nodes has been expanded to include "any group of pricing nodes as defined by the CAISO."²²⁰ They argue that this expanded definition could be read to give the CAISO unbridled discretion to designate as few as two LMP nodes as aggregated pricing nodes, thereby exempting them from the physical validation procedure.

460. Also, CERS/Sempra request that the CAISO clarify the proposed definition of aggregated pricing nodes and/or trading hubs to explicitly state that EZ Gen Trading Hubs are exempt from the physical validation requirement.

²¹⁶ The current market design validates physical delivery only on a system-aggregated basis.

²¹⁷ Under MRTU, control area interties are referred to as Scheduling Points.

²¹⁸ CAISO Transmittal Letter, Attachment K: Casey Testimony at 97-98 (Casey Testimony).

²¹⁹ California Energy Resources Scheduling Division (CERS) and Sempra Generation are parties to seller's choice settlement agreements. CERS/Sempra emphasize that their settlement agreements are contingent upon no material modifications being made to the conceptual Inter-SC Trade proposal.

²²⁰ CERS/Sempra state that the previous definition was limited to a LAP or a trading hub.

461. The CAISO recognizes the validity of CERS/Sempra's concerns regarding the definition of aggregated pricing nodes; however, the CAISO states that rather than modify the definition of aggregated pricing nodes, its solution is to modify MRTU Tariff section 28.1.6.4 (Inter-SC Trades of Energy at Aggregated Pricing Nodes) to clarify that only those aggregated pricing nodes that also meet the definition of trading hubs or LAPs will be subject to this section. The CAISO states that this solution will clarify that only Inter-SC Trades at LAPs and trading hubs will be exempt from the physical validation procedure.

462. In response to CERS/Sempra's request to modify the definition of trading hubs, the CAISO agrees to modify the definition of trading hub to state that this term includes EZ Gen Trading Hubs and to do so in a compliance filing.

Commission Determination

463. Neither CERS nor Sempra have asserted that the CAISO's proposal to modify the definition of trading hub is not acceptable. Accordingly, we direct the CAISO to submit a compliance filing within 60 days of the date of this order that modifies the definition as proposed to address CERS/Sempra's concerns.

2. Inter-SC Trades at Interties

464. Western, Control Area Coalition and SMUD criticize the CAISO's proposal to settle bilateral transactions through the CAISO, rather than between the contracting parties. They contend that eliminating the concept of negotiated energy prices by requiring all energy transactions to pay the LAP destroys the bilateral contract and creates an opportunity for gaming and increases credit risks. They also contend that, because the CAISO is not providing Inter-SC Trade settlement services at interties, the CAISO Inter-SC Trade proposal discriminates against parties to wheel-through schedules.

465. NCPA, Cities/M-S-R and Turlock also argue that the CAISO should not prohibit Inter-SC Trade settlement services at interties. Protestors state that, by prohibiting settlement services for trades at interties, parties will either: (1) have to shift to a "contract for differences" model in which payment is made based on the difference between the LMP at the intertie and the contract price; or (2) adjust the delivery point to some point other than the control area boundary which will result in the seller being exposed to the congestion and marginal losses between the intertie and the point used for the Inter-SC Trade.

466. Turlock, SMUD and Western argue that, under (1) above, parties to an existing contractual arrangement will be forced to renegotiate or possibly litigate their contracts to reflect a different payment and compensation mechanism, and, under (2) above, either the

delivery point will have to be moved to a point inside the adjacent control area and the buyer will be required to import the energy into the CAISO to reach a broader market, thereby increasing transaction costs, or the delivery point will have to be moved to a point inside the CAISO Control Area at some point other than the intertie. Protestors state that either scenario devalues the bilateral contract market and creates higher prices. Turlock and SMUD argue that the CAISO's proposal to prohibit Inter-SC Trade settlement services at interties should be rejected or, in the alternative, an evidentiary hearing should be ordered to address this issue.

467. The CAISO reiterates that Inter-SC Trades at the interties are not necessary because bilateral deliveries at the interties can be easily settled without the use of an Inter-SC Trade mechanism. The CAISO states that, if a seller to a bilateral contract chooses to serve that contract through an import to the CAISO Control Area, both the buyer and seller will need to agree on the point of delivery. If the parties agree that the point of delivery is the intertie, the buyer will schedule the energy at the intertie and incur any congestion from that point to where the power is withdrawn in the CAISO Control Area. Alternatively, if the parties agree that the delivery point is a point within the CAISO Control Area, the seller will schedule the import at the intertie and both parties will do an Inter-SC Trade at the LAP. In this case, the seller will incur any congestion costs between the intertie and the LAP. Unlike a generator node, which can only be scheduled by the Scheduling Coordinator for that generator, any Scheduling Coordinator can schedule at an intertie. The CAISO contends that this difference makes it unnecessary to provide Inter-SC Trades at interties.

468. According to the CAISO, the exclusion of settlement services at interties was extensively discussed with market participants during the MRTU stakeholder process. The CAISO states that market participants, particularly importers, generally agreed that Inter-SC Trade settlement services at interties are not necessary.

Commission Determination

469. We find for the same reasons as set forth in the June 2005 Order on the conceptual Inter-SC Trade proposal that settlement services for Inter-SC Trades at interties are unnecessary. Whichever party to the trade – whether the buyer or the seller – has title to the energy at the border will be able to move the energy from the border to the sink and will effectively be charged for congestion and losses; there will be no issue of double payments to sellers or double charges to loads for which the CAISO's settlement services for Inter-SC Trades would be useful to resolve. In the June 2005 Order, the Commission accepted the CAISO's explanation that

[i]f the buyer agrees to pay potential congestion charges, there is no need for the counter-settlement process, since the buyer will schedule the import, be credited for its supply at the intertie price, and will be charged for its

load at the [LAP] price. [On the other hand,] if the seller agrees to pay potential congestion charges, the seller will schedule the import and then schedule an Inter-SC Trade with the buyer, which will be settled at the buyers' [LAP] price.²²¹

470. Protestors have not persuaded us otherwise. We also note that, under its current market design, the CAISO does not provide settlement services at interties. For these reasons, we accept the CAISO's Inter-SC Trade settlement proposal. Accordingly, we deny protestors' requests to reject the Inter-SC Trade proposal and the requests for an evidentiary hearing.²²²

3. Proposed Settlement and Billing Tariff Language

471. Turlock argues that CAISO's proposed Inter-SC Trade settlement and billing language in MRTU Tariff section 11.9.1 is vague and may lead to increased credit risks for market participants. According to Turlock, under the Inter-SC Trade settlement proposal, the seller is charged the LMP and the buyer is credited the LMP. Turlock states that, because most energy is bought and sold several times prior to consumption, the amounts outstanding on both sides of the ledger will increase, placing a Scheduling Coordinator at risk because its payments could be reduced due to another Scheduling Coordinator's failure to pay. Turlock states that the MRTU Tariff appears to address this problem by stating that "the respective settlement amounts between the two parties for each market shall net to zero." Turlock asserts that this language is misleading and may not alleviate the credit risks.

Commission Determination

472. We note that the CAISO's Inter-SC Trade settlement service provides a settlement service for the contractual delivery of energy, which would appear to eliminate the increased credit risks for Scheduling Coordinators identified by Turlock. However, while MRTU Tariff section 11.9.1 states that "the respective settlement amounts between the parties for each market shall net to zero," the rest of the tariff section appears to indicate that the settlement amounts may not net to zero. Accordingly, we direct the CAISO to submit a compliance filing within 60 days of the date of this order that clarifies this ambiguity in section 11.9.1.

²²¹ June 2005 Order, 111 FERC ¶ 61,384 at P 26, 31.

²²² Now that we have the MRTU Tariff before us, we dismiss as moot SMUD's request for rehearing, in Docket No. ER02-1656-027, of the Commission's June 2005 Order on the CAISO's conceptual filing.

4. Trading Hubs

473. Under MRTU, the CAISO will establish EZ Gen Trading Hubs. The EZ Gen Trading Hubs are delivery points for existing bilateral energy contracts that specify delivery based on the CAISO's current congestion management zones. The EZ Gen Trading Hubs correspond geographically to the existing internal congestion management zones (NP15, SP15 and ZP26). The CAISO states that the Commission, in its June 2005 Order, approved in principle the establishment of EZ Gen Trading Hubs.²²³

474. Pursuant to MRTU Tariff section 27.3, each EZ Gen Trading Hub is comprised of an aggregation of pricing nodes for generating units within a zone and represents the average price paid to generation based on the LMPs at generation nodes. The prices are weighted averages determined annually based on the previous year's seasonal MWh output of the generation units and are differentiated by peak and off-peak periods. The CAISO states that the specification of the seasons is identical to the seasons used in the annual CRR allocation. According to the CAISO, the annual calculation of EZ Gen Trading Hub weights will be performed in a timely manner and coordinated with the annual CRR allocation and auction processes. In addition, hub prices are produced for every hour of every day in both the day-ahead market and the HASP/real-time market.²²⁴

475. CERS generally supports the EZ Gen Trading Hub proposal but argues that: (1) it is improper to use a generating unit's prior year's generation to calculate the weights that will be applied to new generation or existing generation that experiences prolonged outages; (2) the proposal creates a lack of symmetry between EZ Gen Trading Hubs and LAPs where the price paid by load will be determined dynamically using a weighted average based on load scheduled in the CAISO's day-ahead market; and (3) the proposal increases the risk that suppliers with seller's choice contracts may seek arbitrage opportunities based on the difference between the EZ Gen Trading Hub price and the generation-node price.²²⁵

476. CERS states that, although the CAISO has suggested alternative methodologies for calculating EZ Gen Trading Hub prices, no quantitative analysis of the alternatives was presented by the CAISO. Although CERS acknowledges that the CAISO considered several criteria in selecting a weighted average approach for pricing at the EZ Gen Trading Hubs, it states that no stakeholder consensus has been reached regarding which of the proposed alternative methodologies best addressed the criteria. Therefore, CERS believes the CAISO should conduct further analysis of alternative methods for

²²³ Citing June 2005 Order, 111 FERC ¶ 61,384.

²²⁴ Casey Testimony at 101.

²²⁵ CERS explains that this risk would arise when a seller specifies delivery of contract energy at an EZ Gen Trading Hub with a lower price than the LMP at the injection bus of the seller's source of supply.

determining EZ Gen Trading Hub prices as part of the CAISO's ongoing efforts to refine the MRTU Tariff.

477. The CAISO states that it does not believe that further analysis of the EZ Gen Trading Hub pricing methodology is warranted. The CAISO acknowledges that, while a majority of stakeholders did not support any single option, many stakeholders indicated a strong preference for fixed weights in order to provide greater certainty in calculations. The CAISO states that its proposal is consistent with practices in the Eastern ISOs.²²⁶

Commission Determination

478. We accept the CAISO's EZ Gen Trading Hub calculation using a fixed weighted average as a reasonable compromise among the stakeholders. The CAISO describes in detail the extensive stakeholder process hosted by the CAISO prior to and after the CAISO's filing of its conceptual proposal.²²⁷ Witness Casey in his testimony identifies a number of stakeholder concerns regarding the implementation of a dynamic weighted-average approach, including its impact on: (1) CRR revenue adequacy; (2) convergence bidding scheduled for Release 1A; and (3) the stability of trading hubs over time.²²⁸

479. We are not persuaded by CERS' arguments regarding the CAISO's proposal to calculate EZ Gen Trading Hub prices on the basis of weighted-average prices assigned to generating units. We note that CERS are the only commenter to raise issues regarding the CAISO's EZ Gen Trading Hub proposal. We find that the CAISO's proposal is reasonable and that it is unnecessary for the CAISO to institute another round of stakeholder discussions on the issue of calculating EZ Gen Trading Hub prices.

H. Concerns Raised by Commenters on Seams Issues

480. Some commenters argue that the MRTU Tariff creates or exacerbates seams between neighboring control areas, which pose barriers to interregional commercial trade that limit competition and adversely affect reliability. The majority of the concerns focus upon the CAISO's adoption of an LMP-based market design with financial congestion rights. Other arguments raised as "seams" issues, and which are not unique to the CAISO's neighboring control areas, are addressed in the appropriate issue-specific sections of this order.²²⁹

²²⁶ According to the CAISO, PJM and the New England ISO use fixed weights in calculating their trading hub prices.

²²⁷ Casey Testimony at 102-104.

²²⁸ *Id.* at 105.

²²⁹ *See, e.g.*, sections addressing the day-ahead market, HASP and RUC.

481. Commenters add that a few CAISO scheduling and settlement timelines are not consistent with neighboring control areas, and that this creates a barrier to interregional trade.²³⁰ Some commenters also argue that the CAISO's approach is contrary to the reliability provisions and concerns expressed in EPAct 2005.²³¹ Commenters believe that the MRTU Tariff should either be rejected or substantially modified because the MRTU design is different from the wholesale tariffs administered by neighboring control areas.²³² Some suggest that the Commission defer consideration of the MRTU Tariff and establish a preliminary, Commission-sponsored technical conference to allow the CAISO and the parties to identify the seams issues that require resolution. Others request that the Commission suspend action on the MRTU Tariff until the CAISO makes a supplemental filing on seams or set the seams issues for hearing.

482. The CAISO states that it is and always has been committed to addressing the coordination of operational, scheduling and other issues with neighboring control areas through its active participation in WECC committees²³³ and participation in the Western Interconnection's Seams Steering Group (SSG-WI).²³⁴ The CAISO argues that the MRTU Tariff should not be rejected or altered because of the differences between the CAISO's MRTU proposal and the rules of neighboring control areas that have not implemented transparent, organized wholesale markets. The CAISO states that it has and

²³⁰ They point to the different timelines for the submission of bids and settlement. Specifically, they state that the submission of bids for the CAISO's day-ahead market by 10 a.m. and settlement at noon is not in synch with the earlier timelines in the western markets, where bids for firm power are submitted at 7 a.m., with the bilateral market clearing at 8 a.m., and bids for non-firm power are submitted at 8 a.m., with the bilateral market clearing at 10 a.m. They also protest the close of HASP 45 minutes before the operating hour.

²³¹ The Control Area Coalition states that EPAct 2005 provides for enhanced deference to proposed reliability standards developed by any Regional Reliability Organization that encompasses an entire interconnection. It contends that, by this, the U.S. Congress and the Commission have acknowledged that regional standards must address the unique characteristics and relationships within an entire interconnection. The Control Area Coalition contends that the CAISO has not investigated and resolved the design's impact on the rest of the interconnection, as required.

²³² BPA claims that MRTU also diverges from efforts in the Pacific Northwest.

²³³ The CAISO notes that it participates in the Interchange Scheduling and Accounting Subcommittee, the Operating Committee, and the Market Interface Committee where particular operational and coordination issues are discussed and proposed resolutions determined.

²³⁴ SSG-WI was a discussion forum to facilitate the creation of a seamless western market and to propose resolutions for issues associated with differences in regional practices and procedures. The forum recently dissolved due to lack of funding from its participants.

will continue to work to resolve seams issues by: (1) coordinating operational, scheduling and other issues with neighboring control areas through the CAISO's participation in the WECC; (2) complying with WECC and NERC reliability criteria; and (3) signing Interconnected Control Area Operating Agreements²³⁵ with neighboring control areas, including LADWP, SMUD, the Salt River Project, Turlock and Western (Desert Southwest Region). The Control Area Coalition contends that these agreements and the CAISO's participation in WECC are not a sufficient indication that the CAISO has worked closely with neighboring control areas to resolve seams issues. The Staging Coalition claims that the CAISO has never formally brought the MRTU design before a WECC committee, or other reliability forum, to discuss its impact on the Western Interconnection.

483. The CAISO points out that the need to coordinate its LMP-based market with non-LMP markets is not unique to California. The CAISO states that such seams issues have been successfully addressed by eastern ISOs and RTOs that have moved to LMP-based markets but border control areas without LMP. Imperial contends that the CAISO is situated differently from other ISOs/RTOs because it is a net importer of large amounts of energy. SMUD and the Staging Coalition add that, unlike the eastern and midwestern ISOs/RTOs that border other ISO/RTO LMP markets, the CAISO is surrounded by bilateral, physical rights markets.

484. The CAISO states that its 45-minutes before the hour timeline for issuing binding HASP instructions represents a substantial improvement over its previous market proposal, because it allows for the scheduling of imports and exports up until 75 minutes prior to the operating hour, which is an hour longer than currently possible (which is 135 minutes before real time). The CAISO is confident that the difference with neighboring control area timelines can be addressed through coordination. The CAISO adds that, although it has the flexibility to issue binding HASP instructions on a 45-minute timeline, it intends that most, if not all, HASP instructions will be issued by 60 minutes prior to the operating hour, consistent with the timeframe requested by Western.

Commission Determination

485. We agree that seams issues are critically important. First and foremost, we believe that the major seam issue facing the West is having a well-functioning California market

²³⁵ The purpose of these agreements is to coordinate operation and maintenance of applicable control area interconnections to satisfy NERC criteria and WECC Minimum Operating Reliability Criteria and Good Utility Practice. These agreements establish terms and conditions related to respective control area operational responsibilities, security coordination, scheduling and dispatch, outage coordination, emergency operation, and other matters related to the coordinated operations of neighboring control areas.

that does not repeat the problems of 2000-2001. As we indicate throughout this order, we find that the MRTU design accomplishes this goal.

486. Many commenters raise general fears that their costs will be increased, or that differing market rules may be burdensome. We recognize that the costs borne by parties under MRTU may be different than the ones they bear today. Unfortunately, we are not able to address commenters concerns because they have not enumerated the costs at issue. We note, however, that possible changes in costs are an unavoidable result of implementing any market redesign. Commenters also do not provide specifics regarding the possible burden that may result from differing market rules; therefore, we are also unable to evaluate these arguments. However, contrary to the general arguments made, we believe that the implementation of MRTU will actually lessen certain of the existing seams issues (such as differences in scheduling times).²³⁶ However, we agree with parties that it is important to remain vigilant in coordinating on seams issues and direct the CAISO, with the assistance of parties in the West, to continue working towards addressing any seams issues as they develop. While MRTU presents a different way of using the electric grid, we find that the economic and reliability gains associated with the implementation of the CAISO's MRTU proposal are necessary and will benefit the western grid as a whole, even though other western entities conduct operations in a different manner. Therefore, we deny the requests to reject or defer action on this filing. We also find that there are no issues of material fact that necessitate an evidentiary hearing.

487. Regarding concerns about the CAISO's adoption of an LMP-based market design with financial congestion rights, we note that the CAISO's current market design employs financial transmission rights (FTRs) to manage congestion between its existing pricing zones. Thus, the MRTU Tariff does not represent a proposal to move from a physical rights to financial right model, but rather represents a further modification of an existing financial rights model. Furthermore, eastern RTOs that have moved to LMP-based markets but border control areas without such markets have successfully addressed the seams between them, and we are confident that these issues are not insurmountable.

488. We also disagree with the assertion that the CAISO has not taken into account MRTU's impact on the reliability of the Western Interconnection. The CAISO states that it will continue to comply with WECC's regional reliability standards and NERC's reliability standards. Furthermore, the CAISO has entered into Interconnected Control Area Operating Agreements with neighboring control areas to coordinate the operation and maintenance of applicable control area interconnections to satisfy NERC criteria and WECC Minimum Operating Reliability Criteria and Good Utility Practice. Through

²³⁶ One such example is the CAISO's proposed decrease in the amount of time for issuing binding HASP instructions from 75 minutes to 45 minutes before the operating hour.

these actions, the CAISO has demonstrated that it is taking regional reliability into consideration.

489. Our action herein is rooted in our belief that the MRTU proposal will not adversely affect the nature of commercial practices and relationships currently in place in the CAISO markets and in the West. While certain new mechanisms and market rules will be introduced and implemented in the CAISO markets under the MRTU proposal, we believe existing commercial practices can be accommodated within the MRTU framework.

490. Fundamentally, we note that it is important to resolve any seams issues that will hinder the reliable, competitive functioning of the markets in the West. It is also incumbent on both the CAISO and other western control areas to resolve these issues together. No one entity can be responsible for inter-agency coordination. Therefore, we direct Commission staff to convene a technical conference to assist the CAISO and parties outside the CAISO Control Area to identify seams issues that require resolution. We also direct the CAISO and neighboring control areas to meet as needed to resolve seams between them.²³⁷ We further direct the CAISO and neighboring control areas to *jointly* report on the progress of these efforts in quarterly status reports filed with the Commission within 30 days of the end of each calendar quarter.

I. Cost Recovery and Allocation Issues

491. In section 11.8 of the MRTU Tariff, the CAISO proposes to implement a bid cost recovery mechanism to ensure that resources committed by the CAISO in the day-ahead market, RUC process, and real-time market are able to recover their start-up costs, minimum load costs, and energy and ancillary services bid costs to the extent market revenues are not sufficient to cover such costs. Bid cost recovery is specifically tailored to market participants that have a limited ability to respond to the CAISO's

²³⁷ With respect to the assertion that the CAISO's lack of long-term firm service complicates the development of long-term supply arrangements across the CAISO Control Area boundary, we note that the Commission directed the CAISO to comply with the Long-Term Firm Transmission Rights Final Rule, which should resolve this concern.

instructions.²³⁸ Bid cost recovery is also necessary for units that have high start-up and minimum load costs.²³⁹

492. The CAISO proposes to calculate the bid cost recovery payment by netting any market revenues received by the resource over a 24-hour period against any unrecovered costs in any interval. The CAISO further states that a bid cost recovery over a 24-hour netting period is warranted because the optimization horizon is continuously shifting from one hour to the next. The CAISO contends that its 24-hour netting proposal is consistent with the practices in other ISOs.

493. The CAISO states that under certain conditions, all internal generators, participating loads, and System Resources are eligible for bid cost recovery. The CAISO explains that internal generators and participating loads are eligible for recovery of their energy, ancillary services, and RUC bids, as well as minimum load and start-up costs. The CAISO states that System Resources are eligible for bid cost recovery for their energy bids to the extent their market revenues over the trading day are insufficient to recover such costs.²⁴⁰

494. The CAISO further states that in order to determine whether eligible resources will receive a bid cost recovery payment, the CAISO compares the bid costs and the market revenues of each eligible resource in each CAISO market for each settlement interval.

²³⁸ For example, consider a constrained output generator (COG) who has a minimum run time of five hours, and receives a dispatch instruction to provide energy for three hours. While in certain circumstances, the LMP may be sufficient to allow the unit to recover its costs in the three hours it was dispatched by the CAISO, the LMP may also be too low to allow the unit to recover costs for the remaining two hours that it must operate. Since the unit must run for five hours at a minimum, it must receive a “make whole” payment for the two extra hours it must operate.

²³⁹ Suppose the CAISO issues dispatch instructions to a generator which has start-up costs of \$5,000, minimum load costs of \$10,000 and an energy bid of \$50/MWh, and requests that it operate at 100 MW for three hours at an LMP of \$55/MWh. The unit only operates those three hours in the 24-hour period and would hence, for the day, have received revenue below its total costs. Total costs are the sum of start-up, minimum load and energy bid; $\$5,000 + \$10,000 + (\$50/\text{MWh} \times 100 \text{ MWh}) = \$20,000$ and revenue is the product of LMP and generation; $\$55/\text{MWh} \times (100 \text{ MWh}) = \$5,500$. Revenue falls short of cost for the day by \$14,500 ($\$20,000 - \$5,500$); the deficiency of -\$14,500 would then be recovered through the bid cost recovery mechanism, to make the generator “whole” for the day.

²⁴⁰ The CAISO explains that “only those System Resources that are representative of actual physical external resources are eligible to submit Start-Up and Minimum Load bids, and all other System Resources must submit zero-bids for start-up and minimum loads.” See CAISO Transmittal Letter at 57.

The CAISO explains that it applies a separate formula for each CAISO market to calculate the bid costs and market revenues. The CAISO states that the bid cost recovery is determined over the operating day by netting all revenues and eligible costs for that resource across the day-ahead, RUC, and real-time market, excluding revenues from self-scheduled energy and self-provided ancillary services. The CAISO explains that, for purposes of allocating bid costs, the positive and negative revenues established for each resource is netted across each settlement interval separately in each market.²⁴¹

495. The CAISO adds that if a resource is providing energy pursuant to a self-schedule, or self-provided ancillary services, then the resource is not eligible to receive bid cost recovery for its start-up and minimum load costs during such intervals for those transactions. The CAISO explains that it is not equitable to allocate charges to market participants relating to the start-up and minimum load costs for resources when those costs are recovered through bilateral transactions and already allocated to the counterparties to such contracts.

496. Further, for resources whose uninstructed deviations exceeded a tolerance band, the CAISO proposes to withhold bid cost recovery payments despite the Commission's prior rejection of this proposal under the CAISO's current market design.²⁴²

497. The CAISO states that it will apply generally accepted cost causation principles in allocating all costs incurred to ensure recovery of bid costs. The CAISO explains that, after offsetting calculated costs with revenues obtained across all markets across the day, the CAISO will determine the remaining uplift for each settlement interval for the day-ahead, RUC and the real-time market.²⁴³

498. The CAISO further states that any uplift resulting from paying for bid cost recovery in the day-ahead market is allocated in two tiers. The CAISO explains that in the first tier, this uplift is allocated to Scheduling Coordinators in proportion to their IFM

²⁴¹ The CAISO also states that, in order to ensure that uplift charges allocated to market participants are not greater than the amount actually paid to suppliers, the CAISO will set negative uplifts in each settlement interval for each market to \$0 and positive uplifts will be reduced accordingly. According to the CAISO, these rules are explained in proposed MRTU Tariff section 11.8.2.

²⁴² The CAISO cites to *Cal. Indep. Sys. Operator Corp.*, 111 FERC ¶ 61,342 (2005).

²⁴³ According to the CAISO, the rules for calculating these uplifts are explained in proposed MRTU Tariff section 11.8.6.

Load Uplift Obligation.²⁴⁴ According to the CAISO, that rate is capped to reflect the amount of bid cost recovery paid per MWh of energy that cleared the day-ahead market for the trading hour. The CAISO states that any remaining uplift is allocated in the second tier to Scheduling Coordinators in proportion to the energy they used (their metered CAISO demand) and the energy they exported.

499. The CAISO states that the RUC uplift costs are also allocated in two tiers. The CAISO explains that in the first tier, costs associated with the RUC process will be borne by Scheduling Coordinators whose metered CAISO demand was not fully scheduled in the day-ahead market. The CAISO indicates that this first tier rate is capped to reflect the amount of RUC bid cost recovery paid per MWh of the RUC energy committed for the trading hour. The CAISO states that in the second tier, any excess of RUC costs not recovered in this manner will be allocated, *pro rata*, to all measured demand.

Discussion

1. Netting

500. BPA argues that the bid cost recovery plan outlined in the MRTU Tariff would create price volatility within the hour and has the possibility to “offset or cancel out bid cost recovery during other intervals during the same hour when the market clearing price (MCP) was above the bid price.”²⁴⁵ BPA states that the CAISO should modify the bid cost recovery mechanism to allow for recovery at each settlement interval in which a bid is dispatched out of merit order and the MCP is below the bid prices, without offsets or netting from other hours or intervals, or other markets.

501. WPTF/IEP, Powerex, and Constellation/Mirant argue that bid cost recovery should take place hourly in order to properly account for minimum load and start-up costs. Specifically, WPTF/IEP, Powerex and Constellation/Mirant argue that 24-hour netting is damaging to critical reliability units and will adversely affect a resource’s ability to recover revenue to cover costs beyond its short-run marginal costs, and moreover is inconsistent with prior findings by the Commission regarding recovery of minimum load costs and start-up costs for must-offer resources.²⁴⁶ Constellation/Mirant

²⁴⁴ MRTU Tariff section 11.8.6.4 (i) defines the IFM Load Uplift Obligation as “the differences between [a Scheduling Coordinator’s] total demand scheduled in the day-ahead schedule and the scheduled generation from the self-schedules in the day-ahead schedule, plus imports scheduled in the day-ahead schedule.”

²⁴⁵ BPA Reply Comments at 2.

²⁴⁶ In their reply comments, Constellation/Mirant cite *San Diego Gas and Electric Co.*, 99 FERC ¶ 61,159, at 61,641 (2002) (denying “net of market revenues” mechanism as an impermissibly compromising a generators ability to recover fixed costs); *San Diego Gas and Electric Co.*, 101 FERC ¶ 61,112, at P 12 (2002) (approving compliance filing

argue that system operators tend to dispatch more expensive reliability units in certain hours where they are out of economic merit order when 24-hour netting is used. Constellation/Mirant argue that system operators have employed this practice because they knew that the difference between the unit's bid and the LMP would be paid out of the unit's daily profits rather than through the market. WPTF/IEP, Powerex, and Constellation/Mirant believe the CAISO's proposal will result in improper market signals.

502. The CAISO disagrees with WPTF/IEP, Powerex and Constellation/Mirant's analysis of the bid cost recovery proposal. The CAISO states that there is a fundamental difference between bid cost recovery as proposed in the MRTU Tariff and the cost recovery mechanisms for units that are under the Commission's must offer obligation. The CAISO explains that under its proposal, a resource is eligible to recover its start-up, minimum load, and bid costs for resources committed by the CAISO. The CAISO states that it would be inappropriate for RA resources to recover fixed costs through the bid cost recovery mechanism because fixed costs for RA units are recovered through applicable contracts. Finally, the CAISO explains that other ISOs have implemented cost compensation mechanisms, similar to the CAISO's proposed bid cost recovery mechanism, that also employ a 24-hour netting approach.

503. In its reply comments, SoCal Edison states that WPTF/IEP are incorrect in their conclusions regarding bid cost recovery. SoCal Edison argues that the prior Commission determinations cited by WPTF/IEP are not applicable to bid cost recovery. SoCal Edison explains that bid cost recovery is intended to allow resources selected to operate based on their submitted bids to be able to cover their short-run marginal costs over a period of time, and is not intended to provide fixed cost recovery. SoCal Edison requests that the Commission reject WPTF/IEP's proposal for bid cost recovery.

Commission Determination

504. We disagree with BPA, WPTF/IEP, Powerex, and Constellation/Mirant. The 24-hour netting approach proposed by the CAISO is consistent with other ISOs' practice of netting uplift payments²⁴⁷ and provides a reasonable mechanism for cost recovery. We accept the netting provisions proposed in the MRTU Tariff.

that ensures that units running at minimum load receive Minimum Load Cost Compensation); and *San Diego Gas and Electric Co.*, 111 FERC ¶ 61,207, at P 24 (2005) (rejecting CAISO's "double payment" argument).

²⁴⁷See Midwest ISO Open Access Transmission Tariff (OATT), sections 39.2.9(f), 40.2.13; New England ISO OATT, section 3, Market Rule 1, Appendix F, sections III.F.2.1.4, III.F.2.1.14.

2. Non-Dynamic System Resources

505. SoCal Edison argues that certain proposed sections²⁴⁸ of the MRTU Tariff are unworkable, and subject to gaming. SoCal Edison contends that the CAISO has no means to verify the accuracy and validity of any “cost-based” data submitted by non-dynamic System Resources.²⁴⁹ SoCal Edison requests that the CAISO remove the entire categories of “non-dynamic System Resources,” “non-dynamic resource-specific System Resources” and “dynamic resource specific System Resources” from the MRTU Tariff along with all associated definitions and usages, including those found in sections 30.5.2.4, 30.5.2.6, 30.5.2.6.2, 30.5.2.6.3, 34.9.1, 34.11.2, 34.15.1. In the alternative, SoCal Edison argues that these resources should not be eligible for bid cost recovery until the CAISO has accurate data on the actual performance of the units associated with the sales, including oversight of cost-based data submitted by these resources.

506. The CAISO states that it agrees with SoCal Edison that adequate data is crucial to verifying that non-dynamic resource-specific System Resources²⁵⁰ meet the bid cost recovery performance eligibility requirements set forth in the MRTU Tariff. To this extent, the CAISO agrees to revise the bid cost recovery provisions to add a requirement that “any non-dynamic resource-specific System Resources that wish to be eligible to recover their start-up and minimum load costs under bid cost recovery must submit revenue-quality meter data to the CAISO demonstrating that they have performed in accordance with their CAISO commitments.”²⁵¹ The CAISO states that having interchange schedules and meter data will allow the CAISO to verify whether units have met the bid cost recovery performance eligibility requirements necessary to recover start-up and minimum load costs.

507. Powerex disagrees with SoCal Edison’s claim that the CAISO has no means of verifying eligibility for bid-cost recovery. Powerex states that SoCal Edison does not provide an ample explanation as to why the CAISO cannot administer bid production cost payments for external resources. Powerex states that the Commission has already ruled that external resources cannot be barred from receiving bid cost recovery payments.²⁵² Accordingly, Powerex urges the Commission to rule that generators

²⁴⁸ SoCal Edison cites sections 30.5.2.4, 30.5.2.6, 30.5.2.6.2, 30.5.2.6.3, 34.9.1, 34.11.2 and 34.15.1.

²⁴⁹ A non-dynamic System Resource can generally be described as a resource located outside the CAISO Control Area that is not able to respond to real-time dispatch instructions.

²⁵⁰ Non-dynamic resource-specific System Resource is a resource that is physically connected to an actual generation resource outside the CAISO Control Area.

²⁵¹ CAISO Reply Comments at 176.

²⁵² Powerex Reply Comments at 13. Powerex cites to *New York Indep. Sys. Operator, Inc.*, 92 FERC ¶ 61,073 (2000), in which the Commission addressed claims by

external to the CAISO's Control Area are eligible for recovery of their bid costs. Powerex also seeks clarifications regarding section 30.5.2.4 and the submission of NERC tags when System Resources submit a bid to the CAISO. Powerex requests that these provisions be deleted from the MRTU Tariff.

508. The CAISO states that Powerex is correct with respect to the submission of NERC tags for bids. The CAISO clarifies that NERC tagging does not apply to bids, and agrees to modify section 30 to remove references to submitting NERC tags with bids.

Commission Determination

509. SoCal Edison highlights a reasonable concern regarding non-dynamic external resources. We agree that the ability to verify the bid cost data submitted by external resources plays a crucial role in deterring market manipulation and gaming. We find that the CAISO's proposal to require external resources to provide revenue-quality meter data to the CAISO, demonstrating that they have performed in accordance with their CAISO commitments, is reasonable. Market participants located within the CAISO Control Area are closely monitored to assure unit specific performance; it is prudent to apply similar rules to external resources.

510. We accept the CAISO's response regarding NERC tagging in section 30. We direct the CAISO to revise the MRTU Tariff to reflect its proposed changes regarding NERC tagging section 30 in a compliance filing to be submitted within 60 days of the date of this order.

3. Tolerance Band

511. SoCal Edison contends that section 11.8.2.1 involving day-ahead market bid cost recovery penalties should be rescinded in part. SoCal Edison states that the MRTU Tariff proposes an overly punitive penalty that will set the bid cost recovery to zero if units perform outside of their schedules and CAISO instructions beyond a tolerance band. SoCal Edison argues that the tariff should be modified in a manner that limits the maximum penalty in any interval to the amount of recovery that would have been paid in that interval, but-for the excessive deviation. SoCal Edison argues that this penalty should be revised for sections 11.8.3.1, 11.8.3.1.2., 11.8.4.1 and 11.8.4.1.2.

512. The CAISO acknowledges SoCal Edison's concern regarding penalty provisions for deviations outside of the tolerance band, and proposes a compromise solution for section 11.8. The CAISO states, that it will amend the MRTU Tariff to rescind energy

a transmission owner that the New York ISO should not pay Bid Production Cost Guarantees, which, as Powerex argues, correspond to the CAISO's proposed Bid-Cost Recovery Guarantees to external generators.

bid cost recovery in the day-ahead and real-time markets. The CAISO states that it will not rescind fixed-cost recovery for start-up and minimum load costs in the day-ahead, RUC and real-time market, and will not rescind the RUC availability bid.

513. WPTF/IEP argue that the Commission should reject the CAISO's proposal to condition bid cost recovery on performance within the tolerance band. WPTF/IEP state that the Commission has already concluded that cost recovery cannot be predicated on performance within a tolerance band.²⁵³ WPTF/IEP contend that uninstructed deviation penalties and market behavior rules are a sufficient deterrent to deviations outside the tolerance band. WPTF/IEP argue that the CAISO must first seek authority to impose financial settlement of uninstructed deviation penalties before seeking authority to condition bid cost recovery on performance within the tolerance band.

514. In its reply comments, the CAISO concedes that the Commission has previously rejected the CAISO's pre-MRTU proposal to eliminate bid cost recovery payments for resources operating outside a tolerance band.²⁵⁴ However, the CAISO argues that without the tolerance band, units operating pursuant to a bilateral contract will have an incentive to wait to be committed by the CAISO and then engage in uninstructed deviations to meet their bilateral obligations and receive a bid cost recovery payment from the CAISO. The CAISO states that this will place units that declare contractual obligations *via* a self-schedule at a distinct disadvantage. The CAISO argues that, with the exception of self-schedules, it has no way of knowing whether a unit is operating pursuant to a bilateral contract obligation.²⁵⁵

515. Moreover, the CAISO clarifies that under the MRTU Tariff, direct telemetry will be used to dispatch resources in real time based on where the resource is actually operating. The CAISO states, "that this is a fundamental difference as compared to the current design, in which dispatch is based on the CAISO's prior dispatch, regardless of the resource's actual operating level." The CAISO states that the tolerance band plays a crucial role in deterring market participants from violating dispatch instructions. The CAISO explains that, under the MRTU Tariff, resources could continuously ignore dispatch instructions and operate at a level in which the resource's bid is greater than the LMP. The CAISO contends that resources may attempt to receive bid cost recovery payments even though they are not following dispatch instructions. The CAISO states that this would result in outcomes contrary to the intended goal of the bid cost recovery mechanism, and states that it is essential to maintain a mechanism to dissuade resources from purposely deviating from dispatch instructions in order to obtain bid cost recovery.

²⁵³ WPTF/IEP cite to *Cal. Indep. Sys. Operator Corp.*, 108 FERC ¶ 61,141 (2005); *Cal. Indep. Sys. Operator Corp.*, 108 FERC ¶ 61,142 (2005).

²⁵⁴ The CAISO cites to *Cal. Indep. Sys. Operator Corp.*, 111 FERC ¶ 61,342.

²⁵⁵ Rahimi Testimony at 202-203.

Commission Determination

516. We agree with SoCal Edison and WPTF/IEP that the current bid cost recovery penalties for deviation outside of the tolerance band are improper. However, we do not agree fully with the CAISO's proposed solution. We do not believe the CAISO's response adequately addresses concerns regarding the appropriate determination of bid cost recovery payments. Resources that fall short of day-ahead dispatch instructions should only be guaranteed the recovery of costs associated with the energy actually provided, and should not receive payments for deviations from dispatch instructions. When a resource's energy bid exceeds the LMP, it is not appropriate to provide an uplift payment to cover the revenue gap for energy that is not actually produced when instructed. However, a resource that starts up and provides more energy than is instructed by the CAISO should retain the original recovery calculated by the CAISO in the day-ahead market, since the spot market would be receiving the full amount of energy (and more) that it agreed to pay for in the day-ahead market. However, the resource should not be eligible for any additional bid cost recovery associated with its additional, uninstructed output. Thus, the resource is paid only for scheduled energy, and is not paid for any energy in excess of its schedule. Units that are committed in the day-ahead market, and do not start-up, should not receive any bid cost recovery payments. We direct the CAISO to revise the MRTU Tariff accordingly in a compliance filing to be submitted within 60 days of the date of this order.

4. Potential for RMR Double Recovery

517. SoCal Edison states that the MRTU Tariff is vague with respect to payment for RMR start-up costs. SoCal Edison argues that the MRTU Tariff appears to allow RMR units started by the market, and not identified by the CAISO as needed for reliability, to receive bid-cost recovery. SoCal Edison indicates that, if the RMR unit is started for reliability needs, the unit is paid for the startup under the RMR contract. SoCal Edison is concerned that RMR units may be eligible for double recovery of start-up costs and requests that the CAISO clarify that RMR units are paid for start-up costs once.

Commission Determination

518. We disagree with SoCal Edison's concerns regarding RMR units and the potential for double recovery of start-up and minimum load costs under the proposed bid cost recovery mechanism. Section 11.8.2.1.1 (b) of the MRTU Tariff states that RMR units pre-dispatched through an RMR contract will not be eligible to recover day-ahead start-up costs. Such units recover their start-up and minimum load costs through their RMR contract, and therefore should not be eligible for bid cost recovery.

5. The Uplift Payment for Bid Cost Recovery in the Day-Ahead Market

519. SoCal Edison argues that the calculation for uplift costs to Scheduling Coordinators under section 11.8.6.4(i) requires clarification and correction. The CAISO agrees that such clarification is necessary, and agrees to correct the calculation. The CAISO states that a more appropriate calculation is based on the actions of each individual Scheduling Coordinator.

520. Modesto notes that the second tier of the uplift resulting from the day-ahead market is allocated to Scheduling Coordinators in proportion to their metered CAISO demand plus real-time interchange export schedules (i.e., measured demand) pursuant to MRTU Tariff section 11.8.6.4. Modesto states that there is also an uplift charge for RUC, which is allocated, *pro rata*, to all measured demand pursuant to MRTU Tariff sections 11.8.6.5 and 11.8.6.6. In analyzing whether these charges are just and reasonable, Modesto states that the Commission should determine whether the CAISO is adhering to its role as independent operator of a non-discriminatory grid, and not straying from that role by becoming a de facto command-and-control operator of a tight power pool.

Commission Determination

521. We direct the CAISO to include the correction to the calculation in section 11.8.6.4(i) in a compliance filing to be submitted within 60 days of the date of this order.

522. We, however, disagree with Modesto's position. The second tier cost allocations Modesto referred to are socialized because the charges can be caused by the actions of the CAISO to ensure reliability for the benefit of the CAISO-controlled grid. Thus, socialization of these costs is acceptable.

6. Requests for Clarification on Bid Cost Recovery and MSS

523. SoCal Edison states that in section 4.9.13.2, it is unclear whether bid cost recovery would apply to the entire amount of the MSS generation, or just the part that is dispatched by the CAISO. SoCal Edison argues that it would be inappropriate to allocate bid cost recovery to generation used to follow MSS load. SoCal Edison requests that this section be modified in order to ensure that bid cost recovery is provided only for generation provided to the CAISO markets and not generation used to follow the load of the MSS. In addition, SoCal Edison argues that any uplift charges generated by a load-following MSS should be allocated to load-following MSSs. SoCal Edison states that it is unreasonable for their customers to pay uplift costs associated with MSS load. SoCal Edison further requests clarification for section 30.4 regarding the default option for start-

up and minimum load costs under a cost or bid-based option when an eligible entity does not specify which option they would like.

524. The CAISO concurs with SoCal Edison's comments regarding the application of bid cost recovery to MSSs. The CAISO agrees to modify the MRTU Tariff in order to clarify that bid cost recovery for an MSS that elects the load-following option is only for generation provided to CAISO markets and is not available for the generation that is used by an MSS to follow its own load.

525. However, the CAISO disagrees with SoCal Edison's argument that uplift charges generated by a load-following MSS should be allocated to load-following MSSs, rather than the market at large. The CAISO argues that if the CAISO agreed to make this change, it would also have to exempt load-following MSSs from uplift charges that are allocated on a system-wide basis, such as Tier 2 bid cost recovery charges. The CAISO states that change proposed by SoCal Edison would be cumbersome, and provide little benefit.

526. The CAISO responds to SoCal Edison's concerns regarding section 30.4 by stating that, unless the Scheduling Coordinator has submitted bid-based start-up and minimum load costs, they are subject to the cost-based option. The CAISO explains that in the event a unit does not provide sufficient data for the CAISO to determine its cost, the CAISO will assume that the unit's start-up and minimum load costs are zero.

Commission Determination

527. We direct the CAISO to modify the MRTU Tariff to provide that bid cost recovery for a load-following MSS is only for generation provided to the CAISO markets. We direct the CAISO to make the proposed change in a compliance filing to be submitted within 60 days of the date of this order. Regarding the socialization of uplift charges generated by a load-following MSS, we find that modifications to this section are not necessary. Furthermore, we direct the CAISO to incorporate the clarification regarding section 30.4 in a compliance filing within 60 days after the date of this order.

7. Ambiguity of Certain Definitions

528. WPTF/IEP and the State Water Project raise several concerns regarding definitions found within section 11 as they pertain to bid cost recovery and argue that these issues should be clarified prior to the implementation of the MRTU Tariff. The State Water Project further states that the definitions of settlement interval, settlement period, and trading interval are duplicative and/or contradictory.

529. The CAISO agrees that certain provisions highlighted by WPTF/IEP are vague and agrees to review the bid cost recovery provisions in the MRTU Tariff in order to

ensure greater consistency between definitions. The CAISO also agrees to modify section 11.8 to ensure that resources that are committed by the CAISO are eligible for bid cost recovery even though the resource is synchronized to the grid and is operating at a level lower than its established minimum operating level during starting up or shutting down. The CAISO disagrees with the State Water Project's assessment of the terms settlement interval, settlement period, and trading interval. The CAISO states that while there is overlap between the terms settlement period and trading interval, it fails to see how the terms are contradictory or duplicative. Furthermore, the CAISO states that the State Water Project's contention that the CAISO has not identified the actual time frame associated with the settlement interval is incorrect. The CAISO explains that it has used 10-minute settlement intervals since October 2004. The CAISO states that it does not believe it is necessary to modify the definitions for these terms.

Commission Determination

530. We direct the CAISO to revise definitions in section 11. We believe that this section is in need of significant work in order to assure that definitions are clear, and that the section describes accurately how the bid cost recovery mechanism will operate. We believe that there are numerous terms which need clarification, including: Bid Cost, Unrecovered Bid Cost Uplift, Minimum Up Time, Commitment Intervals, and Final Real-Time Market Self-Commitment Period. The CAISO is directed to revise these definitions in a compliance filing to be submitted within 60 days of the date of this order. We do not, however, believe the definitions of Settlement Interval, Settlement Period and Trading Interval are duplicative or contradictory. The State Water Project has not adequately supported its argument.

8. Recovery of Start-up Costs

531. SoCal Edison argues that section 11.8.2.1.1 of the MRTU Tariff is problematic because it does not fully consider units which have run-times that exceed 24 hours. SoCal Edison requests that the MRTU Tariff be modified to divide the start-up costs by the total run-time of the unit even if the run-time exceeds 24 hours. SoCal Edison argues that, absent this modification, uplift costs to market participants could be artificially inflated.

532. The CAISO agrees that the MRTU Tariff does not sufficiently address units with run-times greater than 24 hours. However, the CAISO states that the necessary changes for units that run longer than 24 hours would be too difficult to implement in MRTU Release 1. The CAISO has agreed to consider the issue for inclusion in Release 2.

Commission Determination

533. We find merit in SoCal Edison's concerns and direct the CAISO to more fully consider the bid cost recovery for units with a run-time greater than 24 hours. We direct the CAISO to develop and file with the Commission a plan for units facing these types of constraints for implementation no later than MRTU Release 2.

9. Allocation of Peak Load Reliability Costs

534. The State Water Project argues that costs associated with energy purchases made by the CAISO for reliability purposes should be allocated to peak loads because those costs are incurred to meet peak load. According to the State Water Project, this is common practice in other RTOs/ISOs.

535. The CAISO disagrees with the State Water Project's request. The CAISO explains that a unit's bid costs are currently netted over a 24-hour period against their market revenues in order to determine a supplier's eligibility to recover its costs. The CAISO states that the State Water Project's request would not further the goal of cost causation.

536. Six Cities also disagree with the State Water Project's proposal to assign peak load reliability costs on the basis of peak load. Six Cities state that minimum load costs can occur at anytime, peak or non-peak, and therefore should not be allocated to peak load.²⁵⁶ Six Cities explain that, although the Amendment No. 60 proceeding²⁵⁷ suggests that the need to commit must-offer resources may reflect primarily on-peak loads, it does not necessarily follow that all prospective minimum load costs will be incurred due exclusively to peak loads. Six Cities contend that the CAISO's approach to allocating minimum load and start-up costs to peak or non-peak depending upon when they are incurred is just and reasonable, and more equitable, than attempting to determine when costs incurred during off-peak hours are for the purpose of serving the next day's peak load.

537. The State Water Project further argues that section 11.8.6.6 of the MRTU Tariff proposes to socialize real-time bid cost recovery without regard to the fact that these costs are attributed to load whose schedules are not in balance. The State Water Project argues that real-time bid cost recovery should be allocated in the same manner as day-ahead bid cost recovery. The State Water Project also argues that costs incurred to meet the needs of identified geographic areas should be allocated to load in those areas.

²⁵⁶ Six Cities cite to *Cal. Indep. Sys. Operator Corp.*, 113 FERC ¶ 63,017, at P 103 (2005).

²⁵⁷ See Docket No. ER04-835, *et al.*

Commission Determination

538. We find that the netting approach included in the MRTU Tariff appropriately accounts for the cost allocation of peak load costs, and does not require modification. Contrary to the State Water Project's contention, the cost causation principles are not violated by allocating costs incurred to meet peak load to all load because the CAISO incurs these costs in order to operate the grid in a reliable fashion and does so for the benefit of all market participants.

539. We, however, agree with the concerns raised by the State Water Project with respect to the socialization of real-time bid cost recovery costs. The CAISO has not justified the socialized allocation of real-time uplift costs. The State Water Project's recommendation to allocate real-time bid cost recovery costs in a two tier method similar to the day-ahead is reasonable. We direct the CAISO to modify the tariff accordingly in a compliance filing to be submitted within 60 days of the date of this order.

III. Supply Issues

A. Constrained Output Generators

540. A COG is a generating unit that, due to its operational characteristics, can only be dispatched in one of two states: either turned off, or turned on and run at a fixed capacity level. It is constrained because it cannot operate at any intermediate operating level. The operational characteristics of a COG present a challenge for the CAISO because in its security constrained unit commitment optimization, prices are set only by flexible resources, i.e., those that can be incrementally adjusted up or down for optimum unit commitment and dispatch.

541. The CAISO states that at an earlier stage of MRTU development, in a July 2003 filing, it had argued against allowing a COG to set the energy price in the forward markets. However, as the CAISO explains, the Commission rejected that approach, pointing out that each of the eastern ISOs had developed mechanisms that allowed non-dispatchable units, e.g., COGs, to set the clearing price in the day-ahead market.²⁵⁸ The Commission directed the CAISO to review its approach to setting prices in the forward market and develop a pricing mechanism for COGs that is consistent with its approach to real-time pricing (i.e., a COG can set the market-clearing price for those dispatch intervals in which any portion of its output is needed to serve real-time load) and promotes the convergence of prices in the forward and real-time markets.

542. The CAISO explains that, after considering stakeholder input, it developed a COG proposal that allowed COGs to set the prices in the forward markets. That proposal,

²⁵⁸ *Cal. Indep. Sys. Operator Corp.*, 105 FERC ¶ 61,091, at P 89 (2003).

which the Commission approved in the June 2004 Order,²⁵⁹ treated COGs in the day-ahead market as constrained in the pre-IFM runs, and as flexible in the IFM optimization process (described further below). The CAISO states that additional stakeholder discussions since the June 2004 Order have revealed the potential for an inappropriate outcome when a COG is located within an import constrained area (i.e., a load pocket). Specifically, in such situations, the LMP set in the load-pocket by the COG could affect the pricing of a larger area of the CAISO Control Area. This is possible because the COG eliminates the congestion into the load pocket by running at its maximum capacity (PMax) rather than the optimal dispatch point at which it would run if it were flexible. With the transmission line into the load pocket no longer congested, there is no price difference between the load pocket and the neighboring area. According to the CAISO, the price set by the COG in the load pocket would be exported to areas outside the load pocket, even though the COG is really needed only to serve the load pocket. The CAISO asserts that this is an unreasonable result that is contrary to the objectives of the MRTU market design.

543. In addition, the CAISO also identified another undesirable outcome. If there is price-responsive load bidding in the day-ahead market, that load may be scheduled in the pre-IFM runs and then charged a price higher than its bid in the IFM optimization process. The CAISO states that in the IFM optimization process, COGs are modeled as flexible resources, have three-part bids, and are eligible to set prices. The COG submits a start-up bid and a minimum load bid, but not an energy bid. The CAISO proposes to account for these issues by constructing the COG's energy bid by dividing the minimum load bid by the P-max²⁶⁰ (maximum capability) which results in a single price for all of the COG's output. The IFM optimization process then uses the energy bid to optimize each COG as if it could operate at any point between zero and its P-max.

544. In the RUC process, the CAISO proposes to treat COGs as constrained because RUC is a reliability procedure that makes procurement decisions based on an accurate representation of resource operating parameters. Thus, the RUC process either selects the entire capacity of a COG or none of that capacity. According to the CAISO, if the COG was scheduled in the day-ahead market, its RUC schedule is equal to its Pmax. If the COG was not scheduled in the day-ahead market, the RUC process either optimally commits the COG (in which case the COG's RUC schedule will be its Pmax) or does not commit it at all (in which case the COG's RUC schedule is zero). Due to the use of actual resource operating parameters in the RUC process, a COG is not eligible to receive the RUC availability payment.

²⁵⁹ June 2004 Order, 107 FERC ¶ 61,274 at P 115-22.

²⁶⁰ CAISO tariff, Appendix A, Master Definitions Supplement defines P-max as "the maximum normal capability of the Generation Unit."

545. According to the CAISO, in all the real-time market processes (the real-time unit commitment, the real-time dispatch, and the short-term unit commitment), a COG is treated as constrained for purposes of unit commitment and dispatch because, in the actual operating hour, all dispatch instructions must be feasible. The real-time market dispatches a COG either at zero or at its Pmax. According to the CAISO, this does not prevent the COG from setting prices in the real-time dispatch. However, the real-time dispatch has a separate pricing run that follows each dispatch run, and in the pricing run the COG is modeled as a flexible resource using the energy bid calculated from its minimum load as described above. Thus, a COG is subject to the same rules regarding bidding of start-up and minimum load as other resources; namely, those bids can be either: (a) cost-based, in which case the bids are adjusted to reflect current gas prices; or (b) bid-based, in which case the resource can submit any values it likes for those bids, but the bids are required to be set for a six-month period and cannot vary on a day-to-day basis.

546. The CAISO also states that, alternatively, a COG that wants more flexibility to change its bid on a daily basis can choose to be treated the same as other flexible units by specifying a minimum power (Pmin) value that is less than its Pmax value, in which case the COG would still be subject to the normal rules for the start-up and minimum load bids, but would also be able to submit a separate energy bid for the dispatch range between Pmin and Pmax. The CAISO notes that COGs are addressed in MRTU Tariff section 27.7.

Discussion

547. SoCal Edison argues that COGs should not be allowed to set the LMP because, due to physical constraints, they are not marginal units. Furthermore, SoCal Edison states that section 27.7.1.3 improperly allows COGs to be modeled with different PMin and PMax values. SoCal Edison argues that, if a unit has a different PMin and PMax value, it is not a COG, and should be treated like other dispatchable generation. SoCal Edison states that COGs should be modeled in the same manner in both the RUC process and the IFM optimization.

548. The CAISO emphasizes that SoCal Edison has argued that COGs should not be eligible to set the LMP in prior proceedings before the Commission, and lost.²⁶¹ The CAISO states that the Commission has already approved the use of COGs in setting the LMP, and that the Commission should not revisit this issue.²⁶² With respect to MRTU Tariff section 27.7.1.3, the CAISO states that it agrees with SoCal Edison.

²⁶¹ See June 2004 Order, 107 FERC ¶ 61,274 at P 120.

²⁶² *Id.* P 121.

Commission Determination

549. The Commission previously accepted, in concept, the use of COGs in setting LMP.²⁶³ The Commission reached this determination because it found that the market clearing price set by the COG, which is operating economically to meet load, as opposed to satisfying minimum run times, will more accurately reflect market conditions. We continue to believe that this approach will promote more accurate pricing signals, and, in turn, market efficiency. In addition, we note that the MRTU Tariff treatment of COGs is akin to the way the New York ISO treats the same type of facilities in its control area.²⁶⁴ Accordingly, we conditionally accept MRTU Tariff section 27.7 subject to modifications outlined below.

550. As for section 27.7.1.3, “Flexible COG Dispatch Option,” we find that the CAISO needs to modify the title of that provision because, as SoCal Edison points out and the CAISO agrees, “COGs,” by definition, are not flexible resources. In addition, since section 27.7 concerns COGs, it is unclear why section 27.7.1.3 is included in this section of the tariff. Accordingly, we direct the CAISO to make a compliance filing within 60 days of the date of this order either deleting this provision, moving it to another section of the tariff, or explaining why this provision belongs in this section of the tariff.

B. Participating Intermittent Resources

551. The CAISO proposes to accommodate Participating Intermittent Resources²⁶⁵ in the MRTU Tariff by continuing the Participating Intermittent Resource Program, which was first implemented in 2004.²⁶⁶ According to the CAISO, the purpose of the Participating Intermittent Resource Program is to alleviate a Participating Intermittent Resource’s exposure to charges for real-time imbalance energy and UDPs resulting from

²⁶³ *Id.* P 121.

²⁶⁴ *See New York Indep. Sys. Operator, Inc.*, 95 FERC ¶ 61,121 (finding the New York ISO’s “hybrid” fixed block pricing proposal will promote efficiency in the New York ISO-administered markets), *order on reh’g and clarification*, 97 FERC ¶ 61,154 (2001).

²⁶⁵ A Participating Intermittent Resource is a generating unit that is powered solely by wind, solar energy or hydroelectric potential derived from small conduit water distribution facilities that do not have storage capability and meets the other CAISO technical standards. The CAISO asserts that these resources require special treatment because their output depends on prevailing environmental or weather conditions, resulting in a limited ability to respond to dispatch instructions, and it is not possible to reliably forecast the resource’s output on a day-ahead basis.

²⁶⁶ The Commission accepted the CAISO’s Participating Intermittent Resource Program in Amendment No. 42 to the CAISO tariff. *Cal. Indep. Sys. Operator Corp.*, 98 FERC ¶ 61,327 (2002).

the fact that the resource operator cannot control the output of the resource so that it stays on its hour-ahead schedule. Under the program, Scheduling Coordinators for Participating Intermittent Resources are required to submit schedules that are consistent with an hourly energy forecast developed under CAISO supervision.²⁶⁷ Energy from Participating Intermittent Resources is scheduled in the HASP. The CAISO explains that the Participating Intermittent Resource's real-time deviations are summed over each month, monthly deviations are netted against positive deviations, and the net result is settled at the monthly weighted average real-time LMP at the Participating Intermittent Resource's node.

552. The CAISO states that in the coming months, and as part of its development of a Business Practice Manual on the RUC procurement target,²⁶⁸ it intends to address the issue of how to account for Participating Intermittent Resources that take part in the Participating Intermittent Resource Program in establishing the RUC procurement target.

1. Scheduling Accuracy

553. FPL states that it largely supports the CAISO's proposal to mirror in the MRTU Tariff, to the extent possible, the current Participating Intermittent Resource Program, and urges the CAISO to continue the policy of exempting wind units from allocations of costs that they cannot afford. FPL argues, however, that the provisions to allow Participating Intermittent Resource units to net imbalances and avoid UDPs are insufficient to ensure that Participating Intermittent Resource units avoid charges associated with imbalances. It states, however, that the details of the CAISO's financial settlements under MRTU are still being developed. Accordingly, rather than specifically identifying the derivative allocation charge types to which it objects, FPL requests that the Commission direct the CAISO to allow Participating Intermittent Resource units to avoid allocations of charges that are generally intended to encourage or penalize scheduling accuracy and are derived from energy imbalances or are a direct consequence of the scheduling mechanisms of the Participating Intermittent Resource Program.

554. The CAISO agrees with the premise of FPL's approach regarding real-time imbalance energy and UDP. However, the CAISO believes these issues are already addressed in the MRTU Tariff, so the broad language concerning charge exemptions requested by FPL is unnecessary. The CAISO states that an eligible intermittent resource that participates in the Participating Intermittent Resource Program and self-schedules, in each hourly HASP process, will be settled for deviations from its HASP Schedules based

²⁶⁷ The forecasting process is designed to provide statistically unbiased forecasts of generation output on an hourly basis. Participating intermittent resources are assessed a Forecast Fee to defray the CAISO costs of the forecasting services.

²⁶⁸ The CAISO points out that MRTU Tariff section 31.5.3 addresses RUC procurement targets.

on the net MWh of those deviations over the month times a monthly average LMP at the resource's PNode. The CAISO further adds that "the monthly average LMP will be the generation-weighted average of the real-time settlement PNode LMPs, where the weights are proportional to the MWh delivered by the resource in each Settlement Interval."²⁶⁹

Commission Determination

555. Consistent with our prior orders, we find that the CAISO's Participating Intermittent Resource Program proposal, which continues the policy contained in Amendment No. 42, is just and reasonable. The proposed Participating Intermittent Resource Program is largely unchanged from the existing tariff. The Participating Intermittent Resource Program exempts Participating Intermittent Resources, such as wind, from hourly imbalance penalties, and substitutes monthly netting of imbalances in return for centralized wind delivery forecasting. Furthermore, using monthly rather than hourly netting of instructed energy deviations reasonably balances the policy goal of promoting wind development with the principle of cost causation. As for FPL's request to add broad language concerning charge type exemptions, the CAISO's response indicates that the implementation of the Participating Intermittent Resource Program in the MRTU Tariff already achieves this objective. Until we are presented with a specific additional charge type from which an eligible Participating Intermittent Resource arguably could be exempt, we do not find it appropriate to grant a blanket exemption. Accordingly, we do not find it necessary to direct the CAISO to make the modification requested by FPL.

2. Settlement of Monthly Net Imbalance

556. FPL states that the definition of the month-end Participating Intermittent Resource Program settlement price is vague and requires clarification. FPL states that the CAISO should identify the location of the dispatch interval LMP, and asserts that the CAISO should settle the monthly net imbalance at the generation-weighted average of the LMP at the delivery point for the Participating Intermittent Resource unit.

557. The CAISO clarifies that it proposes to use "the monthly weighted average with weights equal to total real-time generation (not just the deviation)" as the price for calculating the monthly netting amount.

Commission Determination

558. We agree that the definition of month-end Participating Intermittent Resource Program settlement price is vague and that the CAISO should identify the location of the dispatch interval LMP at the location of the generator. We direct the CAISO to use the

²⁶⁹ CAISO Reply Comments at 255.

monthly weighted average with weights equal to total-real-time generation (not just the deviation) for calculating the monthly netting amount. The proposed approach modifies the basic method for settlement under the existing Participating Intermittent Resource Program to make it consistent with the change from zonal to nodal pricing. We direct the CAISO to make a compliance filing within 60 days of the date of this order modifying the tariff accordingly.

3. Participating Intermittent Resources in the Day-Ahead Market

559. CERS/Sempra argue that significant benefits could be realized if Participating Intermittent Resources were included in the day-ahead market. CERS/Sempra state that, in the alternative, the CAISO could consider a mechanism that would enable Participating Intermittent Resources to schedule and settle their output generation in the day-ahead market without undue exposure to penalties.

560. CERS/Sempra state that the MRTU Tariff may deter Participating Intermittent Resources from participating in the day-ahead market because of the lack of protection from penalties. CERS/Sempra further suggest that the CAISO should consider implementing a plan that will extend the protections of the Participating Intermittent Resource Program to the resource adequacy portion of Participating Intermittent Resources that schedule in the day-ahead market.

561. The CAISO states that it does not believe that the expansion of the Participating Intermittent Resources Program to the day-ahead market is appropriate at this time. The CAISO explains that Participating Intermittent Resources may participate in the day-ahead market based on their own forecasts, but they will not receive the protections against imbalances, as those are currently tailored to shorter-term forecasts and scheduling.

Commission Determination

562. There are physical constraints that limit the accurate day-ahead forecasting of the generation available from a Participating Intermittent Resource. Given these constraints, and the fact that the CAISO has made special accommodations to promote intermittent resource participation in the HASP, we will not require the CAISO to further accommodate Participating Intermittent Resources by protecting them from penalties, if they choose to participate in the day-ahead market. We find it appropriate to place the risk of forecasting error on the Participating Intermittent Resource that chooses to participate in the day-ahead market.

4. RUC Procurement

563. FPL supports the accommodations made by the CAISO with respect to Participating Intermittent Resource generation in the RUC targets as reasonable. FPL states that it agrees with the CAISO's decision to defer the development of RUC procurement targets for inclusion in the Business Practice Manuals.

564. The CPUC agrees that the CAISO must address the over-procurement issue in the RUC procurement process. The CPUC indicates that the availability of Participating Intermittent Resources in the real-time market have the potential to displace RUC procurement. The CPUC suggests that any rules regarding the RUC procurement target be reflected in amendments to section 31.5.3, and that only minor issues be resolved in the Business Practice Manuals.

565. The CAISO states that details of the RUC procurement target are underway and will be the subject of a complete stakeholder process. The CAISO agrees to incorporate the specifics of the RUC procurement target in the Business Practice Manuals.

Commission Determination

566. The CAISO has committed to resolve the issues surrounding the potential over procurement of RUC. However, the changes should not be limited to the Business Practice Manual. We direct the CAISO to incorporate any significant changes into section 31.5.3 and to make a compliance filing within 60 days of the date of this order with these changes. We encourage stakeholders to work diligently to develop a plan that is mutually beneficial to all parties involved in the process.

C. Modeling Combined-Cycle and Peaker Units

567. The CAISO states that combined-cycle units are modeled in the current (*i.e.*, pre-MRTU) market as a composite resource across various sequential combined-cycle configurations. According to the CAISO, since the composite resource must have a continuously increasing incremental heat rate, some heat rate segments are exaggerated. The CAISO states that this is because the incremental heat rates of a combined-cycle unit can vary at various configurations. According to the CAISO, the incremental heat rate at a given operating point may drop largely after a configuration change. Thus, composite modeling of combined-cycle resources results in unnecessary increases in the modeled incremental heat rates. These modeling constraints are based on the fact that composite resources have two or more generators, with different operating characteristics, located behind one meter. Existing modeling technology only allows for the consideration of one generator and does not fully take into account the different operating constraints of the other generators that are in operation. This limitation is problematic because it may result in inaccurate settlements for start-up and no load costs.

568. The CAISO states that it has explored changes to this modeling approach that would allow combined-cycle units to be modeled as a separate generation resource for each configuration. According to the CAISO, this approach would require a different resource registration for each combined-cycle configuration and, after further consultation with its software vendor, it concluded that such an approach was too complex to implement for Release 1. The CAISO states that the complexity of developing this type of software is highlighted by the fact that no ISO currently has software in place that allows combined-cycle units to be modeled as a separate generation resource for each configuration.

569. The CAISO states that rather than rushing an untried software revision into development for Release 1, it has decided to continue with the existing modeling of combined-cycle units as a composite resource. As a result, in Release 1, under MRTU Tariff section 30.5.2.2, combined-cycle generating units may only be registered under a single resource ID. The CAISO plans to consider software modifications to address the treatment of combined-cycle units for Release 2.

1. Combined Cycle Units

570. WPTF/IEP and Constellation/Mirant raise several concerns regarding the CAISO's ability to properly model combined-cycle units. WPTF/IEP argue that the CAISO cannot efficiently operate the day-ahead market and RUC without better modeling.

571. The CAISO recognizes that the combined-cycle model employed in Release 1 is sub-optimal. The CAISO explains that it plans to implement a more robust model in a later release. The CAISO points out that no other ISO has software in place that models combined-cycle units as separate generation resources for each configuration.

572. The CAISO argues that the Release 1 does take into consideration the constraints of combined-cycle facilities. The CAISO explains that it has "provided for market participants to bid in intermediate dead bands and multiple ramp rates across the operational range of a resource for a single given configuration of the combined cycle facility."²⁷⁰ The CAISO further notes that market participants can modify the operational ramp rates for combined-cycle facilities to reflect changes in operating configurations during the operating day. The CAISO explains that, while a more encompassing software system to model combined-cycle units is ideal, at this time, it is not possible.

²⁷⁰ CAISO Reply Comments at 269.

Commission Determination

573. We find, as the CAISO itself acknowledges, that more comprehensive modeling software is necessary to accurately reflect the operating characteristics of combined-cycle units. Significant market benefits can be realized by developing models that accurately consider the ramp rates, and start-up and no-load costs of the different generators. The CAISO's hesitation to rush into the implementation of an untested model is prudent and acceptable. However, recognizing the software constraints the CAISO is faced with, we direct the CAISO to continue working with software vendors to develop an application that will accurately detail the constraints of combined cycle units and to file tariff language for our review for implementation of such improvements no later than MRTU Release 2.

2. Peaker Units

574. WPTF/IEP raise concerns regarding peaker units that are dispatched by the CAISO. WPTF/IEP argue that the CAISO system cannot recognize the individual nature of two or more units that are located behind one meter. As a result, WPTF/IEP state that the CAISO models them as if they are one. WPTF/IEP argue that this shortcoming can lead to settlement issues that result from a disconnect between dispatch instructions and verbal communications with the CAISO.

575. The CAISO states that it recognizes that the modeling limitations outlined by WPTF/IEP are not ideal. The CAISO explains that it has a limited ability to model resources that are located behind one meter because the CAISO has limited telemetry data and control of the individual units. The CAISO states that WPTF/IEP has not provided any useful information from which the CAISO can propose a solution and suggests that the Business Practice Manual stakeholder discussions are the appropriate place to address these issues.

Commission Determination

576. We recognize the importance of accurately modeling peaker units, and the difficulty of modeling multiple units located behind one meter. It is important for the CAISO to work with stakeholders to develop a more effective model for peaker units because it will allow for more accurate settlements. Under the current model, the CAISO is unable to differentiate between multiple units that are located behind one meter. Ideally, the CAISO would receive real-time information about the unique operating constraints of each generator. With this information, the CAISO can develop more appropriate dispatch instructions and provide settlements that more accurately reflect the true operations of the units. We direct the CAISO and stakeholders to collaborate in developing a plan that more fully addresses these problems. We note that, to the extent

any modifications developed would affect rates, terms or conditions, we expect the CAISO to make a compliance filing to the Commission.

D. Opportunity Costs for Hydro Units

577. SoCal Edison states that the unique nature of opportunity costs for hydro units require special consideration. SoCal Edison explains that hydro opportunity costs have two states: opportunity costs during normal operations, and opportunity costs during spill conditions. SoCal Edison specifies that during spill conditions, the opportunity cost is \$0 or even a negative amount and must be replaced with energy that has a positive cost. In light of these constraints, SoCal Edison requests modification of MRTU Tariff section 39.7.1.1 to provide for a “normal” and a “spill” variable cost option for hydro units.

578. The CAISO agrees that hydro units require special treatment for spill and non-spill conditions, and notes that hydro units have the option to seek a consultative default energy bid in section 39.7.1.3 that reflects spill and non-spill conditions.

Commission Determination

579. We understand SoCal Edison’s concerns regarding section 39.7.1.1 and direct market participants, including hydro units, that believe the applicable default value will cause them to under-recover their costs, to consider electing the negotiated option for establishing the default energy bid. We add that any negotiated default energy bid for hydro units should allow the unit to price its product at the true market value. As directed below, if the parties cannot reach agreement after 60 days from commencement of negotiations, then the parties may bring the dispute to the Commission.

E. Uninstructed Deviation Penalties

580. The CAISO states that the current CAISO tariff includes a UDP provision, which applies to certain generators and dynamic system resources that incur uninstructed deviations that exceed a tolerance band defined as the greater of five MW or three percent of a unit’s maximum resource capacity.²⁷¹ Under the current CAISO tariff,

²⁷¹ The CAISO states that certain generating units are currently exempt from the uninstructed deviation penalties mechanism and will remain exempt from the uninstructed deviation penalties provisions under MRTU. Specifically, the exempt units include: (1) those units without Participating Generator Agreements (PGAs); (2) Participating Intermittent Resource units with PGAs; (3) Qualifying Facilities with a power purchase agreement under which, pursuant to the Public Utility Regulatory Policy Act of 1978 (PURPA), they are obligated to sell all of their output net of their own use; (4) RMR Condition 2 units; and (5) Regulatory Must-Take units. Under MRTU, the

uninstructed incremental deviations beyond the tolerance band are not paid for the imbalance energy if the price for that settlement interval is non-negative; however, uninstructed decremental deviations beyond the tolerance band are subject to a premium of 50 percent of the energy price in that settlement interval if the interval price is non-negative. The CAISO states that the UDP provisions in the current CAISO tariff are suspended.²⁷²

581. Under MRTU Tariff section 11.23, the CAISO proposes to include a UDP provision in the MRTU Tariff. Like the provision under its current tariff, the CAISO proposes to suspend the UDP provisions unless and until it separately files under section 205 of the FPA to implement UDP. The CAISO states that its UDP proposal is similar to its existing provisions: it assesses penalties for uninstructed imbalance energy in excess of a tolerance band in each 10-minute settlement interval; and it applies to non-negative real-time prices. However, the UDP is calculated as the real-time energy price times an energy-price penalty factor times the relevant scaled uninstructed deviation quantity in MWh outside the tolerance band (*i.e.*, MWh deviation times the multiplier). The CAISO states that under MRTU the deviation quantity is determined by multiplying the actual MWh deviation subject to UDP (*i.e.*, the number of MWh outside of the tolerance band) by a multiplier that increases based on the number of infractions in an hour. The CAISO states that the number of infractions is reset to zero at the top of each hour.

582. Also, the CAISO states that the dispatch methodology employed in the CAISO's current market design calculates the dispatch range for each resource based on the last dispatch operating target (defined as the resource's operating target issued in the previous dispatch for the current interval), which assumes that the resource followed the preceding dispatch instruction, as well as the applicable ramp rate and capacity limits.

583. The CAISO states that in contrast, under MRTU, a resource is dispatched based on its ramp rate, physical limits, and its current telemetered output. It states that this last factor is particularly important, because, as a result, dispatch instructions under MRTU are feasible because prior uninstructed deviations are taken into account before the CAISO issues new dispatch instructions. The CAISO explains that, under MRTU, because telemetered output is considered in issuing dispatch instructions, a resource that does not follow dispatch instructions will be exposed to UDP only for the amount of energy that can be ramped within a dispatch interval. Thus, its uninstructed deviation quantity does not accumulate as it does under the CAISO's current market design. The CAISO reasons that absent the application of the multiplier, UDP under MRTU would be

CAISO states that MSS units designated as load-following are also exempt from uninstructed deviation penalties. The CAISO references MRTU Tariff section 11.23(e).

²⁷² According to the CAISO, it has been monitoring certain reliability metrics with the intention of filing a tariff amendment to propose an immediate effective date for application of uninstructed deviation penalties if those metrics exceed a certain threshold.

diluted and reduced to a level that would cease to be a credible deterrent against uninstructed deviations. Therefore, the CAISO states that the application of a multiplier is necessary to ensure that UDP under MRTU is comparable and as effective as it would be under the current market design in discouraging Scheduling Coordinators from deviating from dispatch instructions.

Discussion

584. WPTF/IEP contends that the Commission should eliminate UDP because the CAISO never uses it. If the Commission denies this request, WPTF/IEP asserts that the Commission should direct the CAISO to demonstrate that the UDP remains just and reasonable under MRTU and require the CAISO to demonstrate, at least annually, that UDP remains a just and reasonable feature of the market. WPTF/IEP also notes that other ISOs have a less stringent form of UDP, or, as in the case of PJM and the New England ISO, have no UDP at all.

585. Powerex argues that the UDP should take effect on the MRTU implementation date because it would induce generators and System Resources to be more accurate in their generation output. According to Powerex, a Commission finding now that UDP must take effect upon implementation of MRTU provides market participants with more notice than they would otherwise be given if the CAISO makes a FPA section 205 filing in the future to make uninstructed deviation penalties effective. Powerex also notes that the Midwest ISO tariff section 40.3.4 includes similar deviation penalties but provides exceptions for intermittent resources and for other situations.

586. Six Cities state that the Commission approved uninstructed deviation penalties approximately four years ago to mitigate incentives latent in the structure of the energy markets that might have increased the likelihood of deviations from the CAISO's operating instructions,²⁷³ and contrary to the assertions of WPTF/IEP, eliminating the CAISO's authority to impose uninstructed deviation penalties is not appropriate at this time. Six Cities contend that the CAISO must retain uninstructed deviation penalties to ensure that generators adhere to the CAISO's instructions so that the markets operate effectively and reliably.²⁷⁴

²⁷³ See July 2002 Order, 100 FERC ¶ 61,060 at P 150 (“[i]n light of concerns regarding the adequacy of generation supply for California and the West in the near term, the Commission believes that appropriate incentives to prevent deviations from schedules or ignoring dispatch instructions are justified.”).

²⁷⁴ Six Cities state that the fact that the CAISO has not found it necessary to impose uninstructed deviation penalties certainly does not demonstrate that uninstructed deviation penalties are unnecessary. To the contrary, absence of the need to impose penalties is consistent with the conclusion that the potential for penalties is deterring significant uninstructed deviations.

587. Six Cities argue that, while PJM and the New England ISO control areas may not have uninstructed deviation penalties, neither experienced the California energy crisis. Further, they may not have a history of market conditions that provide incentives for deviating from ISO instructions in the same manner as the CAISO Control Area or have concerns regarding the adequacy of generation supply to the same degree as the CAISO. According to Six Cities, the mere fact that those RTOs do not have uninstructed deviation penalties authority or the fact that other RTOs such as the Midwest ISO, ERCOT, and the New York ISO have curtailed, less strict forms of that authority does not mean that elimination of or limiting the CAISO's uninstructed deviation penalties authority is proper. Further, Six Cities contend that the CAISO's alterations to its existing uninstructed deviation penalties authority contained in the MRTU Tariff are properly tailored to the redesigned market structure and should not be revised given the uncertainty that transitioning to a new market system engenders.

588. The CAISO contends that the underlying rationale for uninstructed deviation penalties still exists today; thus it monitors the imbalance energy market in order to evaluate the impact of uninstructed deviations and thereby determine whether immediate implementation of uninstructed deviation penalties is appropriate. Thus, it states that in the event the monitored reliability metrics exceed a certain threshold, it will file with the Commission to propose an immediate effective date for application of uninstructed deviation penalties. Further, the CAISO states that it has fully met the conditions that the Commission previously established for uninstructed deviation penalties implementation, including an electronic reporting mechanism for reporting changes in availability of generating units and multiple ramp rates to better reflect differences in capability across the full operating range of a generating unit.²⁷⁵

589. Also, the CAISO states that the MRTU Tariff uninstructed deviation penalties provisions, similar to the current uninstructed deviation penalties provisions, are not enforceable until the CAISO files for Commission permission to implement uninstructed deviation penalties. Further, the CAISO's decision not to implement the uninstructed deviation penalties program at this time is not based on a determination that uninstructed deviation penalties implementation would not be beneficial. Rather, it is based in large part on the opportunity cost of staff and resources that would be devoted to uninstructed deviation penalties implementation rather than focused on MRTU design and implementation issues. Additionally, the CAISO states that it is prepared to implement the uninstructed deviation penalties proposal if circumstances warrant it; however, it believes the better strategy is to continue uninstructed deviation penalties suspension while monitoring the market and participating in a stakeholder process to resolve outstanding concerns.

²⁷⁵ July 2002 Order, 100 FERC ¶ 61,060.

590. Finally, according to the CAISO, similar to other ISOs with Commission-approved uninstructed deviation penalties, such as the Midwest ISO and the New York ISO, the CAISO uninstructed deviation penalties under MRTU, if implemented, are designed to be an effective tool to discourage Scheduling Coordinators from deviating from dispatch instructions. Also similar to other Commission-approved uninstructed deviation penalties, the currently-suspended CAISO UDP is specifically tailored to address the needs of the California market.

Commission Determination

591. The Commission previously stated, when acting upon the CAISO's request for the UDP provision in 2002, that

In light of concerns regarding the adequacy of generation supply for California and the West in the near term, the Commission believes that appropriate incentives to prevent deviations from schedules or ignoring dispatch instructions are justified...Therefore, we will accept the CAISO's proposal regarding uninstructed deviations, subject to the software modifications described above. However, as market conditions improve, we will consider requests to adjust the level of, or eliminate, the penalty provisions.²⁷⁶

592. We continue to believe that it is reasonable for the CAISO to have the ability to implement the UDP provision in order to discourage uninstructed deviations during adverse market conditions. A failure to follow the CAISO's dispatch instructions may threaten reliability during supply emergencies, and it may allow entities with market power to exercise that market power.

593. However, the CAISO's voluntary suspension of the UDP provision because conditions do not warrant its application at this time indicates that the affected generators performance has improved, concurrent with improved market conditions, such that the current magnitude of the penalty is no longer necessary. Therefore, we reject the proposed multiplier as an unnecessary provision of the UDP mechanism, consistent with our previous commitment to consider adjusting the level of the penalty if market conditions improved. Accordingly, we direct the CAISO to make a compliance filing within 60 days reflecting this change.

594. We also note that, under the MRTU proposal, the CAISO is required to file under section 205 of the FPA to implement the UDP provision. In the event the CAISO files such a request, WPTF/IEP and other parties may challenge the need to implement the

²⁷⁶ *Id.* P 150.

UDP provision, at that time. Furthermore, as discussed above,²⁷⁷ the Commission expects that the CAISO will increase the number of accepted operational ramp segments prior to implementation of UDP or provide greater detail why nine segments are no longer feasible.

IV. Demand Issues

A. LAP Load Settlement

595. Since the beginning of the CAISO's operations, the prices for energy at any given time have been the same for all generators and loads within a large area. The introduction of locational marginal pricing reflects a shift in that approach, one that provides different prices at different locations to reflect locational differences in costs. As a result, LMP will provide transparent price signals that should serve to enable appropriate decisions concerning investment in new generation and transmission. The CAISO argues, however, that such location price differences should not apply, at least initially, to loads. The reason, according to the CAISO, is that consumers in congested, high-priced areas should not be punished based on infrastructure investment decisions made under the prior regulatory regime. While it is appropriate for suppliers to be paid prices that reflect the cost of providing energy at each point on the grid, the CAISO argues that consumers in congested, high price areas should receive some protection by paying an aggregated or average price for energy regardless of their location on the grid.

596. Under MRTU Tariff section 27.2, the CAISO proposes to charge consumers for the quantity of energy they use based on an aggregation of locational marginal prices over a larger area or zone. The CAISO proposes to calculate and settle energy charges for the majority of loads in the CAISO Control Area according to the zone in which the load is located. The CAISO has created three pricing zones for this purpose called Load Aggregation Points (LAPs). The three pricing zones correspond to the service territories of the three major California IOUs: PG&E, SoCal Edison and SDG&E.²⁷⁸ For each

²⁷⁷ See the discussion on the Reduction in the Number of Segments for Operational Ramp Rates.

²⁷⁸ Initially, the CAISO proposed to settle energy charges for loads using approximately 20 zones. See CAISO's May 1, 2002 Filing, Docket Nos. ER02-1656-000 and EL00-95-001. In response to that proposal, numerous market participants claimed that, because they were located in constrained areas on the grid, they would be subjected to extremely high prices for energy. They argued that the high prices were a result of constraints that occurred because the transmission system was designed and constructed under a different regulatory regime. In response, the CAISO revised its proposal to allow demand in the CAISO Control Area to settle at three LAP zones which corresponded to the service territories of the three major California IOUs. See CAISO's July 22, 2003 Filing, Docket Nos. ER02-1656-015 and EL01-68-028. The Commission found that the

pricing zone, the CAISO calculates an average zonal price based upon the weighted average of the nodal LMPs within that zone.²⁷⁹ According to the CAISO, in general, the use of LAP zone pricing for settling energy charges protects consumers in load pockets from high nodal LMPs and ensures that most consumers pay an average zonal price for energy regardless of their location on the grid.

597. However, according to the CAISO, under certain *rare* conditions, its approach to clearing LAP demand bids can lead to some inefficient and undesirable consequences.²⁸⁰ However, both Dr. Rahimi and Dr. Kristov contend that such situations are unlikely to

CAISO's revised proposal was a reasonable approach to introducing LMP while minimizing its impact on load. *See* October 2003 Order, 105 FERC ¶ 61,140.

Subsequently, in 2005, the CAISO filed revisions to the mechanical steps it would use to calculate and settle energy charges. In response, some parties argued that the number of LAP zones should be increased to provide for more granular settlement of energy charges. They also argued that wholesale load customers should be permitted to opt-out of the LAP prices, and instead, calculate and settle their energy charges based upon the nodal prices. The Commission, after a technical conference and a series of orders, found that customers should not be allowed to opt-out of LAP zones because doing so would delay the implementation date of MRTU. *See* July 2005 Order, 112 FERC ¶ 61,013. The Commission also directed the CAISO to increase the number of LAP zones, but, rather than specifying the number of zones, the Commission directed the CAISO to work with its stakeholders to determine the appropriate number of LAP zones it should propose in its MRTU Tariff filing.

²⁷⁹ To facilitate the settlement of energy charges for load using LAP pricing zones, the CAISO clears the demand bids using an iterative process. The CAISO clears the demand bids in each LAP as follows: (1) it uses load distribution factors to distribute LAP demand bid quantities to each node in the LAP; (2) it clears the day-ahead market based on these nodal demand quantities, which are treated as price takers; it then uses the resulting LMPs to calculate the price in each LAP; (3) it clears the LAP demand bids based on the LAP prices and uses this information to determine the day-ahead schedules for demand in the LAP; and (4) it repeats steps 1 through 3, revising the LAP demand quantity until it is consistent with the quantity of demand that clears in the LAP level at the LAP price. The CAISO states that its proposal is similar to the demand aggregation approach used in the New York ISO.

²⁸⁰ Dr. Kristov and Dr. Rahimi note that the load distribution factors that are used to distribute the LAP demand bids and self-schedules to nodes are preserved in the clearing of demand against supply for the LAP. According to the CAISO, Dr. Rahimi states that this feature has the potential to create a local transmission bottleneck, which in conjunction with insufficient local supply bids, could shift scheduled LAP demand from the day-ahead market-clearing process to subsequent markets (*i.e.*, the RUC and the real-time market). According to Dr. Rahimi, such an outcome may lead to very high day-ahead LMPs at the locally constrained and supply bid deficient areas of the LAP.

occur under the MRTU because the design is based on a strong physical local resource adequacy program, as well as an obligation for resources in that program to offer capacity to the CAISO.

598. The CAISO also states that, even if the MRTU design did not use LAPs, high LMPs in a load pocket could result when there is supply insufficiency in a constrained area of the grid. According to the CAISO, for this reason, all LMP markets have effective local market power mitigation mechanisms. The CAISO states that, in the unlikely event this situation arises and it precludes the CAISO from resolving a non-competitive transmission constraint using all effective economic bids, the CAISO will schedule energy from self-provided ancillary services that utilize capacity that is obligated to offer an energy bid (i.e., resource adequacy and RMR capacity) or take other appropriate measures to address the constraint, which could include relaxing the fixed load distribution factor constraint, consistent with operating practices. The CAISO states that it recognizes that the LAP construct and software limitations may in rare cases result in inconsistent market outcomes and commits to employing necessary resources and working with the Department of Market Monitoring to develop appropriate procedures that yield correct market outcomes.

599. Also, in response to concerns raised by the Commission in prior orders and as a result of input provided by stakeholders and consultants, the CAISO allows participating loads to settle at the individual nodal level rather than the LAP level. Furthermore, the CAISO proposes to provide more granular load scheduling and settlement for MSSs, ETCs, TORs and exports submitted at an intertie.²⁸¹ The CAISO proposal does not allow customers the option of opting-out of their designated LAP zone.

Discussion

600. The CPUC, PG&E and Bay Area Municipals support the CAISO's proposal to settle energy charges for load using three LAP zones. Six Cities renew their objections to mandatory LAP pricing on the grounds that it unreasonably exposes LSEs with internal resources to the risk of congestion charges for the use of their own resources to serve their own loads. Trinity Public Utilities District (Trinity PUD) argues that MRTU limits the impact of LAP on IOU customers by excluding loads in other control areas and MSSs, but does not exempt Trinity PUD and other small public power utilities. Trinity PUD contends that the CAISO's proposal to settle energy charges for load at the LAPs and the move from a physical rights model to a financial rights model reduces the value of the mitigation measures Congress promised to Trinity PUD County residents.²⁸²

²⁸¹ We discuss the specific details regarding these exceptions below.

²⁸² Trinity PUD states that, in 1995, Congress recognized that severe local economic impacts would occur as a result of constructing the Trinity River Division of the Central Valley Project under the Trinity River Division Act, Pub. L. No. 84-386.

Trinity PUD also asserts that MRTU increases the cost of obtaining that entitlement to power by increasing the costs, complexities and volume of data with regard to scheduling and accounting.

601. SoCal Edison argues that Six Cities and Trinity PUD do not acknowledge that, as LSEs, they are eligible to be allocated CRRs to hedge their exposure to congestion costs. SoCal Edison states that the CRR source would be the nodal location of any generation serving their load and the CRR sink would be the default LAP of the load.

602. BPA contends that imports to the CAISO system are selectively exposed to LMP, unlike loads and generation within the CAISO Control Area. SoCal Edison responds that importers that import generation to the CAISO Control Area from resources located outside of the CAISO Control Area serve load that is part of a LAP zone (with exceptions such as ETCs and TORs); therefore the importer faces the same LAP zone price that other entities face.

603. Western asserts that the LAP zone pricing may result in the unnecessary curtailment of load, does not send the proper price signals, and provides no incentive for parties to execute bilateral contracts. Bay Area Municipals disagree, noting that the MRTU Tariff allows participating load to bid in and be paid on a nodal basis, thus sending the appropriate price signal to those loads that are able and willing to respond to locational price signals.

604. Arizona/Southwest Coops contend that small loads should have the choice of opting into the LAPs of the IOU that is located closest to their service territory or the IOU that is party to the ETC that governs other portions of their load. The CPUC, Bay Area Municipals and SoCal Edison oppose allowing customers to opt-out of the LAP zones. The CPUC notes that permitting customers to opt-out of the three LAP zones would result in customers located at lower-priced nodes departing the LAP zones which would result in only the highest priced nodes remaining in the LAP.

605. PG&E contends that, under MRTU Tariff section 31.3.1.2, the CAISO suggests that it may relax constraints if economic bids cannot clear the market. PG&E argues that the parameters that would govern this flexibility should be detailed in the MRTU Tariff because they could significantly impact rates and charges.

According to Trinity PUD, to mitigate that impact, Congress included in the Trinity River Division Act a provision that grants to Trinity PUD a first preference to 25 percent of all energy resulting from the construction of power plants authorized by the Trinity River Division Act.

606. The CAISO states that Six Cities' objection to mandatory LAP pricing is tantamount to a rehearing request of the Commission's November 2005 Order and should be denied.

607. The CAISO states that the concern that importers into the CAISO Control Area and entities outside the CAISO Control Area are the only entities exposed to LMPs under the CAISO's proposal is unfounded. The CAISO notes that other ISOs and RTOs have implemented aggregated or zonal energy settlement for load under an LMP-based market without undue discrimination to importers or entities outside their control areas.²⁸³ The CAISO states that both the suppliers providing imports into its control area and the suppliers from resources within its control area are paid the nodal LMPs and have the same opportunities to use trading hubs. Further, the CAISO states that export bids from Scheduling Coordinators representing external load are settled at the export nodal price which serves as LAP zones for external loads. According to the CAISO, if the export nodal price is higher than the adjacent LAP price, it is reflecting the higher price caused by competition among external buyers. LMP price signals do provide the CAISO and transmission developers with information that highlights the benefits of relieving transmission constraints, and this information can be taken into account in the CAISO's planning process.

608. With respect to Western's comments regarding bilateral contracts, the CAISO states that, although it expects bilateral contracts to serve much of the load in its control area, it is not relying upon the LAP element of MRTU to provide incentives for such contracts. The CAISO states that the MRTU Tariff promotes the use of forward contracts through its market power mitigation provisions that reflect and complement the implementation of resource adequacy requirements in California and the CPUC's long-term procurement proceedings.²⁸⁴

609. The CAISO also disagrees with Western's argument that the LAP proposal should be rejected because it may result in high day-ahead LAP prices or curtailment. The CAISO notes that the LAP clearing mechanism is used in the New York ISO and no such outcome has occurred there. Moreover, the CAISO asserts that this situation is unlikely to occur in the CAISO market because its resource adequacy program and the obligation for resource adequacy resources to offer capacity to the CAISO minimize the occurrence of local bid-insufficiency conditions.²⁸⁵ According to the CAISO, even if the CAISO did

²⁸³ *Citing ISO New England, Inc.*, 91 FERC ¶ 61,311, at 62,070-71 (2000).

²⁸⁴ *See, e.g.*, Casey Testimony at 3-4.

²⁸⁵ According to the CAISO, if such conditions were to occur, they would create two inter-related, but separate, issues involving LAP clearing and LAP pricing that can be addressed. The CAISO states that the main concern with LAP *clearing* is ensuring that large amounts of load are not curtailed at the LAP to address a local bid insufficiency issue. The CAISO states that the main concern with LAP *pricing* is ensuring that the

not settle load at the LAP level, high LMPs in a load pocket can occur in any LMP-based market when supply into that load pocket is severely constrained. The CAISO states that, as a result, all LMP-based markets have local market power mitigation measures to minimize the impacts of such conditions on load.²⁸⁶

610. The CAISO asserts that the Commission's decision not to allow opt-outs is still appropriate because a provision allowing load in low-priced LMP locations to opt-out of LAP pricing would raise the LAP price for loads in high-priced LMP areas that are the result of infrastructure development that never contemplated LMP-based markets.

Commission Determination

611. We find that the CAISO's approach to calculating and settling energy charges for load based upon three LAP zones provides a reasonable and simplified approach for introducing LMP pricing, while minimizing its impact on load.²⁸⁷ We appreciate that some areas could experience higher prices under a nodal model and, thus, understand the CAISO's interest in softening the distributional impacts of LMP. We also recognize that LMP could create an economic hardship on entities located in load pockets. Accordingly, we find that the instant proposal is an acceptable starting point.²⁸⁸ However, consistent with the Commission's prior guidance, we direct the CAISO to increase the number of LAP zones for Release 2. We continue to believe that increasing the number of LAP zones will provide more accurate price signals and assist participants in the hedging of congestion charges.²⁸⁹

CAISO's proposal does not cause unduly large LMPs (much higher than the bid cap) at supply locations with bid insufficiency. The CAISO states that the three-step procedure for LAP clearing and results-verification process described in Dr. Rahimi's testimony are designed to address both these issues. Rahimi Testimony, Ex. ISO-4 at 24-28; MRTU Tariff section 31.3.1.2. The CAISO also commits to working with its Department of Market Monitoring to develop additional procedures that consistently yield efficient market outcomes.

²⁸⁶ Citing Kristov Testimony, Ex. ISO-1 at 38.

²⁸⁷ See, e.g., October 2003 Order, 105 FERC ¶ 61,140; July 2005 Order, 112 FERC ¶ 61,013; September 2005 Order, 112 FERC ¶ 61,310; November 2005 Order, 113 FERC ¶ 61,151 (2005).

²⁸⁸ We note that Trinity PUD has not explained how LAP and the financial rights model will reduce the value of mitigation measures promised to it by Congress; therefore, we are not able to respond to this concern. Additionally, based upon our acceptance of the CAISO's proposal for three LAP zones in Release 1, we will dismiss as moot NCPA's rehearing request in Docket No. ER02-1656-031, challenging the Commission's directive to disaggregate beyond 3 LAP zones.

²⁸⁹ See July 2005 Order, 112 FERC ¶ 61,013 at P 35.

612. We disagree with the arguments that the use of LAP pricing zones exposes LSEs to congestion costs when serving load with their own generation. As SoCal Edison points out, the entities relying on this argument have ignored the fact that CRRs²⁹⁰ are available for LSEs. MRTU Tariff section 36.8 explicitly states that CRRs will be allocated to LSEs serving load internal to the CAISO Control Area.

613. We also find that the CAISO has satisfactorily addressed the concern that imports to the CAISO are exposed to unmitigated LMPs through the use of LAP zone pricing and we find that imports are not being discriminated against. As the CAISO points out, suppliers that provide imports are paid nodal prices just like internal suppliers and the load associated with the imported energy is settled at the LAP just like load associated with internal resources. We find that this result is reasonable and non-discriminatory.

614. In addition, we find that the CAISO has sufficiently addressed Western's claims regarding the impact of LAP pricing on price signals and bilateral contracts. However, we note that the Commission has stated in previous guidance orders that the CAISO should consider an eventual move to nodal pricing for load because of the many advantages to full nodal pricing. For example, it sends more accurate price signals to load and, therefore, can encourage more demand response, which is an important element in mitigating market power and promoting an efficient market. We continue to believe that full nodal pricing will provide these benefits and direct the CAISO to move to nodal pricing for load in the future.

615. With respect to Western's arguments that high LMPs and curtailments may result from the LAP clearing process proposed by the CAISO, we find that the CAISO has proposed a reasonable process, including relaxing certain constraints, to mitigate this situation, should it occur. Western has not demonstrated, through testimony or other documentation, that a better solution to this rare circumstance is available, nor has it provided discussion acknowledging or finding fault with the CAISO's proposed solution. Accordingly, we find that the CAISO's proposal and its commitment to work with the Department of Market Monitoring to develop appropriate procedures that yield efficient market outcomes, provide adequate protection to the market participants and are reasonable should this problem arise in the future. Accordingly, we direct the CAISO's Department of Market Monitoring to monitor the LAP clearing process and to notify the Commission of anomalous occurrences.

616. We interpret Six Cities' objection to *mandatory* LAP pricing to be a request for an opt-out provision. As the CAISO points out, in an order issued on November 14, 2005, the Commission did not require the CAISO to provide wholesale customers with the opportunity to opt-out of the three LAPs by creating their own customer-specific LAP

²⁹⁰ We further discuss CRRs below.

zones because it might have delayed MRTU implementation.²⁹¹ The Commission did state, however, that the CAISO and market participants could revisit the issue in a later release of MRTU after a period of experience with LMP.²⁹² Consistent with our guidance in prior orders, we continue to find that it is not appropriate to permit an opt-out provision until the CAISO and market participants have had some experience with LMP. Thus, we reject the request to include a LAP opt-out provision in Release 1.

617. We also disagree with Arizona/Southwest Coops' argument that small loads should have the ability to opt-into the LAP zone "of the party to the ETC that governs portions of their load." We believe that this option is unnecessary because the ETC rights holder can use the perfect hedge settlement mechanism, which exempts valid ETC schedules from all congestion charges, as discussed below. In short, Arizona/Southwest Coops have not demonstrated that the ETC perfect hedge instrument does not provide adequate protection; thus, we deny the request.

618. We agree with PG&E that the parameters that govern the CAISO's use of MRTU Tariff section 31.3.1.2 could significantly impact rates and find that the CAISO should provide further details on those parameters in MRTU Tariff section 31.3.1.2. This section currently states that "the CAISO will evaluate the validity of the binding constraints and if it is determined that the constraint can be relaxed based on the operating practices, will relax the constraint consistent with operating practices" and "the CAISO may 'soften' the Load Distribution Factor constraints on a node or sub-LAP basis, *i.e.*, adjust load at individual nodes or, in aggregate, a group of nodes to relieve the constraint in such a way that minimizes the quantity of load curtailed." While the CAISO anticipates using these provisions only under rare conditions, the provisions must be fully developed and transparent. Thus, the CAISO must revise this section to include the parameters that would govern its use of MRTU Tariff section 31.3.1.2. Accordingly, we direct the CAISO to file a compliance filing within 60 days of the date of this order reflecting this change.

²⁹¹ November 2005 Order, 113 FERC ¶ 61,151 at P 21.

²⁹² *Id.*

B. Metered Sub-Systems

619. The CAISO states that it intends to provide maximum flexibility to each MSS²⁹³ while integrating them into the MRTU structure.²⁹⁴ The CAISO proposes that, for each element of MRTU, MSS operators have the option of being treated like any other market participant, or, to the extent that the MSS operator wants treatment that recognizes its unique features and functions, it will be accommodated accordingly. The CAISO explains that MSS operators can elect on an annual basis to opt into or out of RUC with respect to their load. Further, an MSS operator may elect to accept the special treatment proposed for one element of the MRTU design and not another, where it is logically consistent and practically feasible to do so.

620. The CAISO states that under MRTU, three initial decisions must be made for each MSS Agreement: (1) will the MSS operator follow its own load;²⁹⁵ (2) does the Scheduling Coordinator for the MSS operator select gross CRRs and gross settlements, or net CRRs and net settlements;²⁹⁶ and (3) will the MSS operator opt into or out of the RUC procurement process. Pursuant to MRTU Tariff section 4.9.13, a MSS operator makes these three elections annually, and directs its Scheduling Coordinator to implement such decisions. The elections will be coincident with, or just prior to, the

²⁹³ Appendix A of the MRTU Tariff defines an MSS as a geographically contiguous system located within a single zone that has been operating as an electric utility for a number of years prior to the CAISO operations date as a municipal utility, water district, irrigation district, state agency or federal power administration. It is subsumed within the CAISO Control Area and encompassed by CAISO-certified revenue quality meters at each interface point with the CAISO-controlled grid and CAISO certified revenue quality meters on all generating units or, if aggregated, each individual resource and participating load internal to the system, which is operated in accordance with a MSS Agreement. An MSS operator is the entity that owns the MSS and has executed a MSS Agreement. MRTU Tariff, Appendix A, Master Definitions Supplement.

²⁹⁴ The CAISO states that it intends to respect and update the existing MSS Agreements between the CAISO and the NCPA, Roseville and Silicon Valley Power that were approved in connection with the Commission's approval of CAISO Tariff Amendment No. 46 and the MSS Agreements with the Cities of Anaheim and Vernon that have subsequently been approved by the Commission.

²⁹⁵ Load following, while not defined in the MRTU Tariff, is typically defined as the use of generation to meet the hour-to-hour and daily variations in system load.

²⁹⁶ Under gross settlement the CAISO will pay the MSS for its generation and bill the MSS's load for its demand. Under net settlement the CAISO will net the MSS's generation against its demand prior to billing the MSS's load for excess demand or paying for excess generation, as appropriate.

annual CRR allocation process for the monthly CRRs, to allow the alignment of CRR allocation with the implementation of the chosen energy settlement option.

621. The CAISO states that these elections are interrelated from the perspective of both the MSS operator and the CAISO. According to the CAISO, if the MSS operator chooses the load-following option, it is expected to use its generating unit capacity to supply its own load and, therefore, is considered to have opted out of the RUC process. The CAISO states that, in this case, settlements based on the use of the CAISO-controlled grid (*i.e.*, net settlement) would be consistent with the CAISO's economic dispatch, which would not necessarily have included the MSS units used for load-following.

622. According to the CAISO, pursuant to MRTU Tariff section 11.2.3.2.1, loads settling on a net basis must be settled at an MSS-specific LAP.²⁹⁷ The CAISO states that, since limiting load-following MSS operators to net settlements would prevent load-following MSS operators from participating in the large area default LAP pricing, MRTU allows load-following MSS operators to choose gross settlements. To address the inconsistency of this policy with economic dispatch, if the load-following MSS operator chooses gross settlements, the costs of the load-following dispatches are not included in the price of the LAP. The CAISO also states that load-following MSSs that choose gross settlements are subject to the load-following deviation penalty for load-following MSSs, a penalty that is distinct from, but somewhat analogous to, the CAISO's UDP provision that applies to non-MSS resources. According to the CAISO, pursuant to MRTU Tariff section 4.9.9.2, calculation of the load-following deviation penalty for a load-following MSS is intended to discriminate between resource deviations that actually follow MSS load deviations or CAISO dispatch instructions and those that do not, and to penalize the latter but not the former.

623. The CAISO states that all MSS resources that elect load-following resources, regardless of gross or net settlement election, are subject to the load-following deviation penalty, and all MSS resources not designated as load-following resources, regardless of gross or net settlement election, are not subject to the load-following deviation penalty. According to the CAISO, non-load-following resources of the MSS will be subject to the same resource-specific UDP provisions that apply to non-MSS resources under the CAISO tariff.

624. According to the CAISO, pursuant to MRTU Tariff section 36.10, if the MSS operator elects net settlement, then CRRs are allocated based on the MSS's net load, whereas if the MSS operator elects gross settlement, then CRRs are allocated on a gross load basis.

²⁹⁷ The CAISO states that, in consultation with its consultants and stakeholders, it determined that settling such loads at the default LAP price would create a disincentive to using high-priced generation to relieve congestion.

625. The CAISO states that it has not had the opportunity to fully address how day-ahead market and real-time market Bid Cost Recovery costs should be allocated to an MSS based on the different election options. The CAISO states that it intends to address how the allocation of Bid Cost Recovery will apply to MSS in a subsequent filing.

Discussion

1. MSS and Default LAP

626. San Francisco, Bay Area Municipals, and Cities/M-S-R state that the MRTU Tariff does not provide an adequate explanation of how MSS-specific LAPs will be developed, how congestion will be handled at the MSS-specific LAP level, or what impacts the MSSs will be exposed to as a result of this treatment. They argue that, absent clarification, MSSs will be left with unjust and unreasonable outcomes that force them to pay exorbitant prices. San Francisco and Bay Area Municipals request that the Commission order the CAISO to revise the MRTU Tariff to provide that MSS settlements of demand, on a net or gross basis, will be performed utilizing the default LAPs. Bay Area Municipals and Cities/M-S-R further add that the MRTU Tariff does not net output of resources located outside of the MSS against the MSS demand.

627. The CAISO responds to Bay Area Municipals' concerns regarding net and gross elections by explaining that an MSS entity in the situation described by Bay Area Municipals could choose to be a load-following MSS and to net settlements. The CAISO states that the financial liability Bay Area Municipals allude to would be reduced by this option, because the high prices paid by the MSS load would be offset by the high prices the MSS would receive from sales of its load-following generation. The CAISO does not believe that an MSS entity electing net settlements should be able to have their load settled at the default LAP.

628. The CAISO responds to San Francisco, Bay Area Municipals, and Cities/M-S-R's concerns regarding MSS-LAP definitions by explaining that the "MSS LAP is made up [of the pricing nodes] within the MSS that have load served off of those nodes; and MSS-LAPs have unique Load Distribution Factors that reflect the distribution of the MSS Demand to the network nodes within the MSS."²⁹⁸ The CAISO states that congestion at the MSS LAP level will be handled according to the provisions established in MRTU Tariff sections 4.9.4.6, 27.5.2, and 31.3.3.

629. The City of Santa Clara, California (Santa Clara) agrees with Bay Area Municipals' concerns regarding the net settlement of demand.²⁹⁹ Santa Clara contends

²⁹⁸ CAISO Reply Comments at 263.

²⁹⁹ We note that, while Santa Clara originally filed its intervention jointly with the City of Redding and M-S-R Public Power Agency, it filed reply comments individually.

that, while the CAISO response appears to address the financial liabilities outlined by Bay Area Municipals, it fails to consider MSSs which do not use internal generation to meet load. Santa Clara argues that if an MSS serves load located within a load pocket with energy from resources external to the MSS, the MSS could receive lower nodal LMP prices for its external generation and pay higher sub-LAP prices for its net load. Santa Clara states that the CAISO's answer, which argues that the financial liabilities identified by Bay Area Municipals would be hedged against the higher prices MSS load pays in the congested area, are unsubstantiated. Santa Clara contends that it is unjust and unreasonable and unduly discriminatory for the CAISO to treat net-settling MSS load in a congested area differently than non-MSS load in a congested area.

Commission Determination

630. We conditionally accept the MRTU Tariff provisions dealing with MSS. The CAISO has provided flexibility to the MSS; this is important not only for the MSS but for the CAISO. Each MSS may voluntarily choose between the gross and net settlement options. These options provide the MSS with flexibility, enabling it to select the option that best suits its system, after considering its system constraints. We further find that, while the CAISO, through testimony, has adequately defined the process by which MSS-LAPs will be developed,³⁰⁰ it has not sufficiently explained the process in the tariff. The Commission directs the CAISO to include a more thorough explanation of the MSS-LAP development process in its tariff in a compliance filing within 60 days of the date of this order. In addition, we find that section 36.10 adequately addresses congestion concerns voiced by San Francisco, Bay Area Municipals, and Cities/M-S-R. Section 36.10 sets forth the relationship between MSS gross or net settlement elections and CRR allocation, which is the foundation for the CAISO's congestion management system.³⁰¹ MRTU

³⁰⁰ CAISO Reply Comments at 263 & n. 598. We note that the CAISO cites Ex. ISO-9 at 9, but we believe it meant to cite Rahimi Testimony, Ex. ISO-4 at 9.

³⁰¹ MRTU Tariff section 36.10 provides:

An MSS that elects gross settlement may participate in the CRR allocation processes and be allocated CRR Obligations in accordance with Section 36.8. An MSS that elects net settlement may participate in the CRR allocation processes and be allocated CRRs in accordance with Section 36.8, except that its CRR Eligible Quantities will reflect its net load and its allocated CRRs will use MSS-LAPs as CRR Sinks.

Tariff section 36.8.4 defines sources and sinks for CRR allocation processes, including MSS-LAPS for MSS that elect net settlement.³⁰²

631. We are furthermore not convinced by Santa Clara's objections to the CAISO's response regarding the netting of demand. An MSS with external generation will not be affected insofar as it schedules the external generation in the day-ahead market and has the appropriate source to sink CRR from the generation LMP to the MSS LAP. Under the CRR program, the MSS would recover deficiencies from the netted external generation LMP to the higher priced load (MSS LAP). While it is true that MSS's located within a load pocket will face higher prices in the congested area, these prices will be offset by the CRRs an MSS receives for generation that is external to the MSS load.

2. Net Settlements

632. SoCal Edison opposes the net settlement option afforded to MSSs, asserting that it would allow an MSS to "cherry-pick" the net settlement option if the MSS is located at a low-price location and has an opportunity to pay the low nodal price for its load. SoCal Edison argues that all MSSs should be settled on the basis of their gross loads and generation. SoCal Edison states that the MRTU Tariff is discriminatory in this aspect, and does not afford other market participants the same rights as MSSs. SoCal Edison argues there is no operational requirement that net settlement should be available to MSSs, and that the option should therefore be eliminated.

633. Bay Area Municipals, Six Cities and Cities/M-S-R disagree with SoCal Edison's assertion regarding netting, and argue that the netting option is important because it allows an MSS to hedge internal congestion and be allocated CRRs on the basis of its net load. They request that the Commission reject SoCal Edison's argument, and retain the provision which allows an MSS to elect net or gross settlements.

634. The CAISO disagrees with SoCal Edison's assertion that all MSSs should be settled on a gross basis, and clarifies that if an MSS entity chooses net settlements, the generation of the MSS entity is not paid the LMP as long as it is used to balance its load;

³⁰² MRTU Tariff section 36.8.4 states:

Sources for CRR nominations in the annual and monthly CRR Allocation processes can be either pricing nodes or Trading Hubs.
Sinks for CRR nominations in the annual and monthly CRR Allocation processes can be either LAPs, or sub-LAPs to the extent permissible under Section 36.8.3, or MSS-LAPs for those MSS that elect net settlement per section 11.2.3.2.

only the excess, if any, will be paid the LMP. The CAISO requests that the Commission reject SoCal Edison's suggestion.

Commission Determination

635. We find that MSSs are uniquely situated entities that merit treatment that differs from that accorded to PTOs.³⁰³ The MRTU Tariff, coupled with the MSS Agreements, is designed to provide governmental and non-PTO entities with flexibility to enhance participation in California markets. The CAISO has worked diligently with MSSs to develop a plan that accommodates the historic operation of an MSS, and we will not diminish these accommodations by denying MSSs the right to net settlements. Rather, we find that it is reasonable and consistent with our prior determinations to allow MSSs to have a choice of settlement options.³⁰⁴

3. MSS Agreements

636. Vernon and Cities/M-S-R argue that changes are necessary to MRTU Tariff sections 11.2.1.6 (Allocation of IFM Marginal Losses Surplus Credit), 11.5 (Real-Time Market Settlements), 11.8 (Bid Cost Recovery), and 11.18 (Emissions Costs). Vernon and Cities/M-S-R state that newly defined cost components require clarification so as to avoid violating the intent of MSS agreements. Vernon and Cities/M-S-R urge the Commission to direct the CAISO to amend the filing to assure that MSSs shall not be allocated costs in violation of the terms of their MSS agreements.

637. Cities/M-S-R assert that, under MRTU Tariff section 11.8.6, a load-following MSS could be allocated uplift costs, which it states would be inconsistent with the MSS Agreements. The uplift costs addressed in MRTU Tariff section 11.8.6 include IFM, RUC, and Real-Time Market Bid Cost Uplifts.

638. NCPA argues that MRTU Tariff section 31.4 violates the cost causation principles outlined in the MSS agreements. NCPA states that the MSS agreements protect MSS loads and schedules from being cut if an LSE in the control area is short of resources for economic reasons. NCPA explains that a load-following MSS is intended to meet load in real-time, and cannot achieve this goal under the current provisions of section 31.4. NCPA requests that a load-following entity be exempt from section 31.4.

³⁰³ *Cal. Indep. Sys. Operator Corp.*, 100 FERC ¶ 61,234, at P 45-46 (2002).

³⁰⁴ *Id.* (finding proposal to allow the MSS Operator to choose whether to be charged by the ISO on a gross load basis or a net load basis for start-up and emission charges to be reasonable; net metered demand option would avoid double-charging the MSS Operator's customers that pay the MSS Operator's start-up and emission costs in their contracts).

639. SoCal Edison argues that load-following MSS should not be excluded from the uplift costs outlined in section 11.8.6. SoCal Edison states that Cities/M-S-R have not provided a compelling argument explaining why load-following MSS should be exempt from these charges. SoCal Edison contends that it is perfectly reasonable to allocate these costs to load-following MSSs.

640. According to the CAISO, the MSS agreements require the CAISO to base charges on the principle of cost causation. The CAISO contends that allocating uplift charges to load-following MSSs is consistent with this aspect of the MSS agreement(s). The CAISO reasons that load-following MSSs should not be exempt from these uplift charges because the fact that an MSS follows its own load does not mean that the MSS load and generation are isolated from the CAISO grid and are not benefiting from the reliable operation of the grid. The CAISO argues that it has developed a cost allocation program for MSS entities under the MRTU Tariff that is just and reasonable. The CAISO further states that it has “not had the opportunity to fully address how day-ahead market and real-time market Bid Cost Recovery costs should be allocated to an MSS based on the different (gross/net) elections.”³⁰⁵ The CAISO states that it intends to address how the allocation of Bid Cost Recovery will apply to MSSs and to address this in a subsequent filing.

641. The CAISO addresses NCPA’s concerns by reiterating that it will not behave in a manner contrary to the provisions of its MSS agreements. The CAISO further explains that NCPA did not distinguish between a load-following MSS and a non-load-following MSS or an MSS electing net or gross settlements. The CAISO states that the congestion management provisions applicable to an MSS entity under the MRTU Tariff will depend upon the elections of the MSS entity.³⁰⁶

642. NCPA states that MRTU Tariff section 4.9.14.2 is inconsistent with its MSS agreement. NCPA states that the MRTU Tariff requires the MSS to show sufficient “generating capacity,” while the MSS agreement requires a showing of sufficient “capacity reserves.” NCPA requests that the MRTU Tariff be modified in order to more directly align with the terminology present in the MSS agreement.

643. The CAISO does not believe the MRTU Tariff needs to be modified to address NCPA’s concerns. The CAISO states that the terminology used to define “generating capacity” in the MRTU Tariff and “capacity reserves” are virtually identical, and do not necessitate change. Furthermore, the CAISO points out that the term “generating capacity” was contained in the existing CAISO tariff, and does not need to be altered for the MRTU Tariff.

³⁰⁵ CAISO Reply Comments at 265 (citing CAISO Transmittal Letter at 87).

³⁰⁶ CAISO Reply Comments at 259-260 (citing MRTU Tariff sections 4.9.4.6, 27.5.2 and 31.3.3).

644. Cities/M-S-R argue that MRTU Tariff sections 33.1 and 33.3 make it difficult for load-following MSSs to stay within their three percent deviation and Scheduling Coordinator portfolio. Cities/M-S-R argue that it is necessary to modify section 13.12 of the MSS agreement, because the deviation band is currently determined based on the lower of hour-ahead and metered demand. Cities/M-S-R state that the deviation band should be based on metered demand, if the hour-ahead demand cannot be changed.

Commission Determination

645. We disagree with Cities/M-S-R and Vernon regarding their interpretation of the cost allocations in MRTU Tariff sections 11.2.1.6 (Allocation of IFM Marginal Losses Surplus Credit), 11.5 (Real-Time Market Settlements), 11.8 (Bid Cost Recovery), and 11.18 (Emissions Costs). MRTU Tariff sections 11.2.1.6, 11.5 and 11.8 each introduce new market features for California. As such, these market features are subject to section 3.6 of Vernon's and Cities/M-S-R's MSS agreements. MSS agreement section 3.6 states that "[i]f components of the MRTU design are not known until after the execution of this [MSS] Agreement, the Parties agree to amend this Agreement in accordance with Sections 3.4 and 3.5.2." Clearly, the MRTU Tariff sections at issue here are new market design elements that were developed after the execution of the MSS agreement and are the type of future market design component contemplated by section 3.6 of the MSS agreements. Consequently, the MSS Agreements may be modified to accommodate these new market design elements. In addition, MRTU Tariff section 11.18, which deals with emissions costs, contains minor changes that should have a minimal effect on the cost allocation issues Cities/M-S-R and Vernon identify. We therefore reject Cities/M-S-R's and Vernon's arguments.

646. The CAISO states that it has not had the opportunity to fully address how day-ahead market and Bid Cost Recovery costs should be allocated to MSSs, based on different elections, and promises to make a future filing addressing this issue. We direct the CAISO to make a compliance filing within 30 days after finalizing its proposal concerning how to allocate day-ahead market and Bid Cost Recovery costs to MSSs, but no later than 180 days prior to the effective date of MRTU Release 1. In addition, we note that the CAISO has committed to work with parties to update existing MSS agreements so as to minimize any confusion between these agreements and the MRTU Tariff.

647. We agree with NCPA that section 31.4 of the MRTU Tariff conflicts with section 7.5 of NCPA's MSS Agreement, which provides that NCPA shall not be curtailed in a system emergency due to failure of other LSEs to provide sufficient resources or

maintain an approved credit rating.³⁰⁷ While the CAISO promises not to act contrary to the provisions of its MSS Agreements, the MRTU Tariff must explicitly state the CAISO's intentions. Accordingly, we direct the CAISO to make a compliance filing within 60 days of the date of this order modifying section 31.4 to clarify that the provisions of that sub-section apply only to the extent they do not conflict with any MSS Agreement.

648. NCPA expresses concern that MRTU Tariff section 4.9.14.2, which requires the MSS to show sufficient "generating capacity," is inconsistent with its MSS Agreement, which requires a showing of sufficient "capacity reserves." While the CAISO indicates that the two terms are "almost identical," it does not justify why different terms are needed, other than to note that the language exists in the current CAISO tariff. Accordingly, we direct the CAISO to modify section 4.9.14.2 within 60 days of the date of this order and replace "generating capacity" with "capacity reserves."

649. It is not apparent why Cities/M-S-R ask to modify their MSS Agreement to base the deviation band (for penalty purposes) on metered demand, if the hour-ahead demand cannot be changed. In the event that hour-ahead demand is lower than the metered demand for a particular interval, the current provision of the MSS Agreement would be to Cities/M-S-R's advantage. The CAISO has informed us that it is committed to working with MSSs to update MSS agreements to make them more compatible with MRTU. We urge Cities/M-S-R to pursue this issue with the CAISO.

4. Load-following MSS deviation from forecast

650. NCPA and Cities/M-S-R argue that section 31.5.2.2 improperly penalizes MSSs that deviate from their forecast. NCPA further explains that if the MSS entity collects penalty points above a specific limit, it would lose its exemption from RUC and be subject to the RUC process (and allocation of RUC costs) for the remainder of the applicable time period. NCPA and Cities/M-S-R argue that these penalties are not appropriate for load-following MSSs and require clarification by the CAISO.

651. The CAISO agrees with NCPA and Cities/M-S-R regarding the penalty points that are assigned to MSSs that deviate from their forecast. According to the CAISO, an MSS entity that elects to be a load-following MSS automatically elects to opt-out of the RUC. The CAISO states that MRTU Tariff section 31.5.2.2 is only applicable to non-load-following MSSs, but acknowledges that this aspect of the MSS proposal needs to be reflected in the MRTU Tariff. The CAISO states that it will provide the necessary tariff changes in a compliance filing.

³⁰⁷ ISO First Replacement Tariff, Vol. No. 1, Service Agreement No. 457 (NCPA MSS Aggregator Agreement) section 7.5, Docket No. ER02-2321-003 (filed Sept. 27, 2002).

Commission Determination

652. We direct the CAISO to make a compliance filing within 60 days of the date of this order clarifying that MRTU Tariff section 31.5.2.2 is applicable only to a non-load-following MSS, which retains the choice to opt-in or opt-out of RUC.

5. Deviation Band

653. NCPA argues that the description of the deviation band must be clarified throughout section 4.9.9. NCPA states that section 4.9.9.1 requires load-following MSSs to match the metered demand in the MSS and exports for the MSS. NCPA asserts that, while “Metered Demand” is defined, the term “exports” is not defined, and the definition of “Metered Demand” could be interpreted to include exports. NCPA appears to argue that the additional term “exports” should be deleted from section 4.9.9.1.

654. The CAISO states that the terms identified by NCPA in section 4.9.9 are incorporated in the existing CAISO tariff and do not require clarification.

Commission Determination

655. We find that the terms used in section 4.9.9 to define the Deviation Band are sufficiently clear, and require no further clarification or modification. While we agree with NCPA that the term “Metered Demand” could be interpreted to include “exports,” the addition of the term “exports” in the MRTU Tariff makes plain that exports should be included in assessing whether the MSS is within the Deviation Band.³⁰⁸ Furthermore, these terms are already incorporated in the existing CAISO tariff and have not been the subject of confusion in the past.

6. Load-Following Estimates

656. NCPA and Cities/M-S-R argue that section 34.6 improperly turns the MSS’s “upcoming 120 minute” preview of its estimated amount of generation over the next two hours into dispatch instructions that bind the MSS entity. NCPA and Cities/M-S-R assert that this provision is problematic because failure to abide by dispatch instructions could result in uninstructed imbalance energy charges/penalties under sections 11.5.2, 11.23, 34.11.1 and 34.12. Cities/M-S-R highlight section 34.12, which provides that “MSS Operators are responsible for following Dispatch Instruction,” as raising a concern that MSSs could be subjected to uninstructed deviation penalties. NCPA asserts that a load-

³⁰⁸ In addition, retaining the term “exports” in 4.9.9.1 creates a parallel grammatical structure between “Generation and imports,” on the one hand, and “Metered Demand and exports,” on the other, which adds to the clarity of how deviations from the Deviation Band are assessed.

following entity is supposed to meet its load in real time and should not be penalized for deviation from estimates because load cannot be forecast with “ironclad certainty” or controlled by the MSS. Cities/M-S-R assert that this would create an atmosphere too strict for load followers, and ask the Commission to instruct the CAISO to delete or amend 34.6(e) to reflect the understanding NCPA and Santa Clara have with the CAISO that Santa Clara/NCPA’s submission of their load-following plans in section 34.12 may result in the CAISO’s submission of Dispatch Instruction to *other, non-MSS generating units* – but not back to the MSS.

657. The CAISO disagrees with NCPA’s assumptions regarding the load estimates provided to the CAISO by a load-following MSS. The CAISO states that in order to efficiently dispatch the rest of the system in real time, the CAISO needs to have a means to estimate the expected behavior of the load-following MSS. The CAISO states that section 34.6 is necessary because it allows the CAISO to coordinate the dispatch of a load-following MSS entity’s resources if the entity has both load-following and non-load-following resources.

658. The CAISO states that NCPA is misguided with respect to its characterization of uninstructed imbalance energy as “penalties” under sections 11.5.2 and 11.23 of the MRTU Tariff. The CAISO explains that a load-following MSS has always been subject to the imbalance energy provisions of the CAISO tariff as well as the additional 200 percent deviation penalty for shortfalls of generation outside the deviation band.

659. The CAISO further clarifies that NCPA, as a load-following MSS, is exempt from MRTU Tariff section 11.23 penalties. The CAISO agrees to clarify any grammatical errors in this section that may lead a load-following MSS to believe it is subject to section 11.23 penalties.

Commission Determination

660. We find that section 34.6(e) is reasonable because, as the CAISO explains, it provides the CAISO with the means to estimate the load-following MSS’s anticipated behavior, which in turn enables the CAISO to dispatch efficiently the rest of the system in real time. Also, section 34.6 allows the CAISO to coordinate the dispatch of a load-following MSS entity’s resources if the entity has both load-following and non-load-following resources.

661. We also find that section 11.5.2 is reasonable because a load-following MSS that improperly relies on the CAISO system should be required to pay for imbalance energy as well as any pertinent deviations. As the CAISO points out, load-following entities are already subject to imbalance energy provisions under the current CAISO tariff. We further accept the CAISO’s proposal to clarify that a load-following MSS is not subject to

penalties under section 11.23 and direct the CAISO to submit a compliance filing with this modification within 60 days of the date of this order.

662. With regard to the Cities/M-S-R's concerns about section 34.12, the Commission agrees that a load-following MSS should not be hindered from following its load. The CAISO explains that

[I]n order to efficiently dispatch the rest of the system in Real Time the CAISO needs to have a means to estimate the expected behavior of the Load following MSS and this is the reason for having the Load following MSS provide the CAISO with instructions. The provision also allows the CAISO to coordinate the dispatch of a Load following MSS entity's resources if the entity has both Load following and non Load following resources. The CAISO will not be dispatching the designated Load following resources of a Load following MSS as implied by NCPA.

However, the CAISO's intent is not clear in section 34.12. Therefore, we direct the CAISO to make a compliance filing within 60 days of the date of this order to clarify section 34.12 and clearly set forth the applicability of dispatch instructions to load-following MSSs.

7. Default Status Prior to Election to Be load-following

663. Cities/M-S-R state that MRTU Tariff section 4.9.13 is vague with respect to the default elections an MSS must make. Cities/M-S-R request clarification to determine whether the default positions apply to all MSSs for the first year of the MRTU operation, or only to those MSSs that do not make timely elections. Cities/M-S-R request that the CAISO revise the MRTU Tariff to provide that MSSs may make the three prescribed elections prior to MRTU Tariff effectiveness.

Commission Determination

664. The Commission agrees that section 4.9.13 is vague and requires clarification by the CAISO. The deadline for the CRR allocation process plays a crucial role in determining when an MSS must make its initial elections, and must be clarified. We direct the CAISO to clarify the CRR allocation timeline, and accordingly the MSS elections, in the Business Practice Manuals. We also direct the CAISO to make a compliance filing within 60 days of the date of this order that adequately references this timeline in MRTU Tariff section 4.9.13.

8. MSS Penalty Exemption

665. Cities/M-S-R argue that penalty provisions in section 31.5.2.2.2 for an MSS utilizing its own demand forecast should include an “exemption provision” for non-load-following MSSs that would allow reassessment of the penalty based on the experience of initial operations and factors beyond the MSS operators control.

Commission Determination

666. We do not find persuasive Cities/M-S-R’s request to modify section 31.5.2.2.2 to allow exemption from the assessment of penalties in certain circumstances. Non load-following MSSs that opt-out of RUC and wish to avoid penalties associated with deviating from their own forecast (i.e., being assigned RUC costs) can elect to self-schedule according to the CAISO forecast. Furthermore, the MRTU Tariff allows an MSS that deviates from its self-scheduled forecast to acquire up to 20 penalty points (and no more than five points within one day) within 12 consecutive months before being required to opt-in to RUC (i.e., being assigned RUC costs). We find that this provision provides MSSs such as Cities/M-S-R with a sufficient buffer to address initial operational difficulties and factors beyond their control. Accordingly, we deny Cities/M-S-R’s request.

9. Capacity Nominations

667. NCPA argues that section 30.5.2.5 inhibits an MSS from responding in real time to avoid exceeding its deviation band. NCPA states that in order to avoid such a deviation, an MSS must retain the entire capacity of specific units in the form of load-following capacity, which it can call upon during a contingency. NCPA requests modification of the MRTU Tariff to permit an MSS to nominate the entire range of a unit’s capacity.

668. NCPA asserts that MRTU Tariff section 30.7.3.4, which provides that the CAISO will construct bids for resource adequacy to the extent bids have not been submitted for the full range of the resource, applies to load-following entities. NCPA argues that this will not work for a load-following MSS. NCPA argues that this issue should be addressed in the MSS agreements. NCPA further asserts that the CAISO has not justified its proposal to prohibit the designation of an RMR resource as a load-following entity.

669. The CAISO states that NCPA’s concern regarding the nomination of a resource’s entire range of capacity is misplaced. According to the CAISO, the MRTU Tariff does not restrict a load-following MSS from nominating the entire range of a unit’s capacity as loadfollowing. The CAISO states that, while a load-following MSS is required to submit an energy bid in the real-time market for the full range of identified load-following capacity, the CAISO will not dispatch the load-following MSS resource within its

declared load-following capacity range. In other words, the resource still remains available for dispatch by the MSS. In addition, the CAISO confirms for NCPA that a load-following MSS is not subject to MRTU Tariff section 30.7.3.4.

670. The CAISO further adds that it must have the ability to dispatch an RMR resource for local reliability purposes and, therefore, an RMR resource may not be designated as an MSS load-following resource. The CAISO states that it will incorporate this change into the MRTU Tariff in a compliance filing.

Commission Determination

671. We find that MRTU Tariff section 30.5.2.5 allows a load-following MSS to nominate the entire range of a resource's capacity for load-following without requiring the MSS to submit a bid. The CAISO adds that it will not dispatch the resource within the declared range, leaving it available for the MSS to dispatch. Thus, we believe that NCPA's concern has been addressed. However, this commitment needs to be clearly stated in the tariff. Similarly, while the CAISO states that a load-following MSS is not subject to MRTU Tariff section 30.7.3.4, the tariff needs to state this explicitly. Therefore, we direct the CAISO to submit a compliance filing within 60 days of the date of this order modifying MRTU Tariff sections 30.5.2.5 and 30.7.3.4 accordingly. We further find that local reliability concerns justify the CAISO's decision not to allow an MSS to designate an RMR resource as a load-following resource. We direct the CAISO to make a compliance filing within 60 days of the date of this order modifying the MRTU Tariff accordingly.

10. Identification of Resources

672. Cities/M-S-R state that MRTU Tariff section 4.9.13.2 requiring designation of generating resources as load-following in the CAISO's Master File is too restrictive. Cities/M-S-R argue that the MRTU Tariff should be modified to allow an MSS to change its designation on a daily, if not hourly, basis.

Commission Determination

673. We find the request by Cities/M-S-R to modify the MRTU Tariff to allow an MSS to change designation of resources as load-following on a more frequent basis to be reasonable, but do not have before us an adequate record to determine the appropriate frequency. The CAISO states that it "intends to provide maximum flexibility in attempting to integrate [MSSs] into the MRTU structure."³⁰⁹ Accordingly, we direct the CAISO to submit a tariff modification in a compliance filing within 60 days of the date of this order that provides for more frequent changes in the MSS elections. In the

³⁰⁹ CAISO Transmittal Letter at 85.

alternative, if the CAISO believes that more frequent modifications are infeasible, we direct them to provide an explanation.

11. Internal Congestion and Transmission Losses

674. NCPA contends that the language in section 31 is incomplete and confusing with respect to costs allocated to an MSS operator as they pertain to internal congestion. NCPA argues that the section contains a duplicative sentence, and should clarify that “costs associated with the MSS Operator resolving its internal congestions and transmission losses in the MSS will be the responsibility of the MSS Operator.”

Commission Determination

675. We agree that section 31.3.3 contains duplicative terminology. Accordingly, we direct the CAISO to make a compliance filing within 60 days of the date of this order removing the following sentence: “Costs associated with internal Congestion and Transmission Losses in the MSS will be the responsibility of the MSS operator.”

12. Reporting of Outages

676. Cities/M-S-R argue that MRTU Tariff sections 4.9.4.6 and 4.9.5.3 should be amended to read: “An MSS Operator must notify and communicate with the CAISO regarding transmission line outages to the extent the MSS has a reasonable ability or knowledge that such outages impact the CAISO-controlled grid.” Cities/M-S-R further argue that the MSS demand forecast requirements in section 4.9.5.3 are unnecessary, as section 6.1 of the Santa Clara MSS Agreement already requires the MSS to submit demand forecasts.

Commission Determination

677. We disagree with Cities/M-S-R’s analysis of section 4.9.4.6. The reporting of outages is important to the CAISO’s reliable operation of the grid, and to the extent that an MSS operator is uncertain of the impact of a transmission line outage within its system on the CAISO-controlled grid, the MSS operator should report it to the CAISO. Therefore, we accept this section as filed. We disagree with Cities/M-S-R’s comments regarding section 4.9.5.3. The MRTU Tariff does not require an MSS to provide a demand forecast; the MSS has the option of using the forecast provided by the CAISO, and, therefore, no modifications to the tariff are necessary here.

13. Emissions, Start-Up Fuel, and Minimum Load Costs

678. Cities/M-S-R state that MRTU Tariff section 4.9.14.3 proposes a methodology for compensating and charging MSS operators for emissions, start-up fuel and minimum load

costs that is inconsistent with the current MSS methodology specified in MSS Agreement section 13.10.2. Cities/M-S-R urges the Commission to instruct the CAISO to add the following introductory phrase to this section, “Unless specified otherwise in the MSS or MSS agreement(s).”

Commission Determination

679. We find that section 4.9.14.3 is inconsistent with the current MSS methodology. Accordingly, we direct the CAISO to make a compliance filing within 60 days of the date of this order modifying this section by including the introductory phrase suggested by Cities/M-S-R.

14. Western Payments

680. Trinity PUD argues that the MRTU Tariff proposes a “concept that could result in Western having to pay (as opposed to being paid) when Western generates hydroelectric energy.”³¹⁰ Trinity PUD argues that the MRTU Tariff should be modified to avoid this result.

681. The CAISO states that Trinity is incorrect in its assumptions regarding negative LMPs. The CAISO explains that, for entities utilizing ETCs and CRRs, negative LMPs are not an issue because these entities are hedged against the congestion price differential. The CAISO argues that a negative LMP is an appropriate price signal because it indicates that the level of congestion or over-generation is high enough that an entity is willing to pay to deliver energy, resulting in the CAISO paying others to take or export energy. The CAISO is committed to working with entities that have concerns regarding negative LMPs, and invites them to submit specific examples to the CAISO so the CAISO can explain how appropriate bidding practices can address their concerns about negative LMPs.

Commission Determination

682. The “concept” Trinity PUD refers to is negative LMPs. We find, as the CAISO explains, that negative LMPs can provide appropriate price signals in certain circumstances such as overgeneration (generating more energy than scheduled) during low-load periods. To the extent that an entity generates net energy into the CAISO markets during such periods of over-supply, it could face negative LMPs. However, as long as its generation is balanced by load and it utilizes ETCs and CRRs, we agree with the CAISO that the entity would be hedged against the effect of LMPs. We also note that the existing CAISO tariff already allows for negative real-time prices, and, consequently, we disagree with any suggestion that negative prices are a new concept introduced under

³¹⁰ Trinity Reply Comments at 7.

MRTU. Finally, the CAISO has indicated its receptiveness to further address this issue, and we recommend that entities concerned about negative LMPs raise their concerns with the CAISO.

15. Miscellaneous Tariff Language Revision

683. Cities/M-S-R argue that MRTU Tariff section 7.7.2.2 should be modified to replace: “the agreement through which the MSS Operator undertakes to the CAISO to comply with the provisions of the CAISO Tariff” with “MSS Agreement.” Cities/M-S-R further argue that the MRTU Tariff lacks requisite definitions for the terms “MSS Demand” and “MSS Supply” located in section 11.2.3.2. Cities/M-S-R further state that the exemption from RUC Bid Cost Recovery allocation of costs in section 31.5.2.2 for RUC “opt-outers” should be more clearly defined in section 11.8.

Commission Determination

684. We agree with Cities/M-S-R’s concerns regarding sections 7.7.2.2 and 11.2.3.2. We also agree that the cost allocation for RUC “opt-outers” should be clarified in an amendment to the MRTU Tariff. We direct the CAISO to make a compliance filing within 60 days of the date of this order modifying the MRTU Tariff accordingly.

685.

C. Demand Response and Participating Load

686. Under MRTU, the CAISO plans to continue its current Participating Load Program. To be eligible, a load must execute a Participating Load Agreement with the CAISO and demonstrate its effective dispatch capability. While some protestors raise issues regarding the CAISO’s Participating Load Program, the CPUC, PG&E, the State Water Project and San Francisco state that the CAISO is waiting too long to implement additional demand response programs and the CAISO should accelerate its work on demand response. Under MRTU, loads with demand response capability will be able to submit price sensitive bids into the day-ahead and real-time markets. Thus, MRTU provides demand resources with the opportunity to participate in the CAISO markets under comparable requirements as supply, and receive the corresponding market value. Additionally, such loads will also be able to sell ancillary services such as non-spinning reserves. All other demand response programs including those where customers receive payments and incentives to curtail are operated by LSEs instead of the CAISO.

687. The CPUC states that it has, along with the California Energy Commission, placed a priority on the development of demand side and renewable resource development and urges the CAISO to integrate such resources into the MRTU market design without delay. PG&E is concerned that the absence of a reasonable means to assess the full range of demand response programs will cause the CAISO to overly rely upon its backstop

procurement mechanisms, thereby causing redundant and unnecessary expenses to California energy consumers.

688. The CAISO acknowledges that it is a desirable goal to provide opportunities for other demand response resources to participate in the California market and agrees to work with market participants to provide additional opportunities in Release 2.

Commission Determination

689. The lack of effective demand response programs in electricity markets can lead to greater price volatility in wholesale markets. Price responsive loads that have the requisite metering and the technical capability to respond quickly to the CAISO's instruction to reduce demand can be critical in times of tight supplies by providing reserves and reducing peaks. Price-responsive demand moderates price increases for all customers (because some demand is willing to be reduced rather than pay higher prices for energy from more expensive units) and it also helps to check potential market power because it provides a countervailing willingness to reduce demand in the face of high prices. We believe that federal and state regulators need to work together to create more opportunities for demand response. Recognizing the importance of demand response programs for the effective operation of electricity markets, we direct the CAISO to work with market participants to present additional opportunities for demand response resources to participate in the CAISO market.

690. With respect to PG&E's concern that an absence of a reasonable means to assess the full range of demand response programs may cause the CAISO to rely excessively on its backstop procurement mechanisms, we direct the CAISO to work with LSEs and account for expected demand response within RUC procurement. We further note that the CPUC, PG&E, the State Water Project and San Francisco have not explained to what degree there are barriers to incorporating demand resources in MRTU as proposed. We believe the continuing development of demand response is an effective route to produce CAISO markets that are competitive and that can be relied upon to produce rates that are just and reasonable for customers. We therefore direct parties interested in further developing demand resources in the CAISO markets to provide proposals to the Commission that detail new avenues for incorporating price-responsive demand in MRTU. We expect that any proposal will fully consider and describe the systems and tools necessary to assure that demand response is measurable, dispatchable and capable of being included in MRTU. We direct the CAISO to collaborate with the interested parties and assist them in developing their proposals. We direct these parties to file these proposals within 60 days of the date of this order.

1. Resource Adequacy Resources

691. The CPUC and AREM express concerns regarding the ability of demand response to be designated as resource adequacy resources. The CPUC states its resource adequacy program allows for demand response that meets certain deliverability criteria to count as qualifying resources, but the CAISO's resource adequacy plan does not adequately allow for demand response resources to count as qualifying resources, and AREM argues that in order for demand response resources to count towards resource adequacy requirements, the resources must be able to offer themselves into the CAISO day-ahead and real-time markets. The CPUC calls on the CAISO to address demand response issues as soon as possible, prior to Release 2, as a matter of highest priority.

692. The CAISO disagrees with arguments regarding the inclusion of participating load in the resource adequacy program. The CAISO explains that it is not clear how the CAISO's market rules fail to reflect the CPUC's treatment of demand response resources. The CAISO states that the MRTU Tariff does not prohibit the designation of demand response resources as resource adequacy resources. The CAISO states that capacity from participating load resources can be counted as qualifying capacity, provided that doing so is consistent with the eligibility rules established by the CPUC and applicable Local Regulatory Authorities.

Commission Determination

693. The MRTU Tariff does not expressly prohibit demand response from serving as a resource adequacy resource. We understand that under the CPUC resource adequacy program demand response may count toward qualifying resources. Nothing in this tariff should interfere with the CPUC's program as it relates to which resources count toward resource adequacy. However, we note that, in order to achieve reliability, any demand response program developed by a Local Regulatory Authority must be compatible with the CAISO's reliability needs. To the extent that the CAISO's ability to call on demand response resources included in LSEs' resource plans is limited or not compatible with the CAISO's operational needs, the CAISO must take measures to ensure other resources are available for grid reliability. Therefore, we encourage all Local Regulatory Authorities to ensure that demand response resources included in their resource adequacy programs can be made available to the CAISO in a way that is compatible with the CAISO's operational and reliability needs and reduces CAISO's backstop procurement. It is important for the CAISO to recognize the availability of these programs in any backstop procurement such as RUC.

2. Participating Load

694. AREM, CPUC, PG&E, Metropolitan, and the State Water Project express reservations regarding the delayed inclusion of participating load demand response until

Release 2. They state that the Commission should order the CAISO to permit participating load to offer a demand response product in the day-ahead market in Release 1. PG&E further adds that the Commission should direct the CAISO to include provisions for the CAISO's participating load program for demand response that is able to be dispatched, as well as appropriate provisions to reflect the contributions of other demand response that cannot be dispatched. In addition, the State Water Project and PG&E state that the MRTU Tariff does not allow participating load to bid into the HASP. The State Water Project and PG&E argue that the tariff should be modified to allow participating load to bid into the HASP and be settled on the same basis as generators. The State Water Project also advocates billing participating load at the nodal price.

695. The CAISO disagrees with protests regarding the ability of participating load to actively partake in the CAISO markets. The CAISO explains that an omission in the definition of "Supply" is responsible for the protesters' confusion. The CAISO states that MRTU Tariff section 33.3 is intended to allow participating loads to self-schedule in the HASP in Release 1; however, due to an omission on the CAISO's behalf, this ability is unclear. The CAISO states that it will modify the definition of "Supply" to include participating load, and allow it to be treated as a negative generator. The CAISO further adds that it will make that change in a tariff compliance filing and clarifies that participating loads, like all demand, may also buy or self-schedule demand in the day-ahead market.

696. The CAISO further clarifies the role of participating load in the MRTU Tariff by agreeing to modify MRTU Tariff section 30.5.3.2. The CAISO states that it will modify the tariff to clearly state that participating load will be scheduled and settled at the nodal level, rather than the LAP level, in the day-ahead and real-time markets. However, the CAISO states that it will not accommodate dispatches of participating load that have not bid into the CAISO markets. The CAISO allows for one exception to this rule and states that it reserves the right to dispatch participating load that has not submitted a bid, if necessary, pursuant to its exceptional dispatch authority consistent with good utility practice. The CAISO further clarifies that pumping load³¹¹ that has not undertaken these requirements and responsibilities would not qualify as participating load.

Commission Determination

697. We find that the instant filing does not adequately consider participating load. We agree with protesters that, as written, the MRTU Tariff appears to create a barrier to participation in the CAISO markets. However, the clarifications provided by the CAISO indicate that participating load will be able to self-schedule in the HASP. We direct the CAISO to modify the definition of "Supply" in MRTU Tariff section 33.3 in a

³¹¹ The MRTU Tariff defines pumping load as a hydro pumping resource that is capable of responding to dispatch instructions by ceasing to pump.

compliance filing within 60 days of the date of this order. We direct the CAISO to include in its compliance filing tariff language clarifying that it will dispatch participating load in accordance with bids, or in accordance with applicable tariff provisions for an exceptional dispatch. We further direct the CAISO to make a compliance filing within 60 days of the date of this order clarifying section 30.5.3.2 to indicate that participating load will be scheduled and settled at the nodal level.

3. Modeling of Participating Load

698. The State Water Project argues that the modeling of participating load is in need of refinement. The State Water Project explains that the use of a negative generation model for participating load would be beneficial, but adds that a non-software solution is still desirable. Moreover, the State Water Project states that if the CAISO's current software can accommodate the multi-dispatch operating points for participating load, the upgraded software for MRTU should be able to accommodate multi-dispatch operating points for participating load. The State Water Project adds that participating load should be allowed to submit bids in the same manner as generators. The State Water Project states that, under the MRTU Tariff, generators are able to submit their bids with eleven dispatch operating points. The State Water Project contends that it is reasonable to afford participating load the same flexibility.

699. The CAISO states that a complete solution for the modeling of participating load has not yet been developed. The CAISO outlined the negative generation model in its answer to reply comments, and explained that this model can be used for participating pumped storage, and other participating load that has characteristics similar to large pump load.³¹² The CAISO explains that Release 2 improvements should support either

³¹² The CAISO states that the negative generation model will: (1) allow resources to submit a two-part bid that includes shut-down curtailment costs and pump energy costs; (2) allow, in the bid, for resources to be considered either all on or all off; (3) not support aggregation of individual pumps or load in Release 1; (4) model day-ahead market resources as negative generators that can only submit offers to buy in the day-ahead market; (5) in the real-time market, allow resources to offer to curtail from their day-ahead schedule (if scheduled in the day-ahead market) or offer to pump in the real-time market if they are not scheduled to pump in the day-ahead market; (6) be permitted to self-schedule in the HASP; however, once self-scheduled in the HASP, these resources may not offer to buy and sell in the real-time market; (7) only be able to bid to buy energy in the day-ahead market, and if scheduled, the pump load will be charged the applicable day-ahead market LMP; (8) eligible to provide non-spinning reserves; (9) not support load ramping; and (10) will not have any inter-temporal constraints. The CAISO states that, if participating load is not scheduled in the day-ahead market, it incurs no charges. According to the CAISO, in real time, any curtailments from the day-ahead

individual load or aggregated load under a custom aggregation scheme. To further accommodate concerns regarding the feasibility of modeling participating loads, the CAISO agrees to investigate a non-software solution for the negative generation model.

Commission Determination

700. While we anticipate that the CAISO and the State Water Project will work together to more fully develop a model for participating load, we recognize that a short-term solution is necessary. We direct the CAISO to work with the State Water Project to investigate non-software solutions for participating load modeling for use in Release 1, and to propose tariff modifications, if necessary, no later than 180 days prior to MRTU implementation no later than 180 days prior to the effective date of MRTU Release 1.

4. Miscellaneous Participating Load Issues

701. The State Water Project raises a number of specific issues with respect to the treatment of participating load under the MRTU Tariff, including: (1) there are a number of provisions concerning resources that discuss generation but not participating load, and should include participating load; (2) MRTU provisions for bidding and settlement of participating load contain word choice errors and mismatched terms between what participating load bids under section 30 and settlement under section 11; (3) MRTU cost allocations for ancillary services costs improperly allocate costs based on metered demand without considering whether participating load has been successfully bid into CAISO markets; (4) participating load amounts whose supply bids are accepted into CAISO markets should be settled on the same basis as generators; (5) participating load that adjusts its schedules in the HASP should be charged based on net negative uninstructed deviation from the hour-ahead schedule.

702. The CAISO agrees that the MRTU Tariff's treatment of participating load is not sufficiently refined, and offers to work with the State Water Project to improve the MRTU Tariff's handling of the unique constraints posed by participating load.

Commission Determination

703. We agree that the MRTU Tariff could benefit from further refinement in its treatment of participating load. The State Water Project has outlined several areas that it argues are in need of attention, and we agree. We direct the CAISO to work with the State Water Project to improve the MRTU Tariff's handling of the unique constraints posed by participating load and to make a compliance filing with the revised tariff

market will be settled at the nodal LMP plus any shut-down curtailment costs subject to Bid Cost Recovery.

provisions within 30 days following conclusions of discussions with the State Water Project, but no later than 180 days prior to the effective date of MRTU Release 1.

V. Transmission Rights

A. Congestion Revenue Rights

704. The CAISO states that a critical piece of the CAISO's MRTU market design is the replacement of the existing path-specific firm transmission rights created for the CAISO's original zonal congestion management design with CRRs appropriate for an LMP-based congestion management design. The CAISO asserts that CRRs will allow market participants to obtain financial protection from the risk of congestion charges associated with the LMP congestion management design in MRTU's day-ahead market.

705. Since the Commission's October 2003 Order approving in concept the CAISO's CRR proposal,³¹³ the CAISO, along with stakeholders, and most recently with significant assistance by LECG, has continued to develop its CRR allocation methodology. The CAISO asserts that the final proposal, contained in MRTU Tariff section 36, is the approach that: (1) satisfied the CAISO's own criteria for releasing CRRs and (2) garnered the support of a plurality of stakeholders.³¹⁴

Overview of CRR Release Process

706. The CAISO proposes to conduct an annual process that releases seasonal CRRs and to conduct a separate process each month for the release of monthly CRRs. In each of these processes, the CAISO will release CRRs applicable to two time-of-use periods, peak and off-peak periods. In general, the CRRs will be obligations, not options.³¹⁵ This means that, if congestion costs are negative, the CRR holder will have to make a payment. In contrast, option CRRs grant the right to collect positive congestion revenues but would not impose an obligation to pay negative congestion revenue.³¹⁶ Negative

³¹³ See October 2003 Order, 105 FERC ¶ 61,140 at P 171, 174.

³¹⁴ The CAISO states that the majority of its stakeholders do not favor an auction approach to CRRs, nor do they support a simplified allocation methodology offered by the CAISO on its website on September 27, 2005.

³¹⁵ Section 36.11 states that sponsors of merchant transmission will be allocated options CRRs if costs are not recovered through access charges or other regulatory cost recovery mechanism. The CAISO explains that details of this allocation will be subject to further stakeholder review.

³¹⁶ Option rights tend to be less financially risky instruments. However, option rights also tend to reduce the total quantity of rights available to the system that could result in an LSE being awarded fewer CRRs. The basic reason for this reduction in rights

congestion revenue occurs when the LMP at the CRR's point of injection (source) is higher than the LMP at the CRR's point of withdrawal (sink).

707. The CAISO explains that there are two components of each annual and monthly CRR release process: the CRR allocation and the CRR auction. Participation in the allocation process will be limited to LSEs. According to the CAISO, the objective of the CRR allocation process is to provide LSEs with protection against congestion costs that they may incur serving demand under an LMP-based market system. The annual and monthly CRR allocations will be followed by an auction for CRRs. The CAISO notes that participation in the auction is open to all entities that satisfy certain criteria, such as credit requirements.³¹⁷

708. The LSE eligibility for CRR allocation in the annual process will be calculated separately for each season and time-of-use period and each LAP in which the LSE serves demand. Each LSE's annual eligibility is based on its historical demand, with appropriate adjustments to reflect load migration. The CAISO proposes that the determination of eligibility for monthly CRRs in the monthly allocation will be based on forecasted demand rather than historical demand.

709. The CAISO explains that the number of CRRs awarded in the CRR release process will be limited to the transmission capacity of the CAISO's grid. To ensure this condition is met, the CAISO will apply a simultaneous feasibility test. In determining how many seasonal CRRs are simultaneously feasible, the CAISO will make 75 percent of the grid's transmission capacity available in the network model, reserving the remaining 25 percent for the monthly release process. The CAISO submits that the monthly CRR release process will be conducted approximately 15-30 days prior to the start of each month and notes that, while 100 percent of the transmission capacity will be available in the simultaneous feasibility test, the network model used in the monthly CRR release process will account for planned transmission outages and derates.³¹⁸

is that the financial counterflow payment embodied in obligation rights cannot be assumed for option rights and therefore, cannot be relied on for revenue adequacy.

³¹⁷ In addition to the CRRs awarded in the allocation process, CRRs may be available for purchase in the auction, in part, because some of these CRRs may provide counterflow, which would support the sale of additional CRRs. *See* CAISO Transmittal Letter, Attachment P, LECG Testimony, Ex. ISO-2 at 169-170 (LECG Testimony).

³¹⁸ MRTU Tariff section 9.3.6.3.2 provides for a 45-day notice requirement for the scheduling of transmission outages, eliminating the current 72-hour advance notice requirement. The CAISO states that this 45-day advance notice requirement is needed so that it can incorporate the outage information into the Full Network Model that is used for determining the CRRs available for monthly release.

710. The CAISO explains that the allocation process will consist of tiers. Within each tier, a participant will be allowed to nominate a certain percentage of the total amount of CRRs it is eligible to request. After each tier, the CAISO will run the simultaneous feasibility test on all nominated CRRs to determine the set of feasible CRRs and accordingly, what CRRs can be awarded. The CAISO asserts that, by running separate, sequential simultaneous feasibility tests for each tier, LSEs will be able to maximize their chances of receiving the CRRs they value most.

711. In general, the CAISO explains that sources for CRRs in the allocation process can be either pricing nodes or trading hubs and that sinks for CRRs can be either LAPs, or sub-LAPs.³¹⁹ However, the CAISO explains that an interconnection between a neighboring control area can also be a CRR source to the extent that certain requirements set forth in the MRTU Tariff are satisfied. The CAISO believes that this will allow LSEs to obtain CRRs to avoid congestion costs associated with imports. Additionally, the CAISO points out that 50 percent of the residual intertie capacity will be reserved in the CRR allocation to make it available in the CRR auction. According to the CAISO, this will ensure that marketers and other entities participating in the CRR auction will have an opportunity to obtain CRRs associated with imports.

712. The CAISO explains that, under MRTU Tariff section 36.8.3.4, year-one nominations for CRR allocations must be source verified. The CAISO explains that the source verification process will require an LSE to demonstrate that, during a historical reference period, the LSE had an entitlement to receive energy from the nominated sources to serve its demand. The CAISO proposes that source verification will use data for the period beginning September 1, 2004, and ending August 31, 2005, as the basis for verification. The CAISO argues that basing the CRR allocation on a period that has already occurred avoids the potential for the allocation process to distort incentives to contract for energy. Therefore, the CAISO states that the end date of the historical period was chosen to correspond to the time frame during which these validation rules were described to market participants.

713. Under MRTU Tariff section 36.8.3.5(a), after the initial CRR release in year one and for all subsequent years, LSEs will be able to nominate a percentage of previously-awarded seasonal CRRs through the priority nomination process. According to the CAISO, the priority nomination process increases the likelihood that LSEs can keep the same CRRs for multiple years, if desired. The CAISO states that this is important to support long-term contracting and investment in new generation. Additionally, the

³¹⁹ The CAISO states that it will also allow LSEs to request CRRs that will enable LSEs that can serve their load from multiple supply nodes to obtain a bundle of CRRs that provide an optimal congestion hedge at least cost. These specialized CRRs are referred to as multi-point CRRs.

CAISO submits that the priority nomination process eliminates the need for the CAISO to perform verification of nominated CRR sources after the first year, which simplifies the ongoing allocation process.

714. The CAISO states that, under the priority nomination process, CRRs can evolve over time in response to changing needs, or can remain constant over multiple years provided they comprise no more than 33.3 percent of the LSE's annual eligibility in Year Two of MRTU and no more than 66.7 percent in Year Three and thereafter. The CAISO argues that, by sequencing the reallocation of previously awarded CRRs ahead of the allocation of new CRR requests, the process maximizes the likelihood that the previously awarded CRRs will remain simultaneously feasible from year to year.

715. The CAISO adds that the MRTU Tariff limits the quantity of CRRs that can be nominated under the priority nomination process to ensure that customers who exercise retail choice and change LSEs are not harmed with respect to CRR coverage.

Allocation of CRRs to External Load

716. Under MRTU Tariff section 36.9, the CAISO states that it will offer CRRs to those LSEs that serve external load and that demonstrate a legitimate need to nominate CRRs. The CAISO proposes to use the same allocation process the CAISO performs for LSEs with internal load, in exchange for pre-payment of the wheeling access charge for the period for which the requested CRR is valid. The CAISO explains that the pre-payment amount will equal the MWs of CRRs requested times the wheeling access charge associated with the scheduling point corresponding to the CRR sink. To determine an LSE's legitimate need to participate in this allocation process, the CAISO states that it will consider generation facilities within the CAISO Control Area that are owned or under contract to the LSE serving external load.

717. The CAISO asserts that because the CRR allocation process enforces a simultaneous feasibility test, there is some chance that the LSE will be allocated less than the full amount of requested CRRs for which it pre-paid. The CAISO proposes to reimburse within 30 days following the completion of the relevant CRR allocation process the amount of money pre-paid for any CRRs that were not allocated.

718. The CAISO explains that it will apply an eligible quantity to the amount of CRRs an LSE with external load can request in this process similar to restrictions placed on internal load. The CAISO explains that an LSE with external load seeking a CRR allocation will have to provide data that will allow the CAISO to calculate the LSE's hourly use of the CAISO grid to export power.

719. The CAISO states that the proposal does provide an opportunity for LSEs serving load outside the CAISO Control Area to receive CRRs through the allocation process, but

recognizes the differences between external loads and internal loads with respect to their need to rely on the CAISO-controlled grid and the level of certainty that such LSEs will pay CAISO access charges and congestion charges.

Discussion

1. Hedging the Risk of Congestion Costs

720. Bay Area Municipals, Lassen, TANC, San Francisco and Cities/M-S-R each submit that the CAISO's CRR proposal results in an inadequate hedge against congestion. First, they assert that the CRR proposal provides a hedge only for day-ahead market congestion, and does not provide any congestion protection against congestion incurred in the real-time market. Second, they believe that the CRR instrument as currently proposed cannot provide a complete hedge against congestion but is instead merely a mechanism by which market participants can manage scarce infrastructure resources and their resulting congestion costs. The protestors assert that the CAISO has never addressed the issue of the likely gap between available CRRs and anticipated annual congestion costs. Finally, these entities believe that obligation CRRs carry with them a much higher risk than option CRRs.

721. PG&E cautions that the roll-out of an LMP-based market without adequate CRRs could dramatically increase procurement costs for all LSEs, even for those that are fully hedged for energy with sufficient supply arrangements, and could potentially result in market failure. PG&E believes that the CRR allocation process is complex, and that PG&E's and other market participants' ability to secure sufficient hedges is a significant unknown at this point. PG&E asserts that the CAISO CRR studies conducted to date have resulted in wide ranges of individual hedging results and that many of these results would, if binding, represent unacceptable levels of new costs and risks under MRTU. Western argues that CRRs are meant to provide a long-term right to serve existing loads, and, therefore, to arbitrarily choose a percentage of rights to be allocated is inconsistent with the needs of LSEs.

722. The CAISO explains that LSEs can import low cost generation only to the extent that there is sufficient transfer capability to meet their load. Where load in a particular location exceeds the transfer capability of the transmission system to that location, some load must be met with potentially high cost generation inside the load pocket. The CAISO notes that this is true under the current market design and that it is true under a physical or contract path rights design. The CAISO believes that financial rights such as CRRs simply cannot and should not pretend to eliminate physical grid limitations that can only be mitigated through infrastructure investment.

723. The CAISO argues that a significant benefit of MRTU is that under an LMP-based market design, all of the transfer capability of the transmission system is available to

support CRRs. The CAISO points out that this is an important advantage relative to a physical rights or contract path system under which a portion of the true transfer capability of the grid goes unscheduled day-ahead and unused in real-time due to contract path fictions and the lack of real-time congestion management. The CAISO further explains that under LMP, LSEs have an incentive to enter into contracts with generation within the load pocket to offset congestion charges for the portion of their load that cannot be met with imported energy. This is an advantage over the current market design, in which there is a disincentive to enter into such generation contracts because out-of-merit dispatch costs are socialized.

724. The CAISO states that a fundamental benefit of the MRTU market design is that it will enable LSEs to protect themselves against congestion costs through a combination of CRR holdings, generation ownership, and contracts. The CAISO states that this objective of enabling LSEs to protect themselves against congestion charges through generation ownership and contracts as well as CRR holdings is also essential to support the CPUC's resource adequacy design.

725. The CAISO explains that congestion charges provide signals to Scheduling Coordinators regarding which parts of the transmission system are experiencing congestion in hopes that Scheduling Coordinators will make alternative, less congested, and less expensive scheduling decisions. The CAISO adds that the purpose of CRRs is not to distort those signals or otherwise eliminate congestion charges. Rather, the CAISO states that CRRs exist to offset congestion costs associated with changes in the level of LMP-based congestion charges incurred in the day-ahead market for market participants that have long-term load serving obligations and resource commitments.

726. The CAISO explains that the number of CRRs awarded is limited by a simultaneous feasibility test to ensure that the awarded CRRs do not exceed the transfer capability of the transmission system. The CAISO believes that the reason for this link between the award of CRRs and the transfer capability of the transmission system is that payments to CRR holders must be funded; these payments are intended to be funded by the congestion charges collected by the CAISO in settling the day-ahead market, not by uplift charges paid by market participants or from CRR auction revenues.

727. The CAISO disagrees with protestors' assertions that the use of CRR obligations makes the CRR program less valuable or provides less of a hedge. To the contrary, the CAISO explains that CRR obligations allow the CAISO to award a larger number of CRRs in both MW and dollar terms than would be the case if LSEs were awarded CRRs defined only as options. The CAISO argues that this is because CRRs defined as obligations can provide counterflow that relieves otherwise binding constraints in the simultaneous feasibility test, while CRRs defined as options do not provide counterflow.

728. The CAISO asserts that the Commission has previously approved the use of both CRR obligations and CRR options.³²⁰ Also, the CAISO points out that the eastern ISOs have successfully deployed obligation instruments and in some cases option instruments have also been made available.³²¹

729. The CAISO disputes the assertion that CRRs are inadequate because they apply only to day-ahead market congestion charges. The CAISO argues that CRRs are settled only in the day-ahead market and are settled at day-ahead prices, but any CRR used to support a schedule in the day-ahead market becomes a real-time financial right that is effectively a real-time CRR. The CAISO explains that an LSE is protected against real-time congestion charges on real-time transmission usage matching its day-ahead schedule.

Commission Determination

730. We conditionally accept MRTU Tariff section 36. The Commission previously determined that the allocation of CRRs has several important objectives, including providing an allocation that is, among other things, simultaneously feasible in a security constrained power flow as well as “fair and consistent with how the underlying costs of the CAISO’s transmission system are recovered.”³²² The CAISO’s CRR proposal is based on expected usage of the system, considers that there is some retail choice, puts into place measures to safeguard LSE nominations from year to year, and has been developed through an extensive stakeholder process, and is in part based on the experience gained by existing LMP-based markets.³²³ While further refinement of the CRR proposal and tariff provisions are warranted, as discussed below, we find that, in general, the CAISO’s initial CRR allocation proposal is a reasonable approach to equitably award CRRs and is not unduly discriminatory.

731. While a number of protestors complain that the CAISO’s CRR proposal provides an imperfect hedge, in fact, CRRs are not designed to hedge against all congestion costs. As noted by the CAISO, “if a market participant schedules injections and withdrawals of power in the day-ahead market at the source and sink of its CRR in the MW amount of its CRR, the payment and charge will net to zero and the market participant will incur no net congestion charges for its transmission usage.”³²⁴ An LSE’s ability to hedge against real-time congestion charges in an LMP market depends primarily on the extent to which the LSE’s day-ahead scheduling decisions match its CRR holdings. Those scheduling

³²⁰ October 2003 Order, 105 FERC ¶ 61,140 at P 177.

³²¹ LECG Testimony, Ex. ISO-2 at 19-21.

³²² October 2003 Order, 105 FERC ¶ 61,140 at P 171.

³²³ CAISO Transmittal Letter at 24.

³²⁴ LECG Testimony, Ex. ISO-2 at 13.

decisions rest with the LSE, not with the CAISO, and do not indicate any inherent flaw in the CRR rules.

732. In addition, protestors assert that the CAISO has never addressed the issue of the likely gap between available CRRs and anticipated annual congestion costs. Their concern is that there are not enough CRRs to fully hedge all load that transacts in the CAISO Control Area. This is entirely possible. As most market participants are aware, transmission capacity within the CAISO Control Area is constrained. This fact does not indicate a failing of the CRR proposal, but reflects a genuine need for additional transmission capacity. We note that the need for additional transmission capacity is completely independent of the CAISO's CRR proposal and would exist regardless of whether transmission service is allocated under a physical or financial transmission rights regime. This is because financial transmission rights are the equivalent of physical transmission rights and, like physical transmission rights, the quantity of CRRs is limited to the transfer capability of the transmission system. We do not pretend that financial rights such as CRRs can eliminate physical grid limitations that exist today, which can only be mitigated through infrastructure investment.

733. Finally, certain protestors believe that obligation CRRs carry with them a much higher risk than option CRRs. It is true that obligation CRRs may result in a negative payment stream to the CRR holder. However, obligation CRRs tend to make more CRRs available to market participants than option CRRs. On balance, the benefits CRR obligations provide to customers outweigh the potential risk of a negative payment stream. The Commission has previously found it reasonable for the CAISO to issue CRR obligations,³²⁵ and we have not been persuaded otherwise.

2. Methodology for Nominating and Allocating CRRs

734. NCPA argues that market participants do not yet know how many CRRs they will receive, or at what locations. NCPA further asserts that obligation CRRs make it difficult for LSEs to analyze which CRRs they should request at which locations with the limited pricing information that has been produced. NCPA argues that until it is possible for market participants to review a range of study outcomes and perform independent analysis of different scenarios, there can be no meaningful CRR nominations, and no meaningful CRR distributions.

735. Six Cities assert that the Commission previously required the CAISO to provide actual CRR allocations to market participants simultaneous with the filing of the MRTU

³²⁵ October 2003 Order, 105 FERC ¶ 61,140 at P 177.

Tariff,³²⁶ and the CAISO has not complied with this directive. Six Cities add that the CRR provisions in the MRTU Tariff provide merely a theoretical framework that does not allow the Six Cities to evaluate in any concrete way the likely impact of the MRTU market design on their procurement plans and costs. Six Cities argue that the Commission should not accept the CAISO's proposed CRR provisions unless and until the CAISO provides information on actual, final CRR rights and a mechanism to establish long-term transmission rights.

736. Bay Area Municipals and Lassen similarly assert that the financial impact of the CAISO's CRR proposal is unknown because the CAISO has not yet completed a comprehensive study of CRRs with market participants that tests the efficacy of the CRR proposal under different market scenarios.

737. PG&E states that it is concerned that objective standards of CRR adequacy have not yet been established and believes it would be most appropriate to determine those standards in advance of any testing. PG&E recommends that the CAISO and its stakeholders develop objective CRR adequacy standards in a future technical conference and that an extensive CRR testing process follow development of such standards.

738. CMUA argues that LSEs simply do not have the proposal specificity and data to make an informed decision as to the justness and reasonableness of the CAISO's proposal. CMUA asserts that neither does the Commission.

739. CMUA believes that the Commission must bring the empirical studies to a close under its auspices, with discovery by all parties. Also, CMUA asserts that the Commission must then mandate that allocations be filed for scrutiny well before market start up and that this is the only action that will instill market confidence in the allocation outcomes.

740. The CAISO argues that it conducted an exhaustive stakeholder process on CRRs that resulted in an MRTU Tariff containing extensive details of the CRR program, including the characteristics of the instruments and how, when, and to whom they will be allocated and auctioned. The CAISO points out that the CRR Business Practice Manual is being developed, and will be a helpful user's guide to the CAISO's CRR systems and procedures, but will not contain any jurisdictional rates, terms and conditions of service not addressed in the MRTU Tariff. The CAISO asserts that proposed MRTU Tariff section 36, concerning CRRs, satisfies the Commission's "rule of reason" concerning the level of detail that must be included in jurisdictional tariffs.

³²⁶ See *id.* P 172 (“[W]e will require that the CAISO file detailed information on the proposed first year allocation when it files its proposed tariff instituting the CRR allocation method.”).

Commission Determination

741. We agree with protestors that the CAISO must file more detailed information concerning CRR allocation, especially how many CRRs it anticipates each market participant will be allocated. Moving to an LMP market with CRRs is a major paradigm shift in the California market, and market participants are entitled to more detailed information prior to making their CRR allocation requests and submitting auction bids. It is our understanding that the CAISO and stakeholders are in the process of conducting a CRR dry run, which will allow all parties to become familiar with the new process and will provide market participants with valuable information as to their potential CRR holdings. It is also our understanding that a report will be made available to the Commission by the end of January 2007. Consistent with our previously expressed interest in the dry run, we direct the CAISO to file with the Commission within 30 days of its completion, for informational purposes, the complete results of the CRR dry run, including the CRRs allocated to each market participant and the extent (e.g., percent) to which the allocated CRRs cover the participant's needs and requests.

742. We agree with the CAISO that not all of the details pertaining to CRRs need to be contained in the MRTU Tariff. However, until the Business Practice Manual addressing CRRs is finalized, we cannot determine whether some information contained in the Business Practice Manual should be included in the MRTU Tariff instead.

743. We emphasize that, while we find the CAISO's proposed approach to the CRR allocation and auction methodology to be reasonable, the "devil is in the details," and we will continue to monitor the CAISO's refinement of its CRR proposal. If the CRR dry run or the actual CRR allocation and auction processes yield outcomes that appear to be unjust and unreasonable, we will revisit the CAISO's methodology of allocating CRRs.

3. Allocation of CRRs to External Load

744. A number of parties, including NCPA, SMUD, CMUA, Cities/M-S-R, Western, TANC/Modesto, and Roseville argue that the Commission should reject the proposed CRR allocation provisions that treat LSEs that serve load outside the CAISO Control Area differently. They assert that the allocation of CRRs to external loads is discriminatory because, unlike internal loads that are allocated CRRs based on historical use, external loads must demonstrate a legitimate need, and pre-pay an access charge. NCPA argues that there is no reason to distinguish between LSEs inside or outside the CAISO Control Area, provided the CRR allocation is verified as related to actual, existing or planned generation and load. Western states that it is fundamentally unfair and lacks comparability of treatment to provide greater service to internal loads when both internal and external entities pay the CAISO for the same services. TANC and Modesto assert that the CAISO's proposal unjustifiably subjects entities that serve

external load to a tougher standard and higher costs; they argue that, since there is no factual basis to discriminate, the CRR allocation proposal is unduly discriminatory.

745. CMUA argues that an equitable policy for determining whether an LSE is entitled to receive a CRR should be based on whether or not the LSE has historically paid and continues to pay for the embedded cost of the transmission grid. CMUA argues that no other requirement is necessary, and that any other proposal which differentiates between LSEs based other factors is discriminatory.

746. TANC and Modesto point out that the pre-payment of the wheeling access charges costs the entity making the pre-payment, at a minimum, the interest it could have otherwise earned on those funds. Moreover, TANC and Modesto assert that LSEs serving load outside the CAISO Control Area will, in many cases, be required to pay a demand based reservation charge that could result in an access charge above the cost of TACs for those LSEs serving load in the CAISO Control Area.

747. Modesto states that the CAISO and other parties appear to be disinterested in preserving reliability in the WECC when they claim that not allocating CRRs to LSEs serving load outside the CAISO Control Area is simply a matter of choice and not a matter of resource adequacy and reliability. TANC and Modesto argue that LSEs serving load outside the CAISO Control Area have long-standing commitments for resources to meet their resource adequacy requirements and are dependent on the resource to meet their customer needs.

748. TANC asserts that the CAISO and other parties also seem to neglect to consider that the LSEs serving load outside the CAISO Control Area have, over the last several decades, contributed significant sums toward the embedded cost of the transmission system. Roseville argues that the CRR proposal fails to provide allocations for which Roseville has paid and will continue to pay for the embedded costs of the transmission system.

749. TANC and Modesto urge the Commission to order the CAISO to make a compliance filing to include provisions that allocate CRRs to all entities within California that serve load in a similar fashion.

750. SMUD states that it is dependent upon the CAISO Controlled Grid to meet its load obligations but would not qualify for a CRR allocation to cover wheel throughs it has long relied upon to serve its load, because the MRTU Tariff does not permit it to make a showing of need. SMUD asserts that the CAISO's CRR allocation policy is driven by a discriminatory intent to punish customers who have elected to leave its control area.

751. SMUD argues that the CAISO's proposal is short of what Order No. 888 requires because it does not offer all transmission customers service equivalent to what is

available under the *pro forma* tariff. Additionally, SMUD adds that if the CAISO offers firm service in the form of CRRs to any customer it must offer that service to all customers on the same basis. Second, SMUD argues that it violates FPA section 205's bar on undue discrimination. Third, SMUD states that it violates the Commission's precedent on the treatment of CRR allocations to LSEs outside an ISO control area.³²⁷ Fourth, SMUD asserts that the CAISO's legitimate need standard, forbidding allocations for through and out service, flouts the Commission policy.

752. The CPUC states that it opposes allocation of any CRRs to external load because CRRs are a product of a new market design and are market assets, and a finite resource that the CRR study shows are insufficient to meet load requests within the CAISO Control Area. The CPUC states that, if FERC accepts the CAISO's proposal, then it recommends that the Commission adopt the CAISO's limited proposal regarding CRRs for external load, which mandates pre-payment of TAC charges.

753. SoCal Edison believes that external entities should not be entitled to CRR allocations, but rather they should be required to participate in the CRR auction. SoCal Edison challenges the CAISO's proposal to allow entities serving load outside of the CAISO Control Area to participate in the allocation.

754. SoCal Edison contends that the CAISO's proposal for allocating CRRs to external load is equivalent to giving participants with external load a free option. SoCal Edison argues that the CAISO's proposal allows for external load to be allocated a CRR if the CAISO believe prepaying the transmission fees is cheaper than purchasing the desired CRR in the auction. SoCal Edison suggests that the Commission reject or modify the CAISO proposal to allocate CRRs to load outside of the CAISO Control Area.

755. SoCal Edison states that if the Commission does not reject the proposal, the proposal should be modified. As proposed, SoCal Edison contends that it appears that once in the allocation process, external load would be given the same priority as load within the control area. SoCal Edison argues that it is unreasonable that an entity not making a full commitment by contributing their transmission capacity, and that always has the option not to participate in future allocations, would be allowed equivalent treatment as internal load that cannot avoid CAISO grid usage. SoCal Edison believes that the CAISO should modify this section to specify a priority for allocation to those entities serving load within the CAISO-controlled grid that have demonstrated a need for such rights before providing any allocation to load outside of the control area.

³²⁷ According to SMUD, allocation of CRRs to customers must be based on their use of the system regardless of whether they are located in the transmission provider's control area and regardless of whether they use the service for exports or transmission entirely within the control area.

756. In its reply comments, TANC states that it believes the Commission should reject the approach advocated by the CPUC. TANC adds that rather than erect barriers to trade, the CAISO should be a vehicle for promoting a more uniform market in the West. NCPA, in its reply comments, states that it believes that SoCal Edison's position is unjust to entities with external load that have contributed to the costs of the CAISO grid in the past and continue to do so.³²⁸ NCPA argues that external load also could potentially be exposed to more volatile congestion charges since the intertie points with other control areas will not be included in the LAP zones.

757. In its reply comments, SoCal Edison states that the Commission has already ruled on this aspect of the allocation process by stating: “[a]s a general matter the CAISO’s proposal to allocate CRR obligations to all loads not covered by ETC rights within the CAISO Control Area seems reasonable.”³²⁹ However, SoCal Edison believes that it is not reasonable for an entity that has not transferred control of its transmission system to the CAISO to have equal priority to congestion rights as those that have made a commitment to the CAISO grid by becoming a PTO.

758. The CAISO argues that its CRR allocation proposal is consistent with approaches used by other ISOs and RTOs with LMP-based markets and that it strikes the appropriate balance in the manner in which it will allocate CRRs to entities serving external load and those entities serving load internal to the CAISO Control Area. The CAISO contends that it was necessary to find this balance in the treatment of these differently situated entities because each entity has different going-forward obligations with respect to use of transmission in the CAISO Control Area and payment of the associated costs on a going-forward basis.

759. The CAISO asserts that its external load proposal ensures that entities serving external load are eligible for CRR allocations to the extent that they can prove a legitimate need and take on an obligation to pay the embedded costs of the transmission in the CAISO Control Area during the CRR allocation period by prepaying the appropriate TACs.

760. The CAISO argues that a claim of undue discrimination must necessarily rest on the premise that two entities being treated differently are in fact so similarly situated that disparate treatment is unfair. The CAISO states that entities serving external load are fundamentally different because they are free to avoid access charges by contracting

³²⁸ NCPA points out that its member, Roseville, owns shares of NCPA generation inside the CAISO Control Area, which was built to serve Roseville load and on which Roseville continues to rely. However, Roseville's load is outside the CAISO Control Area not as a result of its own actions, but due to a decision by Western to depart the CAISO Control Area.

³²⁹ October 2003 Order, 105 FERC ¶ 61,140 at P 171.

around the CAISO-controlled grid. Also, the CAISO states that its CRR program recognizes that the difference between internal and external load is the degree to which those entities are obligated to pay the embedded costs of the transmission in the control area during the CRR allocation period. The CAISO adds that it has gone to great lengths to ensure that those external entities that rely on the CAISO Controlled Grid and can demonstrate that they satisfy appropriate criteria, can nominate and receive allocated CRRs.

761. The CAISO argues that pre-payment of the access charge is warranted because otherwise, external load could obtain a CRR and not schedule exports from the CAISO grid. In this case, the CAISO asserts that the CRR would become purely a financial asset, rather than a needed hedging instrument. Additionally, the CAISO states that it is important to realize that an entity serving external load that obtains a CRR under the terms of the CAISO's proposal and then schedules energy utilizing the same source and sink and number of MW as the awarded CRR in each hour of the term of that CRR will incur wheeling access charges exactly equal to the amount of its pre-payment for the CRR.

762. The CAISO believes that this pre-payment requirement is consistent with prior Commission orders in which the Commission found that historical support for the embedded costs of the grid does not justify allocation of financial congestion rights; rather, entities must pay the embedded costs of the transmission system on a prospective and long-term basis to receive an allocation of financial congestion rights.³³⁰

763. The CAISO states that it does not challenge SMUD on the degree to which SMUD is or is not dependent on the CAISO-controlled grid, but only seeks to remind the Commission that the CAISO's responsibility as an independent control area operator is to reliably provide open, non-discriminatory access to the grid. The CAISO states that, unlike internal LSEs who are totally dependent on the CAISO-controlled grid, SMUD has strategic choices, yet demands that the CAISO give it preferential treatment through allocated CRRs. Also, unlike internal entities that have contracted with or built generation within the CAISO Control Area, entities such as SMUD that wheel power through the control area do not demonstrate the same level of commitment to pay for the embedded cost of the system.

764. Additionally, the CAISO states that, because wheel-throughs require both imports and exports through the CAISO Control Area, the CAISO suspects that one of SMUD's concerns is its ability to acquire sufficient CRRs for imports into the CAISO Control Area. The CAISO points out that it has proposed to reserve 50 percent of the residual import capacity so that some capacity would be available in the auction for parties that

³³⁰ *New England Power Pool*, 100 FERC ¶ 61,287, at P 85 (2002).

cannot participate in the allocation process but are importers into the CAISO Control Area.

765. The CAISO believes that it should not create disparate treatment for members of the external load class, nor does the CAISO believe that internal LSEs and external loads should be afforded the same treatment. Additionally, the CAISO states that it does not claim the CRR program affords equal treatment to external load and internal LSEs.

Commission Determination

766. We accept the proposed MRTU Tariff provisions requiring entities serving external load to pre-pay transmission service charges in order to receive allocation of CRRs concerning treatment of external load as just and reasonable and not unduly discriminatory.³³¹ The CAISO may impose this pre-payment requirement because external load is situated differently than internal load with respect to its ongoing reliance on the CAISO grid.³³² If an LSE with external load intends to continue to use the CAISO grid as a means of serving its load, pre-payment of the wheeling access charge is not unduly discriminatory. By making this pre-payment, that LSE signals its intention to continue to utilize the CAISO transmission system, and is therefore eligible, like an LSE serving internal load, to participate in the CRR allocation process. Through this process, external load can hedge itself against congestion charges at intertie points in the same manner that internal load can hedge itself against congestion charges at the LAP.

767. We recognize that commentors have polarized opinions regarding how and whether CRRs should be allocated to external load. Although we do not agree with those that argue that pre-paying the wheeling access charge is unduly discriminatory, we also disagree with commentors that argue that LSEs with external load should never be allowed to participate in the allocation process. The CAISO proposal permits the allocation of CRRs to LSEs serving external load if these LSEs make the following demonstration. First, external LSEs must demonstrate that they have historically utilized the CAISO transmission grid and that they have existing energy contracts with resources internal to the CAISO. Next, external LSEs have to demonstrate a desire to export energy from these resources for the purpose of serving their external load. Similar to LSEs serving internal load, LSEs with external load will have their historical usage of the transmission grid and their existing energy contracts verified by the CAISO. Additionally, by pre-paying the wheeling access charge, external load can demonstrate that they plan to continue taking transmission service from the CAISO.

768. One of the stated objectives of the CRR proposal is to allocate CRRs to entities that will continue to use the CAISO transmission grid and, accordingly, to those entities

³³¹ See MRTU Tariff section 36.9.

³³² Kristov Testimony, Ex. ISO-1 at 92; see MRTU Tariff section 36.9.2.

that will continue to pay the embedded costs of the transmission system. We find that the CAISO's proposal provides external LSEs with an opportunity to make a demonstration of legitimate need and affords them the opportunity, upon successful demonstration of legitimate need, to participate in the CRR allocation process as if they were LSEs serving internal load. Additionally, we find that these demonstrations are not unduly or financially burdensome. Instead, we find these demonstrations to be a legitimate requirement proposed by the CAISO to establish that CRRs allocated to external LSEs will serve as a hedge against actual congestion charges and not serve simply as a financial instrument.

769. Lastly, we find that the pre-payment requirement is consistent with the treatment of external load in other energy markets.³³³ We note that the CAISO's MRTU Tariff does not preclude external load from participating in the annual and monthly CRR auctions, and thus provides another avenue by which entities serving external load may acquire CRRs.³³⁴ We disagree with TANC and Modesto regarding interest being paid to entities who pre-pay the wheeling access charge. It would not be appropriate for entities to receive interest payments from these pre-payments while they are benefiting from having the financial insurance of being hedged against future congestion charges. Lastly, we disagree with Modesto that the CAISO's CRR proposal will adversely affect reliability and note that CRRs are merely financial transmission rights that serve to hedge participants against congestion charges.

4. Participating Load

770. The State Water Project states that the priority nomination process fails to address participating load. The State Water Project argues that the tariff may have the effect of denying participating loads that are settled nodally the priority grandfathered CRRs. The State Water Project asserts that no justification is offered for denying CRRs, and such treatment would be unduly discriminatory. Thus, the State Water Project requests clarification that CRRs will be available on a nodal basis to participating load.

771. The State Water Project explains that participating load is scheduled and settled on a nodal basis. However, the State Water Project notes that CRR allocation appears to be solely based on LAPs averaged over the historic areas of the CAISO's three large IOUs. It contends that the MRTU Tariff provisions should spell out how CRRs will be allocated

³³³ In fact, this proposal is more generous toward external load than some other markets. For example, as the CAISO states, the only way external load to the New York ISO can obtain a financial transmission right is through the auction process. *See* LECG Testimony, Ex. ISO-2 at 140.

³³⁴ In addition, we note that testimony filed in support of the CAISO's proposal concludes that LSEs serving load in eastern ISOs appear to prefer acquiring CRRs through the auction process rather than paying embedded transmission cost rates. *Id.*

to and used by participating loads scheduled and settled nodally. The State Water Project asserts that, because participating load will be settled at nodal level, it needs to hedge congestion cost by being allocated CRRs with nodal sinks.

772. The State Water Project contends that the allocation of seasonal CRRs based on the prior year's use does not capture significant pump load fluctuations based on hydrology. According to the State Water Project, it appears that the State Water Project would receive allocations strictly based on pump load in the prior year. It contends that hydrology in one year does not predict the following year's hydrology. Rather than use a strict prior year approach, the State Water Project believes that the CAISO should adopt use of a probabilistic determination of water entities' loads. The State Water Project states that any errors in such projections can be corrected or balanced through the monthly CRR allocations.

773. Metropolitan argues that entities with wholesale load such as the State Water Project should be eligible for CRR allocation. Also, Metropolitan argues that the CAISO should be careful in its issuance of CRRs to respect the rights of TORs and ETCs to ensure their ability for full, bidirectional use of their capacity.

774. The CAISO states that Metropolitan's concerns regarding the modeling of TORs will be taken into account in the context of its upcoming CRR dry run. Additionally, the CAISO points out the resolution of modeling issues will have no impact on the ability of Metropolitan to exercise its rights to use its facilities; it only concerns the revenue adequacy of CRRs released to other parties.

775. The CAISO agrees that the State Water Project should be eligible to participate in the CRR allocation for its wholesale load and intends to make appropriate tariff language changes in a compliance filing.

776. Regarding the historical load data for the pumps, the CAISO disagrees that year-to-year load fluctuations are problematic because the monthly CRR allocation will act as a true up based on load forecast. All loads will see some discrepancy between their historical loads and actual loads for the subject year. By using monthly load forecasts, the CAISO uses the monthly CRR allocation to ensure that LSEs and other eligible loads are hedged as close to their actual load data as possible.

Commission Determination

777. We do not have any evidence before us that would indicate that the allocation of CRRs to the State Water Project based on historical load would be uniquely problematic. More specifically, we believe the CAISO's proposal to reserve 25 percent of the transmission capacity for the monthly allocation process and to determine monthly eligibility to nominate CRRs through a demand forecast should address issues regarding

load fluctuations. Additionally we direct the CAISO to make a compliance filing within 60 days of the date of this order regarding the participation of State Water Project in the CRR allocation.

5. Load Migration

778. Strategic states that, although the CAISO has made a number of modifications to address retail choice, the CRR proposal still contains the ability for CRR holders to grandfather a portion of their desirable CRRs. Strategic argues that an LSE gaining load is always worse off when the LSEs losing load can grandfather a portion of their CRRs. Nonetheless, Strategic states that it is willing to accept this CRR package as a reasonable compromise that attempts to balance the need for longer-term certainty with the need to provide the retail customers who switch LSEs a fair opportunity to obtain highly-valued CRRs.

779. SoCal Edison asserts that the CAISO's proposal requires all LSEs' Scheduling Coordinators to track the load migration of all other LSEs. However, SoCal Edison believes that since it is unlikely that the load losing entity and the load gaining entity will agree as to the amount of load that is migrating, an independent party will need to resolve such conflict. SoCal Edison contends that the proposal is technically infeasible and will result in endless and unresolvable disputes among Scheduling Coordinators. SoCal Edison adds that the CAISO at present does not have any systems in place to track the amount of individual loads that migrate between LSEs. Additionally, SoCal Edison asserts that the value of a CRR is difficult to determine, and it may be difficult to establish an amount agreeable to each party.

780. According to SoCal Edison, load migration should be handled through the monthly allocation process. Since the CAISO proposes to allocate at least 25 percent of the available CRRs on a monthly basis, SoCal Edison believes that a sufficient amount of CRRs will be available to accommodate load migration in the monthly allocation process. If a Scheduling Coordinator gains load, SoCal Edison asserts that it should be able to request additional CRRs in the monthly allocation process. If a Scheduling Coordinator loses load, SoCal Edison believes that it should not be required to do anything until and unless its remaining CRR allocations exceed its surviving peak-period load. SoCal Edison argues that its counterproposal both avoids the administratively burdensome tracking of individual customer load and the transferring of CRRs that do not hedge the risk of the load gaining entity while damaging the hedge of the load losing entity. Also, SoCal Edison notes that a transfer based upon current holdings departs from the stated intent of the transfer and provides perverse incentives for LSEs to avoid their obligations. If an LSE suspects that it will lose load, it would have an incentive to make a bilateral transaction to sell its CRRs to minimize its current holdings.

781. AREM argues that MRTU Tariff section 38.8.5 does not provide the added flexibility specified in section 36.8.5.1.1. AREM requests that the CAISO correct section 36.8.5 to reflect the additional option included in the more specific section, *i.e.*, the ability to transfer the CRRs.

782. San Francisco states that it is concerned that the counter proposals made by commentors may result in hoarding of CRRs. Most notably, San Francisco notes that SoCal Edison argues that CRR allocation should not follow the load when it migrates. San Francisco states that there is no justification for such a proposal and asserts that SoCal Edison's proposal would allow an LSE that loses load to keep the benefit of CRRs that were allocated it to serve that very load. San Francisco believes that SoCal Edison's proposal must be rejected.

783. AREM notes that the tracking of load migration will primarily fall to the ESPs, and that the load that is served by ESPs is highly mobile. AREM is confident that ESPs can and will actively track migrating load, as they do today, and will be able to verify the migrating load to the satisfaction of the CAISO. Further, AREM does not anticipate that ESPs will fail to reach agreement on the transferred load or that an "independent party" will be required to resolve disputes.

784. AREM asserts that SoCal Edison's proposal to allow the LSE losing load to take no action unless and until its remaining CRR allocations exceed its surviving peak-period load is unreasonable and notes that, when SoCal Edison made a similar argument in the CRR stakeholder process, LECG found that, if the LSE losing load can retain all its CRRs unless their total load falls below their total grandfathered CRRs, the LSE losing load has the best outcome of all the LSEs in the market. AREM argues that SoCal Edison's proposal is clearly anti-competitive and discriminatory and should be rejected.

785. The CAISO asserts that SoCal Edison misunderstands the nature and the scope of the CAISO's proposal to accommodate load migration. The CAISO states that the MRTU Tariff places an obligation on the LSEs to ensure that any load shifts are properly reported, but leaves it to the LSEs to effect the appropriate compensation required under section 36.8.5.1.1.

786. Because Scheduling Coordinators for LSEs hold CRRs as custodians for the load they serve, the CAISO argues that CRRs must follow load that shifts to the greatest extent practicable. Contrary to what SoCal Edison suggests, the CAISO asserts that the MRTU Tariff already uses the monthly CRR allocation to effectuate load migration. The CAISO points out that the load forecasts submitted by Scheduling Coordinators and considered in the CRR allocation process should reflect load shifts.

787. Additionally, the CAISO points out that the CRR allocation proposal contains a mechanism to update seasonal CRR holdings. The CAISO explains that the tariff

provides two options for the LSE losing load to compensate the LSE gaining load - transfer of CRR holdings or an equivalent financial payment.

788. The CAISO proposes one clarification to its proposed tariff. The CAISO states that the last sentence in section 36.8.5 is inconsistent with the two options the CAISO is proposing, as provided for in section 36.8.5.1.1. The CAISO now proposes to replace that sentence with a sentence that directs the reader to the applicable requirements in section 36.8.5.1.1.

Commission Determination

789. We determine that in concept it is reasonable to require an LSE losing load to make mid-year adjustments to its seasonal CRRs holdings. The allocation of CRRs is premised, in part, on the notion that CRRs should be awarded to LSEs on behalf of the load they serve, since it is their load that pays the embedded cost of the transmission system. Consequently, CRRs should follow load migrations as closely as realistically possible. Additionally, we understand that seasonal CRRs may be perceived as being more valuable to LSEs gaining load than the shorter term monthly CRRs because the award of monthly CRRs is subject to the simultaneous feasibility test, and thus, there is no guarantee that an LSE will be awarded the same set of monthly CRRs in consecutive months.

790. We find that the CAISO's proposal may provide a reasonable opportunity for LSEs gaining load to acquire needed CRRs and does not unduly burden LSEs losing load.³³⁵ However, while we find that section 36.8.5.1.1 defines the financial responsibilities associated with mid-year load fluctuations, and in concept, could provide LSEs gaining load a reasonable opportunity to hedge congestion costs, there is no information regarding how these financial transactions will be effectuated.³³⁶ Without having any specific information before us regarding the mechanism for tracking load migration or the method of resolving disputes amongst LSEs, we cannot accept the CAISO's proposal for mid-year CRR adjustments because we are unsure whether it can be successfully implemented. Therefore, we direct the CAISO to submit a compliance filing 60 days after the completion of the CRR Business Practice Manuals providing the details of how the CAISO's proposal to make mid-year CRR adjustments will be accomplished in practice.

791. Lastly, we conditionally accept the CAISO's proposed clarification to section 36.8.5 and direct the CAISO to submit a compliance filing within 60 days of the date of

³³⁵ See MRTU Tariff section 36.8.5.

³³⁶ Under MRTU Tariff section 36.8.5.1.1, the LSE losing load may transfer a percentage of its seasonal CRRs, or make an equivalent cash payment to the LSE gaining load.

this order reflecting this change. In this compliance filing, we also direct the CAISO to clarify why the payment to LSEs acquiring load is based on the current CRR holdings of the LSE losing load and not the quantity of CRRs awarded to this LSE in the annual allocation process.

6. Priority Nomination Process

792. The CPUC recommends that the 66 percent provision limitation in the priority nomination process should start with the first annual CRR allocation following CRR year one, and continue thereafter. The CPUC expresses concern that otherwise LSEs will be unable to meet the CPUC's policy goal of realizing an adequate hedge against congestion charges in an LMP regime.

793. CERS believes that the 33 percent limitation in the priority nomination process may effectively convert a large fraction of existing long-term contracts into the equivalent of a series of annual procurements subject to transmission congestion-charge risks. Additionally, CERS contends that no analysis was developed during the CAISO's stakeholder process to support the restrictions embedded in the priority nomination process.

794. SoCal Edison asserts that for administrative ease the CAISO has changed its proposal to require a showing of need solely in the first year of CRR allocation. SoCal Edison asserts that it cannot support the priority nomination process as currently written because the portion of allocated rights given a priority in subsequent years is not sufficient to provide a hedge for a significant portion of the LSEs' long-term supply arrangements. In order to address this deficiency, SoCal Edison requests that the Commission direct the CAISO to increase the percentage of CRRs received in the initial allocation that will be eligible to receive a priority in the year two allocation from 33 percent to 75 percent.

795. PG&E states that it supports the initial CRR allocation process that has been proposed by the CAISO, and specifically the ability of LSEs to have a higher degree of certainty with respect to the renewals of CRRs from one year to the next through the priority nomination process. PG&E states that the security of energy supplies would be undermined if LSEs are unable to adequately hedge the congestion costs that will be created, under MRTU, due to insufficient allocation of CRRs or to inadequate renewal opportunity of allocated CRRs. Therefore, PG&E recommends that the CAISO implement priority nomination limits in the first year of the process consistent with limits proposed in subsequent years.

796. NCPA states that it is concerned that the grandfathering provision could be used by LSEs to lock up the most valuable CRRs for long periods to come regardless of whether or not they have a legitimate physical need.

797. The State Water Project notes that the priority nomination process fails to address participating load. It states that the phrase in MRTU Tariff section 36.8.3.5(a), “CRRs whose CRR sink is a sub-LAP are not eligible for nomination in the PNP [priority nomination process]” may have the effect of denying participating loads that are settled nodally the priority grandfathered CRRs. The State Water Project contends that no justification is offered for denying CRRs, and such treatment would be unduly discriminatory. Thus, the State Water Project requests clarification that CRRs will be available on a nodal basis to participating load.

798. Western is concerned with the priority nomination process because the nomination amount cannot exceed the amount of quantity previously allocated to that LSE. Western states that, although the amount can be reduced for load migration, it cannot be increased for load growth. Western argues that this fact will require LSEs to compete with others in the secondary markets to purchase CRRs to meet their load serving obligations.

799. The CPUC states that it is concerned that the MRTU Tariff eliminates the requirement for LSEs to demonstrate a continued need for the transmission rights after the first year. The CPUC adds that, in order to use CRRs to adequately hedge congestion costs and assure LSEs of the deliverability of their contracted resources, LSEs should be permitted to nominate up to 66 percent of their allocation after Year One. TANC concurs that seasonal CRRs of up to 66 percent should be eligible to be allocated in the first year of MRTU implementation. Six Cities support expansion of the ability to renew CRRs in order to improve LSEs’ ability to procure resources on a long-term basis.

800. San Francisco believes that higher allocations of priority CRRs would give the incumbent LSE first choice at selecting the most desirable CRRs whether or not they were still serving the load that warranted those CRRs. With grandfathered CRRs, AREM argues that ESPs and their retail customers are always disadvantaged relative to the IOUs by being forced to request new CRRs in a lower-priority stage as their customers migrate or their resources change. AREM asserts that grandfathered CRRs disadvantage new ESP entrants and create barriers to entry because the new entrants cannot obtain highly-valued CRRs and can never achieve equal footing with the LSEs holding the grandfathered CRRs.

801. AREM acknowledges that a variety of percentages were discussed in defining the priority nomination process. However, AREM disagrees with the CPUC and, instead, believes that these CRR percentages for grandfathering were never set in stone. Additionally, AREM explains that any allocated CRRs nominated to be retained (or grandfathered) for the following year must be evaluated through a simultaneous feasibility test. AREM believes that the parties urging additional grandfathering have overstated its benefits (*i.e.*, the certainty to provide hedging), while ignoring its anti-competitive effects.

802. By limiting the quantity of CRRs that can be grandfathered, the CAISO believes that its design has sufficient flexibility to reflect load changes while protecting the long-term value of renewing CRRs on a priority basis.

803. The CAISO disagrees that the priority nomination process should allow a greater percentage of grandfathered CRR holdings. While there is concern among potential CRR holders that priority nomination percentages are too low, the CAISO believes that the proposed percentages are appropriate because they achieve a balance between the need to allow and encourage long-term contracting and the need to maintain some flexibility of all participants to acquire CRRs to meet evolving customer needs.

804. The CAISO points out that there is a fundamental tradeoff between assuring LSEs that they will be able to retain the CRRs they have held in the past and assuring LSEs that they will be allowed to designate new CRRs for new generation sources. The CAISO explains that, if no transmission constraints are binding, LSEs can be awarded all the CRRs they request. However, the CAISO maintains that, if transmission constraints are binding, LSEs can be awarded new CRRs for new generation sources only by taking CRRs away from LSEs that were previously awarded CRRs. Additionally, the CAISO argues that, once a CRR has been purchased on a long-term basis by an LSE to hedge its use of an existing resource, the transfer capability is not available for CRRs to be allocated to another LSE.

Commission Determination

805. We believe that the priority nomination process is a reasonable proposal to provide CRR holders that desire to retain the same CRR in subsequent years an increased probability that they will be awarded these CRRs. However, we find that parties have raised valid concerns regarding the percentage of CRRs eligible for nomination in the priority nomination process. We agree with protestors that the CAISO fails to justify why the percentage doubles after the first year of the priority nomination process. Therefore, we require additional support for the proposed eligible quantity of CRRs to be nominated in the priority nomination process and direct the CAISO to submit a compliance filing, within 60 days of the date of this order, justifying this percentage, specifically, why the percentage increases after the first year of the priority nomination process.³³⁷ Moreover, the Long-Term Firm Transmission Rights rulemaking proceeding could further impact how and whether the CAISO wishes to retain its proposed priority nomination process. Accordingly, we defer the deadline for the compliance filing justifying the priority nomination process until 30 days following the deadline for

³³⁷ We note that, although the CRR dry run is focused on the initial allocation of CRRs, this study may provide valuable insight into the appropriate quantity of CRRs eligible for nomination in the priority nomination process.

submission of tariff sheets in compliance with the Long-Term Firm Transmission Rights Final Rule.

7. Verification

806. Strategic and AREM suggest that the CAISO be required to move its proposed historical verification period to dates that allow ESPs to reflect changes from retail load migration and reflect regulatory changes. Accordingly, Strategic and AREM propose June 1, 2006 through May 31, 2007. Making this change would better provide ESPs a realistic opportunity to reflect both their changed retail load (since 2005) and any new contracts they have signed.

807. AREM believes that the proposed verification time frame is problematic because it does not account for the difference between the stability of IOU load and the variability of ESP load. AREM argues that few ESPs will have contracts from that time period for load being served in 2007. AREM asserts that conversely, much of IOU load during that time period will still be on IOU service due to the stability of IOU load and the inability of current bundled service customers to move to direct access service. Consequently, AREM concludes that most of the high priority CRRs would go to the IOUs, and a significant portion of these CRRs would be grandfathered in future years, thereby, being unavailable for ESPs.

808. Further, AREM asserts that the CAISO's proposed verification period does not account for California's rapidly changing regulatory requirements. AREM argues that although some RA purchases will be for capacity only and not require energy hedging through CRRs, others will undoubtedly include bundled capacity and energy. Additionally, AREM points out that the CPUC has also imposed renewable portfolio standards on LSEs and that the rules for ESPs are only now being developed. AREM notes that none of these regulatory requirements were in place during the historical verification period proposed by the CAISO. AREM asserts that it cannot predict in 2006 what the market for products to meet RA and renewable portfolio standards will look like in 2007 when MRTU is implemented. AREM suggests modifying the historical verification period to reflect a time period much closer to the date on which the actual CRR allocations will be made and suggests June 1, 2006 through May 31, 2007.

809. SoCal Edison states that it supports source verification in CRR Year 1, however, SoCal Edison believes that the proposed source verification period is too far removed from the scheduled MRTU implementation date. SoCal Edison asserts that many changes have or will be implemented that will impact generation resources, not the least of which is a RA requirement. SoCal Edison believes that the source verification period for CRR Year 1 should be based on resources in effect between July 1, 2005 and June 30, 2006. According to SoCal Edison, the change in date will allow LSEs to reflect more recent resource purchases and avoid the "gold rush" concern of LSEs signing contracts

just to get the CRRs because the final Commission-approved verification period will not be known until the Commission issues its final MRTU decision.

810. NCPA points out that, while the first round of CRR nominations will be verified, there is no overall requirement that LSEs have load or generation at the points where they request CRRs. NCPA assumes that many LSEs will try to obtain the most valuable CRRs, whether or not they have generation or load at a particular location.

811. SoCal Edison similarly states that the source verification should consist of data closer to MRTU implementation to better account for the mix of resources that are in place for each LSE under MRTU. However, SoCal Edison also states that it is concerned with moving such dates to a period of time that would in part, if not in whole, occur after the Commission order is made available.

812. The CAISO states that it firmly disagrees with the proposal to shift the historical period forward. The CAISO asserts that it has detailed consistently throughout its stakeholder process that the objective of the CAISO's choice of a historical period is to ensure that entities do not have an incentive to strategically contract for or schedule generation or imports so as to increase their eligibility to be allocated valuable CRRs. Given the stability and certainty in future CRR holdings provided by the priority nomination process, the CAISO believes that a market participant could knowingly engage in strategic purchases during a 2006-2007 historical period that would result in higher than needed CRR allocations and risk long-term revenue adequacy of CRRs.

813. The CAISO puts forth that the consideration underlying the choice of the historical period is that, by basing the CRR allocation on a period that has already occurred, the CAISO avoids the potential for the allocation process to distort going-forward contracting or operating incentives. The CAISO explains that the end date of the historical period was therefore chosen to correspond to the time frame in which the proposed validation rules were described to market participants.

Commission Determination

814. We agree with the CAISO that changing the verification date to a period when market participants were aware of the proposed CRR verification process could potentially result in an allocation of CRRs based on distorted incentives to contract for energy. Therefore, we accept the proposed verification dates. We note that the percentage of CRR nomination in the annual allocation process requiring validation is limited to 75 percent and validation is not required for any nominations in tier 3. We believe that limiting the percentage of CRRs requiring source validation will provide LSEs not having long-term contracts an adequate opportunity to be awarded CRRs.

8. Release Process for Intertie Capacity

815. Constellation/Mirant argue that the CAISO should develop a schedule pursuant to which it will transition its CRR market to a full auction model. Powerex asserts that if CRRs are not initially allocated appropriately, and there are factors that prevent the CRRs from being subsequently traded, then the inevitable consequence will be higher delivered energy costs to CAISO consumers. If secondary CRR markets are, indeed, highly efficient, and LSEs actively participate in them and develop internal valuations of the CRRs they hold, Powerex believes its concerns will be largely mitigated. However, Powerex asserts that experience in other markets does not support this presumption.

816. Powerex acknowledges that 50 percent of the remaining CRR intertie capacity, after allocation to LSEs on the basis of source verification, will be reserved for the CRR auction. However, Powerex points out that the CAISO's proposal does not indicate whether there will be much, if any, residual intertie capacity left after the source-verified allocation. In fact, Powerex asserts that despite repeated reference to the 50 percent being set-aside, nothing in the MRTU Tariff guarantees that there will be any intertie CRRs available in the CRR auction.

817. Powerex argues that at a minimum the Commission should require that all intertie transmission capacity that non-LSEs have historically scheduled across interties, and for which they have thereby assumed the congestion risk, should be auctioned. Powerex asserts that there is no reasonable basis for the CAISO to grant intertie CRRs to LSEs on intertie transmission capacity that non-LSEs have historically scheduled across and paid the applicable congestion charges. Powerex believes that to allow LSEs to receive CRRs beyond their historical use at an intertie would create a windfall for those LSEs.

818. In contrast, SoCal Edison argues that the Commission should reject the CAISO's proposal to limit LSE's requests on remaining intertie capacity. SoCal Edison believes that all CRRs should be available for allocation to load within the CAISO and notes that the CRR proposal creates a special-interest carve-out that proposes to restrict the allocation to 50 percent of certain intertie capacity. As a result of the proposal, SoCal Edison asserts that LSEs within the CAISO may desire CRRs during the allocation, but instead will be forced to participate in the auction.

819. IEP argues that the CRR proposal does not allow for the sale of CRRs in the auctions, and that this limits the liquidity of CRRs, especially for those entities who will not otherwise be allocated CRRs in the CAISO's processes. IEP asserts that one premise of the CRR allocation process and the proposal to allocate 100 percent of the CRRs, is that LSEs have the opportunity to release the capacity that is not being used to the balance of the market. To the extent that the CAISO does not allow market participants to sell rights into the auction, IEP believes this limits the ability to provide an efficient market outcome to match buyers with sellers.

820. Powerex argues that the Commission should reject outright the allocation process, and require instead that the full capability of the transmission grid be made available to market participants through an auction. Powerex asserts that auction mechanisms are used successfully in the eastern ISO/RTOs and believes that the CAISO fails to justify its departure from the successful use of auctions. Powerex adds that CRR allocations are less well-suited to retail competition and load migration than are auctions. Because of the imperfect means used by the administrative allocation for tracking load, the effects are likely to be inequitable and discriminatory.

821. The CPUC urges that CRRs should be designed to avoid their use as an investment by non-market participants, but rather to facilitate the procurement and transmission of energy in California. Cities/M-S-R states that, while they do not support the CAISO's CRR proposal, several changes advocated by Powerex would make the CRR proposal even more inequitable and reduce its utility.

822. Six Cities argue that requiring all CRRs to be auctioned would eliminate any long-term protection against increases in transmission costs and thereby increase the risks of long-term resource commitments.

823. SoCal Edison disagrees with Powerex and urges the Commission to direct the CAISO to allocate all CRRs, including all interties, to load within the CAISO Control Area. Additionally, SoCal Edison believes the Commission has already ruled on this issue.³³⁸

824. Bay Area Municipals and TANC believe that allocating CRRs at intertie points properly reflects the historic use of, and need for, transmission at the intertie points. Bay Area Municipals and TANC believe that the market will inform CRR holders of the optimal use of CRRs, and that LSEs have no incentive to operate inefficiently by ignoring opportunities to put CRRs to their highest value use. Moreover, Bay Area Municipals argue that no harm is done to the market or to competitors by allocating CRRs at interties to LSEs.

825. The CAISO believes that setting aside 50 percent of intertie import capacity for the CRR auction strikes a reasonable balance between the needs of LSEs and auction participants. The CAISO believes that the proposal balances the need to allow internal LSEs an opportunity to offset congestion charges associated with their imports as well as give other market participants that are not LSEs but contractually responsible for the imports at the interties an opportunity to acquire CRRs at the interties in the auction. The CAISO believes that internal LSEs are, of course, also eligible to participate in the auction if they wish to acquire CRRs utilizing the reserved 50 percent of import capacity.

³³⁸ See October 2003 Order, 105 FERC ¶ 61,140 at P 171.

826. The CAISO recognizes that through the CRR dry run market participants may learn additional information regarding practices at the interties that may warrant some adjustment to the proposed 50 percent level. Additionally, the CAISO asserts that the CRR allocation program detailed in the MRTU Tariff has been a centerpiece of the market design throughout the CAISO's various conceptual filings with the Commission, and that the Commission has previously approved allocation of CRRs.³³⁹

827. Lastly, the CAISO explains that it asked its stakeholders through a public comment process if there was support for moving to either: (1) a complete CRR auction; or (2) a more simplified CRR allocation process. The CAISO asserts that the result of the inquiry was that a majority of stakeholders supported the allocation/auction proposal developed to that point and reflected in the filed MRTU Tariff.

828. The CAISO states that it understands some stakeholders support the addition of the functionality to allow CRR holders to sell CRRs at the CRR auction. Therefore, the CAISO states that it plans to consider the development of this functionality for possible inclusion in Release 2. In the meantime, the CAISO points out that CRRs can be transferred in the secondary or bilateral market.

Commission Determination

829. The Commission has previously found that the CAISO's proposal to allocate obligation CRRs is a reasonable approach of providing market participants that pay the underlying costs of the system with a risk management tool to hedge against potential congestion costs.³⁴⁰ Additionally, we believe that the CAISO has provided stakeholders with the opportunity to consider a different methodology for awarding CRRs and that the majority of market participants prefer the current CRR proposal, which includes both allocation and auction provisions, over auctioning all CRRs.

830. We agree with the CAISO that reserving this capacity for sale in the auction is important in providing external suppliers with delivered-price contracts the opportunity to hedge against congestion charges.³⁴¹ However, we are also sympathetic to Powerex's concern that it is not clear how much residual intertie capacity will be left after the source-verified allocation. The CAISO acknowledges that the result of additional CRR analysis may warrant some adjustments to its proposal to ensure that sufficient CRRs are available to external suppliers. We direct the CAISO to further evaluate whether its proposal to set aside 50 percent of the intertie capacity needs to be modified and to make a compliance filing within 60 days of the date of this order, if necessary.

³³⁹ *Id.*

³⁴⁰ *Id.*

³⁴¹ LECG Testimony, Ex. ISO-2 at 118.

831. We agree with IEP that market participants may benefit from having the ability to directly sell CRRs in the CRR auction. However, we do not believe that it is a critical element of Release 1 since CRRs can be resold bilaterally. Therefore, we direct the CAISO to file tariff language for our review to implement the ability to see CRRs in the CRR auctions no later than MRTU Release 2.

9. Modeling

832. CERS and PG&E argue that the annual CRRs release process should cover 12 monthly periods, rather than four seasonal periods. CERS argues that, in light of the high variability in month-to-month loads experienced by LSEs in California, the CAISO should consider replacing its proposed seasonal allocation approach with 12 monthly allocations for each upcoming year as part of the annual CRR allocation process. CERS believes that this approach would help eliminate the problems associated with inter-seasonal load fluctuations, as well as disparities between annual CRR allocations and monthly reconciliation of CRRs.

833. AREM and Strategic believe that the CAISO plans to conduct the actual allocation and auction from July to October 2006. AREM and Strategic oppose this schedule, which, if followed, would result in CRRs being allocated more than one year before MRTU is implemented. Strategic requests the Commission direct the CAISO to move its date for allocation and auction of actual CRRs to be completed no sooner than three months before the date of MRTU implementation.

834. Metropolitan is concerned that the CAISO's modeling assumptions for point-to-point sources and sinks will interfere with Metropolitan's use of its rights at the point its transmission system interconnects with the CAISO Controlled Grid. Metropolitan argues that these modeling assumptions constitute a taking of a valuable property right. Metropolitan requests that the Commission direct the CAISO to correct its CRR model.

835. SoCal Edison states that it is unclear as to how the CAISO will model CRRs for ETCs, Converted ETCs, and TORs in the simultaneous feasibility test, and requests that the CAISO provide additional detail. Additionally, SoCal Edison requests that the CAISO define the duration of what is considered a long-term transmission outage and what the threshold is (e.g., outage duration, outage capacity) for its inclusion in the modeling of seasonal CRR Capacity.

836. SoCal Edison requests that the CAISO define the "fixed CRRs"³⁴² that will be used to model CRRs that may be distributed to sponsors of merchant transmission projects. Additionally, SoCal Edison contends that the CAISO must post details of the

³⁴² We note that this term appears in MRTU Tariff section 36.4.1.

AC Full Network Model that will be used to create a DC Full Network Model to determine available capacity for CRR allocation purposes for each CRR term.

837. The CPUC states that it is concerned over the accuracy of the initial allocation of transmission rights, given the early stages of MRTU and the CPUC's RA program. The CPUC argues that the successful creation and allocation of CRRs depends on the CAISO's creation of an accurate model of the grid. The CPUC states that the CAISO has not yet released details regarding the Full Network Model, which will be the basis for allocation of CRRs. The CPUC believes that this model must be made available to LSEs so that they can accurately forecast their needs for congestion cost hedges and manage their resource portfolios.

838. The CAISO acknowledges that the MRTU Tariff filing letter stated that the initial CRR allocation will occur between July and October 2006. However, the CAISO clarifies that the initial CRR allocation will occur closer to market implementation (i.e., July to October 2007).

839. The CAISO clarifies that the term "fixed CRRs" simply refers to the fact that CRRs for merchant transmission will be input into the network model as CRRs already in existence and not adjustable for the purpose of simultaneous feasibility of other nominations. The CAISO states that it will make this clarification in a compliance filing.

840. Regarding the duration of long-term transmission outages, the CAISO states that it will continue to consider this question with stakeholders and will address it in the appropriate Business Practice Manual. The CAISO explains that transmission outages and derates, even when accurately planned, will generally not coincide precisely with the defined terms of CRRs. Therefore, the CAISO believes that it will require some careful analysis to determine how best to represent outages in the network model for CRRs. The CAISO states that it intends to conduct such analysis in the course of the CRR dry run and will fully engage stakeholders in these discussions.

841. The CAISO states that it chose seasonal CRRs as the annually distributed instrument because a seasonal instrument adequately accommodates the differences in load levels and supply patterns between various seasons of the year and lessens the administrative burden on market participants and the CAISO as compared to an annual allocation of monthly CRRs.

842. In response to SoCal Edison, the CAISO states that it will include the details of the methodology used to convert the AC Full Network Model to a DC Full Network Model in the CRR Business Practice Manual.

Commission Determination

843. We find that the CAISO's proposed dates to conduct the actual CRR allocation between July and October 2007 are reasonably close to the actual start of the MRTU market and will help to minimize the likelihood of significant changes to the transmission system and market participants' portfolios.

844. As discussed below, we find the CAISO's proposal to allocate CRRs to sponsors of merchant transmission project is deficient, and have directed the CAISO to submit a compliance filing. We also direct the CAISO to clarify the term "fixed CRRs" in a compliance filing within 60 days of the date of this order.

845. We agree with the CPUC and SoCal Edison that the details of the Full Network Model should be made available to market participants.³⁴³ As explained by the CAISO, these details will be included in the CRR Business Practice Manual. If, during the process of developing the CRR Business Practice Manual, stakeholders request the inclusion of additional technical information, we direct the CAISO to accommodate such requests when it is possible to do so.

846. We agree with the CAISO that an annual allocation of seasonal CRRs strikes an appropriate balance between accommodating load fluctuations and minimizing the administrative costs and is consistent with other ISOs.³⁴⁴

10. Revenue Adequacy/Balancing Account

847. SoCal Edison asserts that the proposed MRTU Tariff states that, in the event of insufficient revenue to pay CRR holders, the CAISO will prorate payments to CRR holders, but the CAISO will also forego payments by CRR holders. SoCal Edison contends that this proposal is illogical and inappropriately undermines the value of a CRR hedge. If the CAISO has insufficient revenue to pay CRR holders, SoCal Edison contends that it should not forego a source of revenue that it could use to meet its obligations.

848. Additionally, SoCal Edison states that the MRTU Tariff calls for writing off any unpaid claims and any remaining charge shortfalls in the yearly CRR balancing account

³⁴³ As noted above, on August 18, 2006, the CAISO made the Full Network Model available, subject to a non-disclosure agreement, to market participants for use in reviewing and analyzing the CAISO's CRR Dry Run simulation and the CRR markets. We have directed herein that the CAISO file tariff language that indicates that the Full Network Model is available to market participants if they sign a non-disclosure agreement. *See Full Network Model section above.*

³⁴⁴ CAISO Reply Comments at 89.

clearing process. SoCal Edison explains that it is possible that the revenue inadequacy is caused, in part or in whole, by either a failure or delay in payment by a market participant for congestion or counterflow obligation CRRs. In this circumstance, SoCal Edison contends that it is unreasonable to arbitrarily forgive such debt. Instead, SoCal Edison believes that the CAISO should continue to seek payment from the responsible entities and to the extent they are successful, such revenues should flow to the holders of CRRs.

849. SoCal Edison requests clarification from the CAISO about whether the CRR balancing account will have sub-accounts for carrying forward shortfalls and surpluses. If so, SoCal Edison would like to know how many and what is the structure of these sub-accounts. Lastly, SoCal Edison recommends that MRTU Tariff section 11.2.4.5 be modified to include the concept of revenue shortfalls and proposes tariff language.

850. After discussions with its stakeholders and as explained in testimony, the CAISO believes that the proration of both payables and receivables in the event of net revenue deficiencies is the approach most consistent with the logical expected properties of CRRs.³⁴⁵ The CAISO asserts that, if it were not to prorate the receivables, the net zero charge/payment outcome would not hold.

851. The CAISO clarifies that there will not be sub-accounts and that any interest income of the CRR Balancing Account will augment the account and increase the probability of clearing the shortfalls and surpluses at the end of the year. Additionally, the CAISO disagrees with SoCal Edison and reiterates that, to the extent the CRR balancing account is short at the end of the year, the CAISO will not pay and will not charge the amounts due to or from CRR holders. The CAISO believes that this is consistent with the logical financial principles.

852. Lastly, the CAISO states that it agrees with SoCal Edison's requested revisions to MRTU Tariff section 11.2.4.5.

Commission Determination

853. In the event that the CRR balancing account is short, we believe that prorating all obligation CRRs, regardless of whether market outcomes result in a positive or negative value of the CRR, is important in maintaining the logical and expected properties underlying obligation CRRs. For example, the expected net value of two obligation CRRs of equal MWs from A to B and B to A will be equal to zero. The charge associated with the negatively valued CRR will be exactly offset by the payment associated with the positively valued CRR. Therefore, if we assume that one entity holds both of these CRRs, the entity's net payment/charge would be equal to zero as well. However, if only positively valued CRRs are subject to prorating, the two CRRs would

³⁴⁵ See Rahimi Testimony, Ex. ISO-4 at 91-92.

not net to zero and the entity would be required to pay some portion of the negatively valued CRR. We believe that the proration of CRRs resulting in both receivables and payables to the balancing account is a reasonable means to address revenue shortfalls and maintain the logical financial properties of CRRs.³⁴⁶

854. We find that the CAISO has not sufficiently explained its proposal to “forgive” outstanding debt in the yearly balancing account. Therefore, we direct the CAISO to submit a compliance filing within 60 days of the date of this order further explaining its reasoning, and what, if any, subsequent restrictions will be imposed on entities that fail to pay their debt. In addition, we direct the CAISO to make a compliance filing within 60 days of the date of this order making the proposed changes to MRTU Tariff section 11.2.4.5.

11. Miscellaneous Protests

855. SoCal Edison notes that, under MRTU Tariff section 36.8.2.2, an LSE’s monthly CRR eligible quantity is based on the LSE’s submitted monthly load forecast. SoCal Edison is concerned that the section, as written, is disconnected from the month-ahead RA forecast required in section 40.2 and also lacks oversight to ensure an LSE is not forecasting an unreasonably high load in order to be eligible for more monthly CRRs. SoCal Edison recommends that the monthly CRR eligible quantity be based on an LSE’s demand forecast submitted pursuant to section 40.2 of the CAISO tariff. SoCal Edison further notes that section 40.2 provides for the appropriate regulatory oversight on the load forecast. To the extent adjustments are necessary, SoCal Edison suggests that the CAISO should update its tariff and Business Practice Manuals.

856. SoCal Edison requests clarification from the CAISO as to whether the CRR training requirement is a one time or recurring requirement, before every annual allocation. Additionally, SoCal Edison believes that the CAISO should clarify that the secondary registration system can only be used to track changes of ownership from CRRs that were originally allocated or auctioned by the CAISO. Similarly, WPTF/IEP express concerns that the MRTU Tariff is unworkably vague regarding the secondary registration system.

857. WPTF/IEP argue that the MRTU Tariff suggests that the CAISO will review the CRR ownership based on some concentration criterion. WPTF/IEP believe that it is inappropriate for the CAISO to exercise control over what parties do bilaterally when the CAISO does not generally monitor the concentration of allocated CRRs.

³⁴⁶ See Rahimi Testimony, Ex. ISO-4 at 91-92; *see also* LECG Testimony, Ex. ISO-2 at 20.

858. TANC, SoCal Edison, and WPTF/IEP argue that MRTU Tariff section 12.5 regarding credit requirements for CRR obligations is unclear and requires further specification. WPTF/IEP argue that the MRTU Tariff should specify the methods used to establish credit for CRR holders. SoCal Edison believes that section 12.5.2, regarding the reassessment of net projected obligation, should be more specific. TANC claims that transitional terms may be necessary for some entities.

859. FPL asserts that the CAISO offers little substance regarding its project sponsor CRR allocation mechanism. FPL argues that the Commission should direct the CAISO to develop prescriptive mechanisms that would allow a project sponsor to make informed decisions about the value of transmission project development.

860. The CAISO agrees with SoCal Edison that using the same load forecast for CRRs and RA is appropriate to avoid creating the incentive to understate load for RA purposes and overstate load for CRR purposes. It states that this is already addressed by MRTU Tariff section 36.8.6,³⁴⁷ which provides that the CAISO will work closely with the appropriate state and local regulatory authorities to ensure these forecasts are consistent.

861. In response to SoCal Edison's request that the CAISO clarify whether the training class for CRR holders is a one-time or recurring requirement, the CAISO states that it anticipates that the CRR training will be required at least once prior to participation in the CRR allocation or CRR auction. Further, the CAISO indicates its hope that market participants will avail themselves of all training sessions they need to appropriately participate in the CRR allocations and CRR auctions.

862. In light of changes that may occur, the CAISO states that it may be necessary to modify these requirements to ensure that parties are prepared to participate in the allocation or auction. Therefore, the CAISO states that section 36.7.2 appropriately provides CAISO the ability to require additional training as necessary. Over the next year, the CAISO will further clarify the training requirements as it unrolls its CRR dry run process and the development of a Business Practice Manual for CRRs.³⁴⁸

863. The CAISO strongly disagrees with WPTF/IEP that the CAISO has no need to register changes in CRR holdings. The CAISO needs to know who holds CRRs for settlement of CRR payments and charges. Absent registration of a CRR transfer in the secondary registration system, the CAISO cannot redirect the CRR settlement to the new CRR holder. Additionally, the CAISO clarifies that the MRTU Tariff does not contain provisions for limiting CRR ownership concentration levels.

³⁴⁷ CAISO Reply Comments at 102.

³⁴⁸ *Id.* at 103.

864. Further, the CAISO states that WPTF/IEP is misguided when it suggests that parties should be able to choose whether to report CRR transactions to the CAISO. Not only does the CAISO have a responsibility to make the appropriate payment to the holder of record of a given CRR, but in some instances needs to collect payments from the CRR holder to the CAISO when a CRR obligation so requires. The CAISO must know who it is dealing with and have reasonable assurances that those parties are creditworthy. To do less would jeopardize the financial stability of all CAISO market participants.

865. The CAISO also notes that it cannot prevent market participants from making outside agreements that are equivalent to non-registered CRR transfers, if that is what they wish to do. Such agreements, the CAISO notes, will not be reflected in its settlement of the relevant CRRs.³⁴⁹

866. The CAISO notes that the fundamental compensation scheme for merchant transmission projects is in the MRTU Tariff. The CAISO explains that the merchant sponsor has to make a decision between regulated recovery of its investment cost through CAISO access charges and an allocation of CRRs. If it chooses CRRs, then the CAISO will offer the sponsor the choice of CRR options or CRR obligations in a quantity and geographic source and sink pattern that is commensurate with the transfer capacity the sponsor's project adds to the CAISO grid, as determined based on engineering studies.

867. The CAISO states that it intends to continue stakeholder development to implement the details of this plan. Once this process is complete, if the details of this program rise to the level of jurisdictional rates, terms and conditions of service, the CAISO will file any appropriate revisions to the MRTU Tariff with the Commission in a separate FPA section 205 filing.

868. Given the limited number of parties this proposal affects and the CAISO's commitment to continue policy development in this area, the CAISO argues that the Commission should not withhold action on the MRTU Tariff as a whole pending the further development of this policy.

869. The CAISO maintains that the MRTU Tariff sufficiently explains CRR credit requirements and that the methodology for determining the value net projected obligation will be published in the Business Practice Manual.

Commission Determination

870. SoCal Edison suggests that an entity's eligibility for monthly CRR allocation ought to be tied to the monthly load forecast it submits for RA purposes. The CAISO agrees and notes that this concern is addressed in section 36.8.6. We find that this

³⁴⁹ *Id.* at 96-97.

adequately addresses SoCal Edison's comments. We note the clarification given by the CAISO regarding the training requirement for participants in the CRR auctions and allocations. We urge all market participants to participate in the CAISO's upcoming training sessions.

871. We find it proper that all market participants register changes in CRR holdings through the CAISO's secondary registration system. As the CAISO remarks, it alone has a fiduciary responsibility to all market participants to ensure the creditworthiness of CRR holders and to collect payment from certain CRR holders. Without such ownership information, the CAISO cannot carry out those tasks. No change to the CAISO tariff in this regard is required.

872. Regarding the specification of credit requirements in the MRTU Tariff, we note that the CAISO is still developing its Business Process Manuals. We believe that many of the concerns expressed by commenters will be addressed during this process, and therefore, we reserve making a determination on this matter.

873. Finally, we agree with FPL that the CAISO's proposal to allocate CRRs to merchant transmission lacks sufficient detail, and that the MRTU Tariff must specify how CRRs will be provided for the sponsors of merchant transmission projects. While the CAISO explains its basic proposal for providing CRRs to the sponsors of merchant transmission projects,³⁵⁰ the MRTU Tariff does not sufficiently address this issue. We direct the CAISO to further develop this proposal, in consultation with its stakeholders, and submit new tariff language regarding CRRs for sponsors of merchant transmission within 90 days of the date of this order.

B. Long-term Firm Transmission Rights

874. Section 1233 of the EAct 2005 created section 217(b) of the FPA. Section 217 provides:

The Commission shall exercise the authority of the Commission under this Act in a manner that facilitates the planning and expansion of transmission facilities to meet the reasonable needs of load-serving entities to satisfy the service obligations of the load-serving entities, and enables load-serving entities to secure firm transmission rights (or equivalent tradable or financial rights) on a long term basis for long-term power supply arrangements made, or planned, to meet such needs.³⁵¹

³⁵⁰ Kristov Testimony at 94-95.

³⁵¹ EAct 2005, Pub. L. No. 109-58, § 1233, 119 Stat. 594, 958.

875. EAct 2005 section 1233(b) requires the Commission to implement section 217(b)(4) of the FPA within one year of the date of its enactment on August 8, 2005.³⁵² On February 2, 2006, the Commission issued a Notice of Proposed Rulemaking (NOPR) in Docket Nos. RM06-8-000 and AD05-7-000, concerning the provision of long-term firm transmission rights.³⁵³ On July 20, 2006, the Commission issued the Final Rule on Long-Term Firm Transmission Rights in Organized Electricity Markets.³⁵⁴

876. The CAISO's present market design does not provide transmission rights of more than one year duration. The CAISO's MRTU Tariff filing does not address the provision of long-term firm transmission rights. As proposed, the term of a CRR is one-year, at most.

Discussion

877. A number of parties, including SMUD, NCPA, CMUA, Western, Bay Area Municipals, TANC, Cities/M-S-R, Six Cities, Lassen and the Control Area Coalition protest the CAISO's failure to provide long-term transmission rights in the MRTU Tariff, or even a timetable for considering their implementation. Citing FPA section 217(b)(4) and the Long-Term Firm Transmission Rights NOPR, these parties assert that the lack of long-term firm transmission rights renders the MRTU Tariff and/or market design unjust and unreasonable. SMUD, Bay Area Municipals and Lassen assert that, as the Commission has recognized, the absence of long-term firm transmission rights are an impediment to transmission investment.

878. SMUD, NCPA and Six Cities point out that the Commission previously required the CAISO to implement long-term firm transmission service, but the CAISO repeatedly failed to comply with these orders.³⁵⁵ NCPA points out that the Commission has been waiting for the CAISO's long-term firm transmission rights proposal for even longer than it has been waiting for MRTU.

³⁵² *Id.* at 960.

³⁵³ *Long-Term Firm Transmission Rights in Organized Electricity Markets*, 114 FERC ¶ 61,097 (2006) (Long-Term Firm Transmission Rights NOPR).

³⁵⁴ *Long-Term Firm Transmission Rights in Organized Electricity Markets*, Order No. 681, 71 Fed. Reg. 43,564 (Aug. 1, 2006), FERC Stats. & Regs. ¶ 31,226 (2006) (Long-Term Firm Transmission Rights Final Rule).

³⁵⁵ *See, e.g.*, SMUD Protest, Request for Partial Summary Disposition and Request for Evidentiary Hearing at 28-29 (citing *Pacific Gas & Elec. Co.*, 80 FERC ¶ 61,128, at 61, 427 (1997) (directing CAISO to make long-term transmission rights "available to all market participants as soon as possible.") (July 1997 Order); *Pacific Gas & Elec. Co.*, 81 FERC ¶ 61,123, at 61,473 (1997); *Cal. Indep. Sys. Operator Corp.*, 87 FERC ¶ 61,143, at 61,572 (1999) (May 1999 Order).

879. Several entities argue that the MRTU Tariff is incomplete without long-term firm transmission rights, and the tariff should be rejected or suspended or action deferred until the CAISO makes a supplemental filing implementing long-term firm transmission rights.³⁵⁶ Cities/M-S-R asserts that, if the Commission intends to rule on the merits of the MRTU Tariff as filed, it should hold a hearing to consider substantial issues of material fact raised concerning the absence of long-term firm transmission rights.

880. Bay Area Municipals and Lassen assert that the inclusion of long-term firm transmission rights in the MRTU Tariff will require a substantial rewrite of major portions of the tariff, including, among others, the structure of the Full Network Model, CRRs, bidding practices, resource adequacy and the treatment of ETCs and TORs. TANC asserts that the filing presents a conundrum in that, on the one hand, the absence of long-term firm transmission rights repeats key mistakes in the CAISO's original market design, yet, on the other hand, the CAISO insists that it would be impossible to accommodate any change to the MRTU Tariff without impairing MRTU implementation. TANC urges the Commission to recognize that an effective market design must include long-term firm transmission rights for the life of the power supply facilities or, in the case of power supply contracts, for the term of the power supply contract.

881. Bay Area Municipals point out that, in response to the Long-Term Firm Transmission Rights NOPR, the CAISO submitted comments requesting an extension of at least one year after the implementation of its MRTU Tariff before having to comply with the Commission's Long-Term Firm Transmission Rights Final Rule. Bay Area Municipals argue that the Commission should not grant this request because EPAct 2005 does not provide "undue deference" for the CAISO. Cities/M-S-R similarly oppose the CAISO's request for delay.

882. SoCal Edison supports the CAISO's request for a sufficient amount of time to evaluate the efficacy of the new market design prior to issuing long-term firm transmission rights. PG&E similarly urges the Commission to grant the CAISO's requested delay but also require the CAISO to start a stakeholder process, so that long-term firm transmission rights can be implemented as soon as practicable after MRTU begins.

883. NCPA, Bay Area Municipals, Lassen and Cities/MSR argue that it would be easier and cheaper to incorporate long-term firm transmission rights mechanisms into MRTU as it is developed than to attempt to retrofit these rights later. Commenters urge the Commission to order the CAISO to develop long-term firm transmission rights prior to the implementation of MRTU. NCPA believes it is far more important to implement MRTU correctly (including the stimulation of investment in new generation resources) than to meet the CAISO's self-imposed deadline of November 2007.

³⁵⁶ *E.g.*, TANC, Cities/M-S-R, Modesto, Bay Area Municipals and Lassen.

884. CMUA argues that the Commission should not be “overly patient” with the CAISO’s delay tactics. CMUA suggests that this topic is ripe for further discussion through a technical conference or similar mechanism, which would give the CAISO the opportunity to specify the obstacles to achieving long-term firm transmission rights in the first phase of MRTU, and allow all market participants to examine the pros and cons of various approaches.

885. NCPA states that the CAISO’s proposal contemplates that LSEs will be able to “grandfather” or lock in a certain percentage of their CRRs in order to create a long-term hedge. This option to renew annual CRRs is termed the “Priority Nomination Process.” NCPA surmises that this concept is the CAISO’s response to the Commission’s Long-Term Firm Transmission Rights NOPR. NCPA argues that CRRs are an imperfect substitute for long-term firm transmission rights because the CRR allocation process is simply too speculative to allow for reliance on CRRs in long-term resource planning. NCPA asserts that, if LSEs cannot obtain CRRs for future resources, they will never have the assurance of transmission capability needed to support generation investment.

886. APPA “flatly opposes” any further CAISO delay in the development of “*meaningful*” long-term FTRs.³⁵⁷ Specifically, APPA argues that the Long-Term Firm Transmission Rights Final Rule makes clear that “annual rights,” such as the CAISO’s proposed priority nomination process, are not long-term. APPA points out that the final rule requires RTOs “to offer firm coverage for at least a 10-year period.” Stating that long-term firm transmission rights are necessary for its members to enter into long-term resource commitments for resource adequacy, infrastructure development and efficient resource procurement, APPA urges the Commission to reiterate the need for the CAISO’s full and timely compliance with the Long-Term Firm Transmission Rights Final Rule.

887. Six Cities asserts that permitting renewal of CRRs through the Priority Nomination Process will provide some degree of protection against volatility of transmission costs and, therefore, will help facilitate long-term resource commitments. PG&E agrees with the CAISO that the Priority Nomination Process provides an interim level of long-term firm transmission rights that could be acceptable under EPAct 2005 for the initial period of MRTU operation, provided that the level of “grandfathered” CRRs is raised to an effective level of 50 percent for MRTU Year 2.³⁵⁸ AREM disagrees, however, with PG&E’s assertion that EPAct requires the CAISO to increase the level of grandfathering of CRRs.

³⁵⁷ APPA’s Aug. 15, 2006 Motion for Leave to Intervene Out of Time and to Submit Position Statement at 8 (emphasis in original).

³⁵⁸ The CPUC and SoCal Edison also request that the CAISO increase the percentage of CRRs that would be given priority status in the CRR priority nomination process.

888. The CPUC states that it believes that the proposed CRR product largely satisfies the Commission's proposed criteria for long-term firm transmission rights. The CPUC states that, if the Commission's Long-Term Firm Transmission Rights Final Rule were to conclude that a multi-year product is necessary, it expects the CAISO to respond by eventually expanding the CRR program into a multi-year product. The CPUC states that, because California has had no experience with an LMP market, the MRTU market should be permitted to settle into a steady state before additional changes are implemented.

889. The CAISO asserts that, given the ongoing consideration of important issues in the Long-Term Firm Transmission Rights NOPR proceeding, that docket is the most appropriate venue for determination of these issues. The CAISO references the three primary concerns it raised in reply comments in the rulemaking proceeding.³⁵⁹ First, the CAISO states that it should not be required to implement a hybrid instrument that would have to work effectively in both the current zonal markets and in the LMP markets that will be in place upon implementation of MRTU. Second, the CAISO asserts that it is critical to have sufficient time to discuss with stakeholders their needs for long-term CRRs and the pros and cons of alternative designs. Third, the CAISO argues that it should not be required to implement long-term CRRs before having at least one year of experience with the LMP markets. The CAISO adds that MRTU market participants "will benefit from a more thoughtful inclusion of long-term rights rather than a haphazard attempt at fashioning such rights for day one of MRTU."³⁶⁰ The CAISO argues that it would be "improper and ill-advised to prematurely issue long-term instruments that carry significant long-term financial consequences until the MRTU market is up and running and participants are fully aware of the consequences of the redesign on their contracting decisions."³⁶¹

Commission Determination

890. We find that the CAISO must comply with the Long-Term Firm Transmission Rights Final Rule concerning the timing of the provision of long-term firm transmission rights. Generally, Congress has directed the Commission to ensure long-term firm transmission rights, and EAct 2005 does not permit special extensions for compliance.

³⁵⁹ CAISO Answer at 93 (citing Long-Term Firm Transmission Rights in Organized Electricity Markets, Docket Nos. RM06-8-000 and AD05-7-000, CAISO Apr. 2, 2006 Reply Comments at 2-3).

³⁶⁰ CAISO Answer at 94.

³⁶¹ *Id.*

891. The CAISO has been on notice for nearly a decade that its new market design should include long-term firm transmission rights.³⁶² As early as 1997, the Commission recognized the importance of long-term firm transmission rights “for the development of a competitive and efficient electricity market in California.”³⁶³ At that time, while we were persuaded to permit some delay in developing long-term firm transmission rights, we nevertheless required the CAISO to file, by June 30, 1998, a plan to make available long-term firm transmission rights by January 1, 1999.³⁶⁴ When, in response, the CAISO submitted tariff sheets offering transmission for periods up to one-year maximum, we found that the proposal did not “address our concerns about long-term commitments.”³⁶⁵ We reiterated the importance of reducing risk, given the large amounts of capital involved in future investment in California. We stressed, again, our concern that the absence of transmission service of any significant term “impermissibly disadvantaged the bilateral transmission market.”³⁶⁶ While we accepted the CAISO’s proposal to limit its initial offering of Firm Transmission Rights (FTRs) to one year, we nevertheless determined that the CAISO’s FTR proposal must be revised to include long-term FTRs. Significantly, we directed the CAISO “to use its experience with this first offering to develop proposals that would provide long-term transmission rights” through either a modified FTR proposal or some other means.³⁶⁷ In the intervening years, the CAISO failed to submit any proposal for long-term firm transmission rights. Instead, the CAISO asked the Commission’s permission to respond to its directives concerning provision of long-term firm transmission rights “as part of its comprehensive proposal to redesign its Congestion Management System.”³⁶⁸ To date, our concerns regarding the problems associated with the absence of long-term rights, including adequate hedging of risk, promotion of bilateral contracting and financing for new facilities, remain unresolved.³⁶⁹

³⁶² July 1997 Order, 80 FERC at 61,427 (requiring the CAISO to submit a plan to implement long-term firm transmission rights). As early as November 27, 1996, the Commission ordered the CAISO’s Phase II filing to consider whether the CAISO should issue transmission rights to all market participants to hedge against uncertain fluctuations in hourly transmission charges. *Pacific Gas & Electric Co.*, 77 FERC ¶ 61,204, at 61,831-832 (1996).

³⁶³ July 1997 Order, 80 FERC at 61,427.

³⁶⁴ *Id.*

³⁶⁵ May 1999 Order, 87 FERC at 61,572.

³⁶⁶ *Id.* (citing July 1997 Order, 80 FERC at 61,427).

³⁶⁷ *Id.*

³⁶⁸ See CAISO Dec. 1, 2000 Transmittal Letter, Docket No. ER98-3594-006, at 3-

4.

³⁶⁹ See, e.g., July 1997 Order, 80 FERC at 61,427 (recognizing “the importance of long-term firm transmission rights for the development of a competitive and efficient electricity market in California.”).

892. The CAISO has now submitted its comprehensive congestion management system, which does not specifically address long-term firm transmission rights. Instead, the CAISO now requests at least one year's experience with its redesigned congestion management scheme before having to implement long-term firm transmission rights. We decline to grant the CAISO, in this proceeding, a special extension for compliance beyond what the Long-Term Firm Transmission Rights Final Rule finds appropriate for ISOs in general or organized markets implementing full LMP markets for the first time. Accordingly, we direct the CAISO to begin its stakeholder process, so that it will be prepared to submit timely the tariff sheets (or plan) ultimately required by the Final Rule. We find it unnecessary to delay review of the rest of the MRTU Tariff while we await the CAISO's submittal of tariff sheets implementing long-term firm transmission rights, in accordance with the deadlines required by the Final Rule. Furthermore, a hearing on the matter would be premature at this point.

1. Physical vs. Financial Transmission Rights

893. Municipal entities, such as SMUD, LADWP, NCPA, TANC, Six Cities, Redding and Santa Clara, Lassen, Bay Area Municipals and the State Water Project oppose the issuance of only financial transmission rights, and assert that LSEs with long-term contracts should be awarded long-term physical rights. These parties assert that financial transmission rights, such as CRRs, are an inadequate substitute for long-term physical transmission rights because they are uncertain, fail to offer an adequate hedge against fluctuating transmission congestion costs, and do not accommodate the requirements of resources that operate on other than a base-load basis. These parties insist that they need long-term physical transmission rights to hedge the risk of fluctuating transmission congestion charges and to attract financing for generation projects. Lassen, among others, asserts that the benefits of physical transmission rights are enhanced reliability, greater transmission availability and increased investment. The State Water Project adds that long-term physical rights would provide more financial certainty for rights holders, more deliverability certainty for generation, improved revenue stream certainty for new transmission construction investment and would help to decrease opportunities for market manipulation.

894. The Cogeneration Association of California and the Energy Producers and Users Coalition (Cogeneration Parties) explain that, since cogenerators must have a physical sink and a path of delivery for that output, they object to the use of CRRs as a financial transmission right without also ensuring physical deliverability of the cogeneration output. They assert that the MRTU Tariff is unjust and unreasonable for customers who must find a physical delivery for their output due to their industrial operation. Cogeneration Parties state that their concerns are analogous to those of hydroelectric facilities, which must release water for irrigation or fish management reasons. They contend that, in meeting these non-power purposes, a hydroelectric facility must necessarily generate electricity and must be able to transmit the power. Cogeneration

Parties argue that the Commission should either reject the filing as unjust and unreasonable or set it for hearing.

895. All of these parties ask the Commission to require the CAISO to submit a proposal to ensure that physical transmission rights are offered in the CAISO market.

896. SoCal Edison argues that the Commission has already approved the institution of financial transmission rights and has opted not to require that transmission organizations adopt firm physical transmission rights. SoCal Edison accuses commenters of attempting to rehash positions that they have previously argued to the Commission, and which the Commission has soundly rejected.

Commission Determination

897. While the municipal entities couch their argument in terms of preferring physical transmission rights over financial ones, it is apparent that what they really seek is the ability to obtain price certainty: fixed, long-term service under pricing arrangements that hedge the risk of congestion costs they face under MRTU. To achieve this objective, municipal entities ostensibly seek to replicate the type of transmission service they had prior to the formation of the CAISO, namely, transmission service under the Order No. 888 *pro forma* Open Access Transmission Tariff (OATT).

898. Under the current market design, market participants have “physical” rights to inject energy at a source and withdraw energy at a sink, through either submission of a self-schedule or a price bid that indicates a willingness to accept the spot market clearing-price. After implementation of MRTU, market participants will continue to have these same physical rights.

899. In addition to these “physical” rights, market participants under the MRTU Tariff will also have the opportunity to acquire financial transmission rights, or CRRs. By acquiring CRRs that would hedge the congestion charge between the source and sink, a market participant can lock in the transmission cost (except for losses) and hedge the associated congestion charge.³⁷⁰ We acknowledge that it is possible that market participants may not be able to acquire CRRs to cover all of their desired transmission

³⁷⁰ We note that the phrase “firm transmission right” was once synonymous with a physical transmission right. The Long-Term Firm Transmission Rights Final Rule explains how a transmission right can also be “firm” in an LMP context, if it is firm as to both quantity and price. This means that the transmission right must be firm as to both the physical component of the right, i.e., matched to the physical source to sink path of the transmission right, and the “financial” component of the right, which implicates the duration of the CRR. *See* Long-Term Firm Transmission Rights Final Rule, FERC Stats. & Regs. ¶ 31,226 at P 82.

needs, in part because there may be competition for certain transmission paths. However, unlike a pure physical rights system, if a CRR-holder does acquire CRRs over a particular path, to the extent a CRR holder is not physically transmitting electricity between its designated source and sink, the holder can profit by receiving congestion revenues from the CRRs or by selling the CRRs. This is an advantage over a pure physical rights approach to congestion management, which only allows the entity to resell physical rights at the higher of original cost, the transmission provider's maximum rate on file at the time of the resale, or the reseller's opportunity cost, capped at the transmission provider's cost of expansion.³⁷¹ Another advantage is that, under MRTU, the CAISO will manage congestion through the use of locational prices that are determined by bids and offers at given locations. This allows all available resources to participate in redispatch for congestion management because they all receive the congestion price signal. As a result, market participants have more accurate price signals and can make more cost effective decisions concerning their energy consumption and use of the transmission system, as well as investment in new generation and transmission upgrades. The CAISO is less likely to have to invoke transmission loading relief procedures or service curtailments than would be the case under a pure physical rights model. Accordingly, we find that this combination of physical and financial rights is superior to a pure physical rights approach to congestion management.³⁷²

900. We add that the Commission has already approved the institution of financial transmission rights, or CRRs,³⁷³ however, and neither EAct 2005 nor the Long-Term

³⁷¹ *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, Order No. 888-A, FERC Stats. & Regs. ¶ 31,048, at 30,528 (1997), *order on reh'g*, Order No. 888-B, 81 FERC ¶ 61,248 (1997), *order on reh'g*, Order No. 888-C, 82 FERC ¶ 61,046 (1997), *aff'd in relevant part sub nom. Transmission Access Policy Study Group v. FERC*, 225 F.3d 667 (D.C. Cir. 2000), *aff'd sub nom. New York v. FERC*, 535 U.S. 1 (2002).

³⁷² We note that the Long-Term Firm Transmission Rights Final Rule contemplates that most transmission organizations will be able to use their current allocation/auction systems to allow LSEs to nominate source-to-sink transmission rights on a longer-term basis than they may now. The final rule does not necessarily guarantee that LSEs, which include municipal entities, will be able to obtain long-term firm transmission rights to hedge their entire resource portfolios. However, once long-term rights are awarded to an LSE, the final rule does require that they be funded over their entire term. *Id.* P 18.

³⁷³ *Cal. Indep. Sys. Operator Corp.*, 88 FERC ¶ 61,156, at 61,525 (1999) ("Properly designed financial rights can provide customers with an equivalent level of price certainty and service quality as long as the ISO has the necessary mechanisms in place to manage congestion efficiently, *i.e.*, without frequently having to resort to non-

Firm Transmission Rights Final Rule requires the return to a pure physical rights model. We continue to find that the combination of physical and financial rights provided by the CAISO's congestion management system is superior to a pure physical rights approach because the CRR congestion management scheme provides greater flexibility to accommodate changes in the usage of the transmission system over time, more accurate price signals, and an opportunity to receive congestion revenue from CRRs or to sell them. Accordingly, we find that this combination of physical and financial rights is superior to a pure physical rights approach to congestion management.

C. Existing Transmission Contracts

Background of the ETC Proposal

901. The CAISO states that it has developed its MRTU market design to honor and integrate ETCs,³⁷⁴ while minimizing inefficiencies associated with such contracts. The CAISO states that there are three main components to its proposal for honoring ETCs: (1) scheduling the use of ETC rights in the CAISO markets; (2) settlement and allocation of CAISO charges associated with ETC schedules; and (3) validating that ETC schedules submitted to the CAISO are consistent with ETC holders' contractual rights. The CAISO states that the MRTU Tariff accommodates valid ETC schedule changes without diminishing existing contractual rights. The CAISO explains that the MRTU language reflects the CAISO's ETC proposal submitted on December 8, 2004, and changes suggested by the Commission in the February 10, 2005 Order.³⁷⁵

ETC Scheduling

902. The CAISO states that, under MRTU, it will honor all ETC scheduling rights without withholding unscheduled ETC capacity on the internal network from the market and without the need to reduce the firmness of accepted non-ETC schedules. In MRTU Tariff section 16.5, the CAISO will "set aside" unscheduled ETC capacity on the interties

price schemes for rationing available capacity." (citing *Central Hudson Gas & Elec. Corp.*, 86 FERC ¶ 61,061 (1999)).

³⁷⁴ ETCs are contracts that "grant transmission service rights in existence on the CAISO Operations Date (including any contracts entered into pursuant to such contracts) as may be amended in accordance with their terms or by agreement between the parties thereto from time to time." MRTU Tariff, Appendix A, Master Definitions Supplement. These ETCs are encumbrances, established prior to the CAISO's operation, in the form of a CAISO PTO's contractual obligation to provide transmission service to another party using transmission facilities owned by the PTO that have been turned over to the CAISO's operational control.

³⁷⁵ *Cal. Indep. Sys. Operator Corp.*, 110 FERC ¶ 61,113 (2005) (February 2005 Order).

in the day-ahead market. However, the CAISO will not set aside unscheduled ETC capacity on the CAISO-controlled grid, including paths 15 and 26. The CAISO explains that this approach to ETC scheduling is crucial to avoid the substantial adverse impacts on the effectiveness of the MRTU design as well as the complexity that would result from withholding transmission capacity for unscheduled ETC rights under the Full Network Model. The CAISO states that this approach is similar to the way the PTOs honored ETC rights prior to the formation of the CAISO and is consistent with LMP.

903. Under MRTU Tariff section 16.6, the CAISO will require Scheduling Coordinators to submit, on behalf of ETCs, balanced schedules in the day-ahead market.³⁷⁶ In MRTU Tariff section 10.3.2, the CAISO further explains that Scheduling Coordinators that schedule for ETCs and converted rights³⁷⁷ will need to submit settlement quality meter data³⁷⁸ that identifies and distinguishes the demand served under their relevant rights.

904. In MRTU Tariff sections 30.5.1, 30.5.3, and 33.1, the CAISO states that it will fully honor all valid schedule changes associated with ETC capacity after the close of the day-ahead market. The CAISO adds that ETC holders will not have the ability to submit demand bids in the HASP or real-time market, but ETC rights holders will have the right to adjust their generation in the HASP and real-time market to the extent such changes are consistent with the relevant ETC contract.

905. The CAISO explains that ETC rights holders will be given scheduling priority over other users of the CAISO-controlled grid in the day-ahead and HASP and the real-time market to the extent such schedules conform to the ETC rights holders' contractual rights.³⁷⁹ The CAISO states that, under MRTU Tariff section 31.4, in the day-ahead market, valid ETC schedules will be among the last to be adjusted in the event that non-

³⁷⁶ The CAISO states that, when a Scheduling Coordinator submits a schedule for an ETC, it must include balanced sources and sinks, within the ETC's capacity limits.

³⁷⁷ Converted Rights refer to those contractual rights and transmission facilities that were turned over to CAISO control subsequent to the initial start up of the CAISO. We discuss treatment of converted rights under MRTU below.

³⁷⁸ Settlement quality meter data is energy usage data collected by a metering service. *See* MRTU Tariff, Appendix A, Master Definitions Supplement.

³⁷⁹ For example, if the ETC holder's rights expire after the day-ahead market, then the IFM will provide scheduling priority to the valid submitted ETC self-schedule but will release any MW of the reserved capacity for that ETC that is not used by the valid ETC self-schedule and that unused ETC capacity will remain available for other uses for all subsequent CAISO markets. Alternatively, if the ETC holder's rights extend to the hour-ahead time frame, then the IFM will continue to reserve the entire amount of ETC capacity in the IFM even if only a portion of it was self-scheduled in the IFM. *See* Kristov Testimony at 98.

economic adjustments are required to relieve congestion. The CAISO further explains that, under MRTU Tariff section 16.5.1, to the extent that existing rights permit schedule changes over scheduling points with other control areas, it will permit schedule changes; the CAISO will reserve transmission capacity equal to the existing rights transmission capacity and make a corresponding adjustment in its determination of ATC. For existing rights that permit schedule changes after the close of the day-ahead market, the CAISO will reserve transmission capacity equal to the unscheduled ETC amount of transmission capacity for that scheduling point.

Settlement and Allocation of CAISO Charges: The Perfect Hedge

906. The CAISO states that the MRTU Tariff incorporates the perfect hedge settlement mechanism,³⁸⁰ which exempts valid ETC schedules and valid post-day-ahead ETC schedule changes from all CAISO congestion charges (*i.e.*, both day-ahead and real-time congestion charges).³⁸¹ Thus, according to the CAISO, ETC rights holders will be held financially harmless from congestion charges associated with the implementation of LMP under the ETC proposal.

907. The CAISO states that sections 11.2 and 11.2.1.5 allow for congestion charges associated with a valid day-ahead ETC schedule to be reversed in settlement on an hourly basis in the day-ahead market. The CAISO explains that section 36.4.2 allows it to ensure that the non-collection by the CAISO of congestion charges does not create systematic revenue shortfalls for non-ETC CRR holders.³⁸² Therefore, the CAISO will model ETC CRR obligations along with other LSE CRR requests in the simultaneous feasibility test in the CRR allocation process. The CAISO explains that the CRR allocation process will create CRRs corresponding to the ETC holders' usage of the grid; however, the CAISO will not release these ETC CRRs. The CAISO clarifies that the creation of these CRRs will constrain the release of non-ETC CRRs in a manner that anticipates ETC grid usage, and, therefore, supports the revenue adequacy of the non-ETC CRRs.³⁸³ The CAISO further adds that ETC congestion charges that are negative are reversed in settlement.

³⁸⁰ Under the proposal, the CAISO will apply an exact reversal in settlements of the congestion charges associated with valid ETC schedule in the day-ahead market or a valid post day-ahead schedule change. Because of this exact reversal, the CAISO has named the proposed mechanism the "perfect hedge."

³⁸¹ The CAISO also notes that, consistent with current practice, ETCs will be exempt from TACs.

³⁸² Because day-ahead congestion charges are paid out to CRR holders, the CAISO states that this failure to collect such charges from some day-ahead schedules could result in a revenue shortfall for CRR holders without corrective measures in place.

³⁸³ The CAISO states that it will develop a set of CRR nominations for each ETC that reflect the best estimate of the congestion revenue stream associated with providing

908. The CAISO states that sections 11.5 and 11.5.7 allow congestion charges associated with a valid post-day-ahead ETC schedule change to be reversed in settlement on the standard real-time 10-minute interval basis. The CAISO explains that, because congestion charges are implicitly collected by the CAISO in the real-time settlement and there are no holders of rights to receive real-time congestion revenues under the MRTU design, all charges for real-time congestion will accumulate in a special and separate neutrality account to be distributed back to non-ETC control area metered demand and exports on a per-MWh basis. The CAISO states that the reversal of real-time congestion charges for ETCs will reduce the amount of funds going into this neutrality account.³⁸⁴ As a result, the congestion costs of these post-day-ahead ETC changes will be spread to all non-ETC load in the system and exports.

909. The CAISO states that because the ETC schedules will not be subject to any congestion charges under the ETC provisions of the MRTU Tariff, it will not be necessary for the CAISO to allocate CRRs to any market participant to hedge these congestion charges.

Validation of ETC Schedules

910. “Validation of ETC schedules” refers to verifying that submitted ETC schedules and schedule changes are within the contractual limits specified in ETC. The CAISO explains that the PTO who entered into the contract with the ETC holder will provide to the CAISO a set of instructions that specify the ETC holder’s rights to transmission service under the contract. The CAISO states that, under MRTU, it will automate the procedure for verifying that submitted schedules utilizing ETC rights are consistent with the ETC. The automated procedure uses a set of parameters submitted by the PTO to the CAISO in the form of Transmission Right and Transmission Curtailment Instructions (TRTC Instructions).³⁸⁵ MRTU Tariff section 16.4 addresses the process for the specification of contractual rights by the parties to each ETC and stipulates content requirements for the TRTC Instructions.³⁸⁶ The CAISO states that this automated procedure can relieve the PTO of the need to validate ETC schedules on a day-to-day basis, while ensuring that schedule changes are consistent with contractual rights.

the perfect hedge to that ETC based on historical data and in collaboration with the ETC parties. *See* Kristov Testimony at 100.

³⁸⁴ ETC load and exports do not receive a share of the neutrality account because they do not pay into this account.

³⁸⁵ Section 16.1.3 states that the CAISO will, if requested, advise parties to existing contracts regarding the operational aspects of any renegotiation they undertake.

³⁸⁶ The TRTC Instructions include: a unique contract reference number, receipt and delivery points, service amounts in MW, identification of schedule change adjustment times and contract references for this authority.

911. Under section 16.6.1, the CAISO will validate the ETC self-schedule to ensure that the schedules are consistent with the TRTC Instructions submitted by the PTO. Under section 16.6.2.1, if the CAISO finds that the ETC self-schedule is not consistent with the TRTC Instructions, the CAISO will find that the ETC self-schedule is not valid and will notify the Scheduling Coordinator, and will convert the ETC self-schedule to an ordinary self-schedule for purposes of scheduling priority and entitlement. If, under section 16.6.2.2, the CAISO finds that the ETC self-schedule is not consistent with the TRTC Instructions or, if, under MRTU Tariff section 16.6.2.3, the ETC self-schedule exceeds the capacity limits in existing contracts as reflected in the TRTC Instructions, the ETC self-schedule will not be valid and the CAISO will: (1) remove any scheduling priority for the entire ETC self-schedule; (2) apply the perfect hedge³⁸⁷ ETC settlement treatment to the valid balanced portions that are within the capacity limits of the existing contract as reflected in the transmission instructions; and (3) assess any charges and make any payments consistent with the treatment of ordinary self-schedules for the unbalanced portions of the existing contract.

Other Transmission Charges for ETCs

912. The CAISO states that, consistent with current practice, ETCs under MRTU will be exempt from wheeling access charges in the day-ahead and real-time markets for valid, balanced self-schedules. In addition, valid ETC self-schedules submitted after the close of the HASP and real-time markets will not be subject to uninstructed deviation charges. Under MRTU section 16.6.3(4), ETC rights holders will continue to pay for transmission losses and ancillary services requirements in accordance with their existing contracts. The CAISO will charge Scheduling Coordinators submitting the ETC self-schedule for transmission losses and ancillary services in accordance with the MRTU Tariff, (*i.e.*, these schedules will be assessed marginal losses) and any shortfall or surplus between the CAISO charges and the ETC should be settled between the parties or through the relevant PTO tariff.³⁸⁸ The CAISO states that the parties to the ETC contracts will need to work out between themselves whether some compensation from one to the other is warranted. The CAISO explains that this approach: (1) allows the parties to the ETC, not the CAISO, to interpret rights under the contract, (2) allows the CAISO to remain neutral and (3) assigns a cost to the contract rather than spreading the cost associated with the ETC self-schedule to the rest of the market.³⁸⁹ The CAISO states, as discussed above, that the direct credit back of revenues associated with marginal losses should reduce the magnitude of this concern for the ETC parties. Finally, the CAISO states that the issue of ETC self-schedules and the Grid Management Charge

³⁸⁷ See MRTU Tariff sections 11.2.1.5 and 11.5.7.

³⁸⁸ Section 16.6.3(4) further provides for the CAISO to calculate and provide the Scheduling Coordinator the marginal cost of losses for the MWhs submitted with a valid ETC schedule.

³⁸⁹ See Kristov Testimony at 103-104.

is under current consideration in the stakeholder process reviewing the entire Grid Management Charge. The CAISO notes that currently ETC schedules are exempt from the congestion management component of the Grid Management Charge, but are subject to its other components.³⁹⁰

Converted Rights

913. The CAISO explains that subsequent to the initial start-up of CAISO operations, certain entities, including the cities of Anaheim, Azusa, Banning, Pasadena, Riverside and Vernon, California chose to sign the Transmission Control Agreement and turn over operational control of their transmission facilities and entitlements to the CAISO. These entities are called New PTOs. Under the CAISO tariff, the transmission capacity associated with contractual rights and transmission facilities were converted to firm transmission rights. Under MRTU, the CAISO proposes to provide these entities that hold converted rights, a settlement mechanism that: (1) fully offsets the CAISO congestion charges for each parties' scheduled use of its converted rights in the day-ahead IFM optimization process;³⁹¹ and (2) provides scheduling priority for such day-ahead schedules. The CAISO explains that this treatment will extend through December 31, 2010.³⁹² The CAISO states that after 2010, any new PTO will receive protection against congestion costs by means of an allocation of CRR obligations.

Discussion

1. ETC Schedule Changes

914. As discussed above, MRTU Tariff section 16.6.2 deals with the treatment of invalid ETC Self-Schedules. A self-schedule can be invalid because it is inconsistent with the TRTC Instructions, is unbalanced, or exceeds the capacity amounts reflected in the ETC.

915. Some parties, including Metropolitan, Arizona/Southwest Coops and the State Water Project, argue that, under MRTU, the ETC schedules are subject to more stringent scheduling requirements with costly consequences for failure to comply. They assert that, although the CAISO is capable of providing notice and feedback to ETC Scheduling Coordinators, the process does not afford the repeated opportunity to correct errors that are offered to other entities submitting bids. SoCal Edison states that, if the CAISO determines that an ETC is invalid during the validation process prior to the close of the

³⁹⁰ *Id.* at 104.

³⁹¹ Under its proposal, the perfect hedge is limited to those congestion charges incurred in the day-ahead market.

³⁹² The CAISO states that the transition period was established by the Commission established in Amendment No. 27.

market, it should notify the Scheduling Coordinator in a timely manner so that the Scheduling Coordinator may make necessary corrections and resubmit the schedule to the CAISO.

916. Imperial and the State Water Project argue that ETC holders will lose the flexibility they currently have to change scheduled amounts of both supply and demand after submission of the HASP ETC self-schedules. Under the proposed MRTU Tariff, the ETC can only change scheduled amounts of supply; no changes in demand are permitted.

917. In response, the CAISO states that the tariff stipulates that the CAISO will notify the Scheduling Coordinator in the event that the ETC self-schedule is not valid. However, in response to SoCal Edison's request, the CAISO commits to make a compliance filing clarifying sections 16.6.2.1 and 16.6.2.2, adding that the CAISO will inform the Scheduling Coordinator regarding whether the ETC self-schedule is "valid or invalid such that they would lose their priority upon submittal or any change in submittal."³⁹³ The CAISO adds that if an ETC Self-Schedule change is submitted "very close" to the close of the market, the CAISO cannot guarantee whether the Scheduling Coordinator(s) will see the invalidation prior to market closing.³⁹⁴ The CAISO further represents that, "[t]he MRTU software will send a message to the relevant Scheduling Coordinator or Scheduling Coordinators in this case, and if there is time the Scheduling Coordinators may resubmit the Self-Schedule."³⁹⁵

918. The CAISO disagrees with assertions that the MRTU Tariff limits existing rights. To the contrary, the CAISO states that it has made every effort to accommodate such rights under the structure and systems of the new market design. The CAISO's proposed management of ETCs under MRTU still provides unique treatment for ETC Self-Schedules and a special settlement mechanism and does so in a manner that minimizes the impact on the day-ahead and real-time optimization based on the Full Network Model. The CAISO explains that it provides scheduling priority to valid ETC self-schedules in all CAISO markets for which the ETC holder has scheduling rights under the terms of its contract. As to the inability to change demand bids, the CAISO notes that the Existing Rights holder can still modify its generation after the day-ahead market to match anticipated changes in demand.

Commission Determination

919. We conditionally accept, subject to modification, MRTU Tariff section 16.6 and its subsections. As parties point out, the MRTU Tariff does not appear to provide

³⁹³ CAISO Reply Comments, Appendix A at 8.

³⁹⁴ *Id.*

³⁹⁵ *See* Kristov Testimony at 101.

Scheduling Coordinators the opportunity to correct ETC scheduling errors. We direct the CAISO to provide additional tariff language to inform the Scheduling Coordinator whether the ETC self-schedule is valid or invalid. We find, however, that the CAISO's response to parties seeking an opportunity to correct errors in ETC schedules is insufficient. The CAISO states that the "MRTU software will send a message to the relevant S[cheduling] C[ordinator] or S[cheduling] C[ordinator]s . . . , and if there is time the S[cheduling] C[ordinator]s may re-submit the Self-Schedule." This proposed language neither assures the Scheduling Coordinator that it will be afforded time to submit a corrected ETC schedule, nor does it set forth the parameters under which an error may be corrected.

920. Under section 16.6.1, an ETC is valid "when the CAISO has determined that the ETC Self-Schedule, submitted to the CAISO pursuant to the requirements for Bids in section 30, properly reflects Existing Rights consistent with the TRTC Instructions, is labeled with a unique Existing Contract identifier, and includes balanced sources and sinks, within the ETCs capacity limits." Section 16 does not provide a process by which the CAISO will notify and permit the Scheduling Coordinator to correct any errors.³⁹⁶ Given the importance of accurate scheduling and the consequences that ensue from inaccurate scheduling, the tariff should provide the ETC Scheduling Coordinator a timely means to correct a scheduling error. Consequently, we direct the CAISO to submit a compliance filing within 60 days of the date of this order revising the MRTU Tariff to: (1) timely notify Scheduling Coordinators whether the ETC schedule is valid or invalid; and (2) provide the Scheduling Coordinator a reasonable opportunity to correct identified errors prior to the close of the day-ahead market.

921. In addition, we conclude that contrary to Imperial and the State Water Project's assertions, ETC rights' holders do not lose flexibility so long as the scheduling flexibility is provided for under the ETC and codified in the TRTC Instructions. Otherwise, consistent with treatment of all bids, the Scheduling Coordinator for the ETC may adjust its ETC schedule for supply to mirror anticipated changes in demand in HASP.

2. Treatment of Partially Invalid ETC Schedules

922. Citing to sections 16.6.2.2 and 16.6.2.3, some parties argue that the CAISO fails to explain why the entire ETC Self-Schedule is invalid and denied scheduling priority if

³⁹⁶ The validation process for non-ETCs bids under section 30.7.3.1 delineates the three-step bid validation process that provides several opportunities for Scheduling Coordinators to correct and resubmit bids prior to the close of the day-ahead market. Throughout the bid evaluation process, the Scheduling Coordinator shall have the ability to view the bid and may choose to either cancel the bid, modify and re-submit the bid or leave the modified, conditionally modified or valid bid as is to be processed in the designated CAISO market.

only a portion of the submission is either unbalanced or exceeds capacity limits.³⁹⁷ These parties argue that the appropriate treatment is to deem the schedule validated up to the maximum extent of the ETC.

923. PG&E states that the CAISO should not be permitted to effectively treat ETC holders as if their ETC was invalid, simply due to the lack of capabilities of the CAISO's scheduling and settlement software. Therefore, the Commission should require the CAISO to adopt contingency settlement procedures to ensure that ETCs are honored appropriately.

924. The CAISO states that it does not propose to simply reject an invalid ETC schedule. Under MRTU Tariff section 16.6.2.2, if the ETC schedule is not balanced, the CAISO will not accord it a scheduling priority but will apply the perfect hedge to the valid and balanced portions. Similarly, under section 16.6.2.3, the CAISO explains that if the ETC schedule exceeds the total capacity specified in the TRTC Instructions, the CAISO will apply the perfect hedge to the valid balanced portions within the capacity limits of the ETC. The CAISO argues that, in this manner, it is giving "due deference" to the ETC's rights by not invalidating the whole schedule, but, instead, utilizing and giving financial protection to the valid and balanced portion of the submission.

925. In response to PG&E, the CAISO states that, if a Scheduling Coordinator errs in the denomination of a reference number for an ETC, the schedule will be treated as a new firm use. The CAISO argues that this treatment is a necessary validation procedure that reasonably places the burden of properly identifying ETC rights on Scheduling Coordinators. According to the CAISO, it is appropriate to hold Scheduling Coordinators responsible for following the proposed validation procedures.

Commission Determination

926. We conclude that the CAISO's proposal to provide financial protection only to the valid and balanced portion of the ETC schedule upholds the ETC rights holders' contractual entitlements. We also agree that the responsibility for identifying the contract reference number is consistent with prior CAISO practice and appropriately places the responsibility of identifying the ETC schedule on the Scheduling Coordinator.³⁹⁸ However, in the event that an error is detected in the reference number of an ETC, the Scheduling Coordinator should be notified and provided a reasonable opportunity to cure the error, as discussed above.

³⁹⁷ See *e.g.*, Arizona/Southwest Coops, Metropolitan and the State Water Project.

³⁹⁸ See *Wisconsin Pub. Serv. Corp.*, 83 FERC ¶ 61,206, at 61,922 (1998).

3. Reservation of Intertie Capacity for ETCs

927. MRTU Tariff section 16.5 provides that, for ETCs that permit schedule changes over scheduling points with other control areas, the CAISO will reserve transmission capacity and make a corresponding adjustment in its ATC determination.³⁹⁹

928. According to BPA, full reservation of existing transmission rights on interties perpetuates “phantom congestion” and may inflate ancillary service congestion charges on imports. BPA states that a uniform method for determining the extent to which capacity should be reserved would provide a non-discriminatory approach for determining capacity set-asides and the CAISO should apply that uniform method to both interties and internal transmission.

929. In response to BPA, the CAISO states that its proposal to reserve capacity for ETCs only on the interties after the day-ahead market was approved in concept by the Commission in its February 2005 Order. In further support, the CAISO states that its ability to redispatch resources to accommodate valid ETC schedule changes after the day-ahead market is greater with respect to the internal network than it is over the interties. It explains that to reserve unscheduled capacity on the internal network under the new market design would add complexities and inefficiencies because it would, “require transmission capacity set asides on virtually every transmission line in the network.” The CAISO states that the Commission should reaffirm its prior approval and reject BPA’s argument to modify this provision.

Commission Determination

930. We accept section 16.5(1), which reserves full ETC capacity over the interties to honor all scheduling changes across control areas. We find that the CAISO need not have a uniform method for accommodating ETC capacity over interties and on the internal transmission system. The CAISO’s ability to redispatch resources is more limited on interties than it is within the internal transmission network because the CAISO does not control generation on the other side of interties. Therefore, unless the CAISO

³⁹⁹ Section 16.5(1) states:

For Existing Rights that permit schedule changes over Scheduling Points with other Control Areas, the CAISO will reserve transmission capacity equal to the Existing Rights transmission capacity and make a corresponding adjustment in its determination of ATC. For Existing Rights that permit schedule changes after the Market Close of the Day-Ahead Market, the CAISO will reserve transmission capacity equal to the unscheduled amount of transmission capacity for that Scheduling Point.

sets aside unscheduled ETC capacity on the interties, it may not be able to guarantee that post-day-ahead ETC schedule changes will be honored in all instances. In addition, under its proposal, the CAISO will reserve unscheduled capacity over the interties for ETCs only to the extent that the scheduling deadlines and operational procedures of the ETC permit such changes.⁴⁰⁰ This will appropriately reflect the ETC's contract right to this capacity.

4. ETC Settlement and Allocation (the Perfect Hedge)

931. As discussed above, under MRTU Tariff section 16.6.3, the CAISO proposes to use the "perfect hedge" to insulate ETC rights-holders from LMP-related congestion costs, both in the Day Ahead and Real-Time markets. Sections 11.2 and 11.2.1.5 allow for congestion charges associated with a valid day-ahead ETC schedule to be reversed in settlement on an hourly basis in the day-ahead market. Sections 11.5 and 11.5.7 allow congestion charges associated with a valid post-day-ahead ETC schedule change to be reversed in settlement on the standard real-time 10-minute interval basis. Section 36.4.2 allows the CAISO to ensure that the non-collection by the CAISO of congestion charges does not create systematic revenue shortfalls for non-ETC CRR holders.

932. PG&E and LADWP support the CAISO's proposal for implementation of congestion cost treatment for ETCs. PG&E states that the CAISO's proposal: (1) insulates ETC holders from congestion costs to the extent provided under their contracts by reversing any congestion costs; and (2) assures the transmission service intended by those contracts without interfering with the optimization of transmission resources within the CAISO's control area, with flexibility in accordance with the timing permitted by individual ETCs. LADWP states that the "perfect hedge" cost allocation scheme appears to insulate LADWP from congestion charges by reversing the day-ahead charges associated with ETC schedules.

933. AREM, however, asserts that CAISO operations have been hampered by having to accommodate ETCs, and urges the Commission to phase-out proposed rules that perpetuate different treatment for market participants.

934. Imperial states that the CAISO should clarify whether it intends to apply the perfect hedge in situations when the CAISO must cut a schedule for reasons such as congestion, or whether it plans to subject the ETC/TOR holder to congestion charges for the unbalanced portion of the schedule. Specifically, Imperial asserts that, under the CAISO's proposal, if its schedule is cut due to a physical problem with the transmission line (e.g., parallel flow, congestion in the area or a derating of a line) then only the surviving part of the ETC/TOR schedule will be covered by the perfect hedge. Imperial asserts that the part of the ETC/TOR schedule that gets cut will be exposed to congestion

⁴⁰⁰ The TRTC Instructions reflect these procedures.

pricing without the protection of the perfect hedge. It contends that the CAISO will automatically buy replacement power and charge Imperial for that power no matter how costly. Imperial argues that rather than forcing the ETC/TOR holder to purchase energy from the CAISO at an unknown price the CAISO should give ETC/TOR holders the option to purchase power from outside the CAISO system, or voluntarily decrease load.

935. San Francisco states that the proposed MRTU Tariff provisions do not allow for the delivery or receipt of energy under its ETC at the zone or hub level (e.g., currently defined as NP15, SP15 or ZP26). San Francisco states that the CAISO should remedy this restriction by removing section 30.5.3.2(a) from the MRTU Tariff and by clarifying that Scheduling Coordinators may submit demand bids at the LAP and the CAISO shall settle such bids at the LAP for such ETC or TOR self-schedules that are consistent with the submitted TRTC Instructions.

936. Bay Area Municipals argue that the MRTU Tariff forces settlements for ETCs and TORs at their nodal prices, which denies ETCs the LAP pricing protections afforded all other market participants. They assert that the perfect hedge for ETCs does not protect an ETC holder from disproportionately higher nodal losses because they cannot schedule, settle and be assessed losses at the LAP. Bay Area Municipals argue that default LAPs should apply to ETCs and TORs consistent with other market participants.

937. Western also argues that when a party to a contract exports or imports, and uses its scheduling flexibility under the contract to change that schedule, it is charged for redispatch service under the tariff. Western asserts that by imposing additional charges on one of the contract parties, the CAISO fails to honor the provisions of the ETC. LADWP requests that the Commission direct the CAISO to correct its misapplication of real-time congestion charges to ETCs because ETCs have already paid for congestion by their purchase of firm transmission.

938. PG&E and Metropolitan state that MRTU Tariff sections 16.11 and 16.12 allow for Inter- and Intra-control area schedule changes in real-time for ETCs, but also state that any resulting imbalance energy deviation charges will be imposed on the ETC Scheduling Coordinator. PG&E agrees that it may be appropriate to allow real-time changes to the extent consistent with ETCs; however, it believes that there is insufficient basis to make the ETC Scheduling Coordinator responsible for any resulting charges for energy deviations.

939. The CAISO argues that the Commission should affirm the perfect hedge proposal because it appropriately addresses congestion cost for ETCs. In response to Bay Area Municipals, the CAISO states that there should not be congestion cost impacts for settlement of ETCs at the nodal price since the ETC holder is supplying energy through a

balanced self-schedule and the difference (i.e., congestion) is covered by the perfect hedge.⁴⁰¹

940. The CAISO states that it is unclear what Imperial means by “cutting an ETC Schedule for Congestion.” The CAISO explains that the central premise of the proposed treatment of ETCs is that they would not be cut, but given service priority and financial protection under MRTU. The CAISO suggests that if Imperial is referring to a derate in a line, the CAISO would continue to provide the perfect hedge protection to the remaining balanced schedule in accordance with the TRTC Instruction. If, however, the supply side is curtailed due to a reduction of the ETC commensurate with the line derate, the unbalanced demand side would be served using other resources and using non-ETC transmission. The CAISO states that, because this transaction is balanced using non-ETC transmission, it does not receive the perfect hedge. Likewise, if load served over another path due to an outage on the transmission facilities covered by the ETC, the transmission would be considered a new firm use subject to congestion because the service is not covered under the ETC, unless it was covered by a network service agreement.

941. The CAISO states that PG&E does not explain why it considers it inappropriate to hold the Scheduling Coordinator for the ETC responsible under MRTU Tariff section 16.12 for real-time schedule changes. The CAISO notes that MRTU Tariff section 16.12 is based on section 16.2.7.2 of the current CAISO tariff with minor changes to accommodate the MRTU terminology and market structure. In addition, the CAISO argues that, consistent with *Southern California Edison v. FERC*,⁴⁰² and the Commission’s decision on remand in *Pacific Gas & Electric Company*,⁴⁰³ PG&E has two options to recover costs it incurs as Scheduling Coordinator for ETCs: (1) recover the costs under the Transmission Revenue Balancing Account (TRBA)⁴⁰⁴ or (2) reform the ETC to eliminate any cost differential.⁴⁰⁵

⁴⁰¹ The CAISO further states that the requirement that ETCs be scheduled at the nodal level best reflects the system impact of the ETC’s use of the transmission grid from both a grid management and a system cost impact basis.

⁴⁰² *Southern Cal. Edison*, 415 F.3d 17, 21-22 (D.C. Cir. 2005).

⁴⁰³ *Pacific Gas and Electric Co.*, 113 FERC ¶ 61,296, at P 17-20 (2005), *order on reh’g*, 115 FERC ¶ 61,226 (2006).

⁴⁰⁴ The TRBA is an account under which PTOs recognize cost differentials resulting from the difference between charges governed by ETCs and charges under the CAISO tariff and allows for recovery of these cost differentials under the PTO’s open access transmission tariffs.

⁴⁰⁵ The CAISO states that these decisions were based on section 2.4.4.4.5 of the prior CAISO tariff (section 16.2.3.4.5 of the current CAISO tariff) which has been incorporated as MRTU Tariff section 16.6.3(4).

Commission Determination

942. We accept the CAISO's tariff sheets concerning its proposed perfect hedge mechanism for settlement and allocation of congestion charges for ETC contracts and TORs.⁴⁰⁶ The perfect hedge allows the CAISO to continue to honor ETC and TOR schedules and also hold ETCs and TORs harmless for congestion charges. This mechanism together with the scheduling provisions discussed above eliminates the current phantom congestion problem by making more transmission capacity available for market participants' use and enabling the CAISO to manage its grid more effectively.

943. Some parties argue ETCs have no pricing protection because they are settled at a nodal price; others assert that under certain circumstances when exercising scheduling flexibility, ETC holders will be subject to congestion charges. We disagree. Although congestion charges are assessed to these schedule changes, under sections 11.5 and 11.5.7, congestion charges associated with a valid post-day-ahead ETC schedule change are to be reversed in settlement on the standard real-time 10-minute interval basis. Therefore, all schedule changes afforded in the underlying contract and reflected the TRTC Instructions are protected from congestion charges.

944. With respect to Bay Area Municipals' concern, we agree with the CAISO that there should not be congestion cost impacts for settlement of ETCs at the nodal price since the ETC holder is supplying energy through a balanced self-schedule and the difference (*i.e.*, congestion) is covered by the perfect hedge. Under the CAISO's proposal, the perfect hedge does not apply to the marginal loss component of the LMP. We disagree with the assertion that because ETCs settle at the nodal price, they will be responsible for disproportionately higher marginal losses.⁴⁰⁷ We, therefore, reject Bay Area Municipal's request to apply default LAPs to ETCs.

945. Under the day-ahead market, all self-schedules (including ETCs and TORs) are respected to the maximum extent possible and are protected from curtailment in the congestion management process. They are among the last bids to be adjusted in the day-ahead market to relieve congestion and congestion costs associated with balanced ETC and TOR schedules are reversed. Therefore, Imperial's concern that an ETC schedule could be cut for congestion, under section 31.4, appears misplaced. As the CAISO explains, the central premise of the proposed treatment of ETCs is that they would not be cut for congestion, but given service priority and financial protection under MRTU as codified under section 31.4. If, however, the supply side of an ETC or TOR is cut due to a line derating, or an outage of the transmission facility, and the CAISO serves the

⁴⁰⁶ We discuss MRTU Tariff section 17 regarding transmission ownership rights below.

⁴⁰⁷ The assessment of transmission losses for ETCs and TORs is discussed separately below.

unbalanced demand using non-ETC or TOR facilities, the ETC does not receive the perfect hedge. We find this outcome reasonable and consistent with the manner in which it is likely the contract would have been administered. We agree with the commenters, however, that, in the event that the CAISO needs to cut an ETC/TOR schedule as a result of a transmission line derate or outage, the rights holder should be permitted to voluntarily decrease load or independently procure replacement power if time, circumstance and its ETC/TOR contract rights permit. If permitted by its ETC/TOR contract, an ETC/TOR rights holder's preference regarding voluntary responses to transmission line derates or outages should be reflected in its TRTC Instructions.

946. Under MRTU Tariff sections 16.11 and 16.12, Scheduling Coordinators for ETCs are assessed imbalance energy deviation charges for any inter- or intra-control area changes. We find that, consistent with the CAISO's representation, section 16.12 is based on section 16.2.7.2 of the CAISO tariff and is updated to reflect MRTU terminology only and the meaning and application have thus not been changed. Therefore, since we have already accepted this provision, and PG&E has not explained any change in circumstances or other rationale to support modifying this provision, we deny PG&E's request.

5. Application of the Perfect Hedge for Converted Rights

947. As discussed above, under MRTU, the CAISO proposes to provide New PTOs – entities that hold converted rights, i.e., those that subsequent to the CAISO start turned over control of transmission lines to the CAISO – with a settlement mechanism that: (1) fully offsets the CAISO congestion charges for each party's scheduled use of its converted rights in the day-ahead market; and (2) provides scheduling priority for ETC rights holders over other day-ahead schedules. This treatment will extend through December 31, 2010, after which converted rights holders will receive CRRs.

948. Six Cities states that MRTU Tariff sections 4.3.1.2 and 11.2.1.5 establish a price hedge for holders of converted rights and refer to a requirement for submission of a balanced schedule for the hedge to apply. Six Cities argues that there is no justification for requiring an entity that holds converted rights eligible for such hedging to submit a balanced schedule for all of its loads and resources. Rather, Six Cities states that the balancing requirement should be limited to pairing the converted rights eligible for the hedge with an equivalent amount of load.

949. In response to Six Cities, SoCal Edison states that the submission of a "Converted Rights Self-Schedule," as required under section 11.2.1.5 is necessary to ensure that the hedge provided under 4.3.1.2 does not exceed the converted rights that the New PTO brought to the ISO. SoCal Edison states that the amount of load that a New PTO has that cannot be paired with a converted right should not receive the perfect hedge under section 4.3.1.2. SoCal Edison asserts that requiring the submission of a balanced schedule in

order to qualify for this special treatment assures that only converted rights receive the hedge.

950. In addition, SoCal Edison notes that the current CAISO tariff provision that section 4.3.1.2 is intended to replace is limited to the converted rights that the New PTO had as of the date it became a New PTO. SoCal Edison states that the proposed MRTU Tariff language should be modified to ensure that the CAISO should only provide the perfect hedge to New PTOs commensurate with the amount of transmission that they had upon becoming PTOs. This could be accomplished by explicitly defining a “Converted Rights Self Schedule” to only include Converted Rights that a New PTO had upon the date that it became a PTO.

951. The CAISO states that, under MRTU, New PTOs receive the perfect hedge which applies to valid and balanced converted rights self-schedules. The CAISO states that, under the CAISO’s current market design, Six Cities receive FTRs for the transmission capacity they turned over to the CAISO operational control. These FTRs must be scheduled on a day-ahead basis to provide protection against congestion costs. The perfect hedge provided under section 11.2.1.5 provides an equivalent treatment for the converted rights of the New PTOs under MRTU for the transition period ending on December 31, 2010.

Commission Determination

952. The perfect hedge mechanism provides converted rights holders protection against congestion costs under LMP for balanced and valid day-ahead schedules; therefore, we find that, for converted rights, the balanced schedule requirement is necessary to effectuate the perfect hedge. We further find that the proposed MRTU Tariff language should be modified to ensure that the CAISO should only provide the perfect hedge to New PTOs commensurate with the amount of transmission that they had upon becoming PTOs. Future transmission capacity additions by New PTOs should not receive the perfect hedge. We direct the CAISO to make a compliance filing within 60 days of the date of this order clarifying section 4.3.1.2 accordingly.

6. ETC Self-Provision of Ancillary Services over Interties

953. Metropolitan, Six Cities, Western and the State Water Project argue that, under MRTU, an ETC is prevented from utilizing its capacity over an intertie for the self-provision of ancillary services, even though the CAISO has reserved such capacity for the exclusive use of the rights holder. Metropolitan requests that the Commission order the CAISO to modify its MRTU Tariff to permit an ETC and TOR rights holders to self-provide ancillary service imports.

954. The CAISO explains that whether an ETC is allowed to self-provide ancillary services over interties depends on the ETC contract. Consequently, if a contract does not involve transmission service over an intertie and/or if the contract does not allow the rights holder to self-provide ancillary services, then the limitation on self-provision of ancillary services from outside the CAISO Control Area will apply to an ETC rights holder, just as it would to a non-ETC rights holder. On the other hand, if the contract does involve transmission service or import capacity over an intertie and if the contract allows the rights holder to self-provide ancillary services, then the CAISO will allow the ETC rights holder to self-provide ancillary services over the intertie, using its ETC rights. If an ETC allows for self-provision of ancillary services over an intertie, however, the CAISO states that the ETC rights holder will have to comply with the applicable provisions of the MRTU Tariff regarding self-provision of ancillary services. For example, the CAISO must receive a submission to self provide ancillary service from the ETC rights holder and the Ancillary Services capacity must be able to be dispatched by the CAISO, if needed.

Commission Determination

955. We find that ETC rights holders should be allowed to self-provide Ancillary Services across interties to the extent permitted under their respective ETCs. We further find that ETC rights holders whose contracts permit self-provision of ancillary Services over the intertie must comply with MRTU Tariff provisions concerning Ancillary Services. We find that the CAISO's approach strikes the appropriate balance between honoring ETC contractual rights and efficient administration of California markets.

7. Collection of Transmission Losses from ETCs

956. As discussed above, under MRTU Tariff section 16.6.3(4), Scheduling Coordinators for ETCs will be assessed marginal losses.

957. Several parties object to the CAISO's proposal to collect marginal losses from ETCs.⁴⁰⁸ Western and SMUD assert that the proposal ignores the pre-existing rights of ETCs because existing contract holders will be required to make a double payment for losses by having to pay for losses under the ETC and marginal losses under MRTU. San Francisco states that the Commission should reject nodal marginal pricing of losses. Alternatively, it argues that, if they are adopted and applied to ETCs, the Commission should direct the CAISO to provide perfect hedge-like protection for ETC transmission loss exposure similar to the protection it has proposed for congestion costs.

⁴⁰⁸ See, e.g., Western, SMUD, Imperial, LADWP, CMUA, Arizona/Southwest Coops and TANC.

958. The CAISO argues that its proposal to apply its marginal loss methodology on a consistent basis – to both new firm uses of the grid and to ETCs – is an efficient, just and reasonable means to assign responsibility for losses, despite the concerns raised by parties. The CAISO determined through its stakeholder process that the most effective way to contain the cost of losses between the ETC contract parties would be to charge ETC Self-Schedules for losses on the same basis as other grid users, and allow the parties to the contract to work out between them whether some compensation from one to the other is warranted. With this approach the CAISO would stay removed from interpreting these contracts, avoid favoring particular parties to a contract, and also avoid causing a cost associated with ETC Self-Schedules to be spread to the rest of the market.

Commission Determination

959. We find reasonable the CAISO's proposal to assess marginal losses to Scheduling Coordinators of ETC contracts in the same manner as the CAISO proposes to assess marginal losses to other load within the CAISO's transmission grid. Assessing all customers, including ETC rights holders, marginal losses associated with their transactions is consistent with cost causation principles. This also helps assure least-cost dispatch and the establishment of optimal nodal prices.

960. In addition, we find that assessing marginal losses to ETCs does not abrogate ETC contracts. First, with respect to those ETC contracts containing *Mobile-Sierra* clauses (*i.e.*, contracts that cannot be modified unilaterally unless the public interest standard is met), the Scheduling Coordinator is free to pass through any unrecovered losses through the TRBA. However, to the extent overcollection is credited back to metered demand, the Scheduling Coordinator must reduce its TRBA proportionately. As for contracts that are unilaterally modifiable under the just and reasonable standard, PTOs are free to file with the Commission to seek to modify the contract.

8. System Emergency Exceptions

961. The City of Burbank, California (Burbank), Turlock and TANC argue that MRTU Tariff section 16.5.1 allows the CAISO to require holders of ETCs to shed firm load, irrespective of the actual terms of the ETC and that this requirement abrogates ETCs.⁴⁰⁹ Accordingly, Burbank argues that the CAISO's proposal to require ETC rights-holders to shed load as set forth in the MRTU Tariff should be rejected or, in the alternative, the Commission should order a full evidentiary hearing to address this issue.

⁴⁰⁹ Section 15.5.1 states that the CAISO will honor the terms of ETCs provided that in a system emergency and circumstances in which the CAISO considers a system emergency imminent or threatened, holders of existing rights must follow CAISO operating orders even if those operating orders directly conflict with the terms of existing contracts.

962. In response, the CAISO states that this assertion is wholly without merit. According to the CAISO, MRTU Tariff section 16.5.1 retains existing, previously-litigated CAISO tariff authority necessary to manage System Emergencies in accordance with Good Utility Practice⁴¹⁰ and the interveners fail to cite any specific instance when this authority was utilized improperly. The CAISO states that the MRTU proposal makes no substantive changes to the CAISO's authority to manage system emergencies.

Commission Determination

963. We agree with the CAISO's response for the reasons contained in it and direct no tariff changes.

9. ETCs with Pre-paid Arrangements

964. The United States Bureau of Reclamation (Bureau of Reclamation) asserts that LMP is inconsistent with those ETCs that have pre-paid arrangements. The Bureau of Reclamation states that, under MRTU, certain entities will be assessed charges that are in addition to the costs previously paid by the Bureau of Reclamation for transmission, and these entities will not receive the benefit of any reduction in TACs or the reductions will be untimely delayed.

965. In response, the CAISO states that the Bureau of Reclamation's issue appears misplaced. The CAISO explains that ETCs will continue to be exempt from TACs or wheeling access charges, as they are now. Thus, the CAISO asserts that the Bureau of Reclamation and any other ETC holder will continue to pay the embedded costs of the transmission system in accordance with the ETC. If the ETC is a fixed price contract, then the Existing Rights holder will not receive any benefit from lower access charges, but will also not face exposure to increases from higher access charges.

Commission Determination

966. We agree with the CAISO, for the reasons included in its response. We do not find that LMP is inconsistent with ETCs that have pre-paid arrangements because ETC rights holders will continue to be exempt from TACs and wheeling charges, and will continue to pay the embedded costs of the transmission system in accordance with the

⁴¹⁰ The CAISO states that section 2.3.1.2.1 read "holders of Existing Rights must follow the ISO operating orders, even if those orders directly conflict with the terms of Existing Contracts." This provision was litigated and accepted by the Commission as part of the long-running "Unresolved Issues" case. The Commission adopted this specific language in an order on compliance filing dated July 25, 2003. *Cal. Indep. Sys. Operator Corp.*, 104 FERC ¶ 61,129 at P 18.

ETC. These ETCs will also be protected from congestion charges through the perfect hedge mechanism. Accordingly, we direct no tariff changes.

10. Exemption from Application of the Uninstructed Deviation Penalty Multiplier

967. PG&E states that section 11.23 is unclear as to how ETCs will be exempted from application of the uninstructed deviation penalty multiplier, consistent with the terms of the ETCs. According to PG&E, the CAISO should provide for ETC exemptions or clarify how the multiplier would be applied.

968. In response, the CAISO clarifies that valid ETC self-schedule changes submitted after the close of the HASP and the real-time market will not be exposed to uninstructed deviation charges.⁴¹¹ The CAISO concurs with PG&E that the MRTU Tariff should be more specific in this respect. The CAISO commits to clarify MRTU Tariff section 11.23 in a compliance filing.

Commission Determination

969. We direct the CAISO to make a compliance filing within 60 days of the date of this order clarifying section 11.23.

11. Definition of “Bids”

970. San Francisco and the State Water Project argue that MRTU Tariff section 30.1 requires Scheduling Coordinators to “submit Bids to participate in the CAISO Markets” for self-schedules, ETC self-schedules and self-provision of ancillary services. They assert that this requirement to submit “Bids” conflicts with the definition in section 30.2, “Bid Types,” which clearly states that there are only three types of bids: Energy Bids, Ancillary Service Bids and RUC Availability Bids. These parties assert that, when construed together, the effect of these provisions is to “grossly lump” ETC schedules, self-schedules, and self-provision of ancillary services into the CAISO’s scheduling, without taking into account the fact that those activities are not attempts to “participate in the CAISO markets.” According to these parties, a bid is an offer to buy or sell in a market, and an ETC schedule is precisely the opposite, namely, a buy/sell agreement with a price and term already included in the ETC. These parties assert that nothing about an ETC constitutes a “Bid” to participate in the CAISO markets; rather, scheduling rights of ETC holders are legacy rights that should not be abrogated by MRTU.

⁴¹¹ See Kristov Testimony at 103-104.

Commission Determination

971. We agree with San Francisco and the State Water Project that MRTU Tariff section 30.1 appears to conflate “Bids” with Self-Schedules, ETC Self-Schedules and self-provision of Ancillary Services. Accordingly, we direct the CAISO to make a compliance filing within 60 days of the date of this order to: (1) change the name of section 30 to “Bid and Schedule Submissions for all CAISO Markets;” (2) change the name of section 30.1 to “Bids and Schedules;” and (3) change the first sentence of section 30.1 to: “Scheduling Coordinators shall submit Bids to participate in the CAISO Markets, as well as any Self-Schedules, ETC Self-Schedules or Self-Provision of Ancillary Services.” In addition, we find that the CAISO has carefully endeavored to preserve ETC legacy rights within the MRTU framework, to the extent practicable, and note that it is unclear what other actions San Francisco and the State Water Project believe are necessary to further safeguard ETC rights.

12. Qualification for Metering Exemptions

972. PG&E asserts that MRTU Tariff section 10 and Appendix O give the CAISO sole discretion to determine if ETCs qualify for certain metering exemptions that may be inconsistent with their requirements.

973. The CAISO disagrees and states that the proposed language in the tariff concerning exemptions from metering compliance in section 10.3.18.1 is largely unchanged from the existing tariff provisions. It has been updated to reflect the MRTU terminology, but the substance with respect to applying for and receiving metering exemptions is unchanged.

Commission Determination

974. While MRTU Tariff section 10 and Appendix O give the CAISO discretion to determine whether ETCs qualify for certain metering exemptions, these provisions simply update existing tariff provisions to make them consistent with MRTU terminology. Since PG&E provides no compelling reason why the CAISO should no longer have sole discretion over qualification for metering exemptions, we direct no tariff changes.

D. Transmission Ownership Rights (TORs)

975. MRTU Tariff section 17 states that TORs represent transmission capacity on facilities that are located within the CAISO Control Area that are either wholly or partially owned by an entity that is not a PTO.⁴¹² Section 17 further states that in

⁴¹² According to the CAISO, TORs are existing contracts that establish joint

implementing the day-ahead market, the HASP, the real-time market and CRRs, the CAISO (1) for TOR capacity at the location where the CAISO's grid connects to transmission facilities outside its control area (referred to as a scheduling point) and in instances where these connections are modeled radially, the CAISO will reduce the ATC by the amount of the TOR;⁴¹³ and (2) for internal TOR capacity modeled as part of the looped network system, the CAISO will not set aside capacity on the facility but will provide the highest priority source to sink scheduling rights to the TOR holder. The source and sink points for such scheduling rights will be determined by the TOR holder and the CAISO consistent with the TOR holder's rights in a manner that ensures the ability of the TOR holder to fully utilize its rights.⁴¹⁴ In addition, TORs will not be entitled to CRR auction revenue, the balance of any CRR accounts or the wheeling access charge.⁴¹⁵

976. The CAISO states that, under MRTU, TORs will receive the second highest scheduling priority (second only to RMR schedules needed for local grid reliability). The CAISO further states that, like ETCs, TORs will be exempt from congestion charges in both the day-ahead, HASP and real-time markets for balanced and valid TOR schedules using the perfect hedge mechanism.⁴¹⁶ The CAISO describes the settlement treatment for TORs under MRTU as similar, but not identical, to the treatment of ETCs.⁴¹⁷ Consistent with the treatment for Scheduling Coordinators for ETCs and other entities, the CAISO

ownership or direct ownership of transmission facilities that are within the CAISO Control Area and have not been turned over to CAISO operational control. The CAISO states that these facilities include: the 230 kV Colorado River Aqueduct; the 500 kV Southwest Power Link; San Francisco's transmission facilities from Hetch Hetchy to Newark; Western's Pacific AC Intertie; the 230 kV Mohave-Eldorado Line; and the 230 kV Eldorado-Mead line.

⁴¹³ Reducing this available intertie capacity effectively prevents scheduling of TOR capacity by CAISO market participants. This TOR capacity is modeled radially in the Full Network Model.

⁴¹⁴ This treatment is for TOR capacity that is internal to the CAISO Control Area and is modeled as part of the looped network.

⁴¹⁵ See MRTU Tariff sections 11.2.1.5 and 11.5.7.1, respectively.

⁴¹⁶ Similar to ETCs, TORs will be exempt from congestion charges because the congestion charges will be reversed upon settlement. See MRTU Tariff sections 11.2.1.5 and 11.5.7.1. In order to apply the perfect hedge, the CAISO states that it needs to model TORs appropriately in the CRR Allocation and Auction processes so that CRR holders are not adversely affected financially by the perfect hedge treatment of TORs.

⁴¹⁷ The CAISO states that the treatment that distinguishes ETCs and TORs is that under MRTU, TORs are exempt from unaccounted for energy, neutrality and imbalance energy offset charges. In addition, TORs have a higher scheduling priority than ETCs. See Kristov Testimony at 107.

will assess marginal losses to Scheduling Coordinators for TOR transactions.⁴¹⁸ Unlike ETCs, however, TORs are exempt from unaccounted for energy, neutrality and imbalance energy offset charges.⁴¹⁹ In addition, TORs have a higher scheduling priority than ETCs.⁴²⁰

Discussion

1. Lack of Specificity under Section 17

977. San Francisco argues that the CAISO's proposal requires all resources in the CAISO Control Area to schedule and settle through the CAISO's scheduling system, even when those resources use transmission that is not part of the CAISO-controlled grid. San Francisco complains that, under MRTU Tariff section 17, the CAISO intends to translate TORs into source and sink scheduling points for modeling purposes and to limit the ATC at each scheduling point in accordance with TORs and through agreement between the TOR holder and the CAISO. San Francisco asserts that scheduling points should be self-defined by the TOR holder, and notes that pairs of sources and sinks may not adequately represent the full range of rights to which the TOR holder is entitled. In addition, San Francisco asserts that section 17 fails to impose explicitly an obligation on the CAISO to honor the parties' rights to their own transmission.

978. Metropolitan asserts that the MRTU Tariff fails to provide any guidance regarding scheduling of TORs and fails to identify what information is required for a "valid" and "balanced" self-schedules. Metropolitan also asserts that TOR schedules need not be balanced.

979. Imperial argues that, under MRTU Tariff section 17, the CAISO forces transmission owners to join the CAISO indirectly, against their will. Imperial states that, although devoid of any contractual relationship with TOR holders, the CAISO seeks to impose charges and scheduling restrictions on such entities for the use of their own transmission facilities that have not been turned over to the CAISO's control. Imperial states that, with respect to TOR capacity that is internal to the CAISO's control area, the CAISO will not set aside that capacity for scheduling and use by a TOR holder in accordance with the terms of the TOR holder's own OATT or existing contracts.

⁴¹⁸ The CAISO explains that the Scheduling Coordinator is charged marginal losses on transmission service between nodes and receives a *pro rata* share of the refunds associated with excess losses that are refunded for the period of each settlement statement.

⁴¹⁹ The CAISO states that this treatment is consistent with current policy which is based on an interpretation of the April 7, 1998 Grid Management Settlement Agreement. See Kristov Testimony at 107.

⁴²⁰ *Id.*

980. Imperial also argues that MRTU Tariff section 17 fails to explain how the CAISO will schedule TOR capacity on a day-ahead, hour-ahead and real-time basis. Imperial asserts that the CAISO will: (1) impose the CAISO's day-ahead scheduling procedures on capacity owned by TOR holders and deprive TOR holders of the ability to use or sell their own capacity on an hour-ahead or real-time basis; and (2) deprive TOR holders of the ability to change their schedules in accordance with their own operational procedures, existing contracts or the terms of their own open access transmission tariffs.

981. Metropolitan argues that, although the CAISO has indicated its intention to exempt TORs from the imposition of access charges unaccounted for energy⁴²¹ and neutrality charges, the MRTU Tariff fails to include such provisions. San Francisco states that section 17 fails to ensure that TORs are free of CAISO charges.

982. The CAISO notes that the current CAISO tariff does not address TORs. Rather, the current management of TORs is accomplished through separate bilateral arrangements or operational agreements. The CAISO states that certain issues associated with TORs will continue to be addressed under these bilateral agreements and it is not its intent to diminish any rights under these agreements. However, the CAISO states that MRTU Tariff section 17 is necessary because it describes how the TORs will be considered in application of the Full Network Model and clarifies how TORs will remain capable of utilizing the full capacity of their transmission facilities. The CAISO states that it does not seek to alter fundamentally the way TORs utilize their transmission capacity and thus San Francisco's complaint regarding deficiencies in section 17 is without merit.

983. Rather than augmenting section 17 to explicitly impose obligations on the CAISO which are stipulated in TOR agreements, the CAISO states that, if section 17 requires modification, it should be to specify the generic treatment of TORs under MRTU, such as exemptions from access charges and unaccounted for energy and neutrality charges. The CAISO proposes to make this change in a compliance filing.

984. The CAISO disagrees with Metropolitan's assertion that TOR schedules need not be balanced. If a self-schedule that makes use of TOR capacity does not balance supply and demand, then the CAISO as the control area Operator would need to manage the overgeneration condition or shortfall condition that results. Absent the use of balanced schedules, the TOR holder would be leaning on the CAISO and the actions taken by the CAISO would have cost consequences to other market participants, which the CAISO argues should be reflected back to the TOR holder.

⁴²¹ Unaccounted for energy is the difference between the net energy delivered into a utility service area and the total metered demand within the utility after being adjusted for losses. The difference is in part attributable to meter measurement and power flow modeling errors.

985. The CAISO states that, contrary to assertions made by Imperial, it has made accommodations in MRTU to ensure that TOR holders will continue to be able to fully utilize their facilities. The CAISO notes that the definition of “Available Transfer Capacity” states that it is “[t]he available capacity rating of a given transmission path after *allocation of rights associated with Existing Contracts and Transmission Ownership Rights*, to that path’s Operating Transfer Capabilities...” (emphasis added). The CAISO asserts that rather than “taking,” the CAISO is subtracting the TOR capacity to ensure that the TOR holder gets the beneficial use of its facilities. The CAISO states that it accounts for TOR capacity in its allocation of CRRs in similar fashion.

986. The CAISO states that its commitment to honor TOR rights and TOR schedule changes is also reflected in section 34.9.2 on “Exceptional Dispatch,” which states that the “[t]he CAISO may also manually dispatch resources in addition to, or instead of, resources dispatched by the [real-time market] optimization software to: ... accommodate TOR or ETC Self-Schedule changes after the Market Close of the HASP.” The CAISO asserts that, accordingly, it is fully respecting the rights of TOR holders, while at the same time recognizing that these facilities are integrated into the CAISO Control Area and, as such, are part of its Full Network Model.

Commission Determination

987. We find that the parameters established for handling TORs under section 17 are generally reasonable, but require further clarification and modification. We agree with the CAISO that it is necessary to include MRTU Tariff section 17 to account for TOR capacity in the Full Network Model and to establish how TOR holders will remain capable of utilizing the full capacity of their facilities.⁴²² The CAISO states that certain issues associated with TORs will continue to be addressed under these bilateral agreements, and it is not its intent to diminish any rights under these agreements. We agree with the CAISO that section 17 should govern treatment of TORs, except to the extent that a provision in a FERC-approved and existing settlement agreement or operations agreement expressly provides for different treatment of a TOR.⁴²³ However, we find that section 17 makes no mention of bilateral agreements related to TOR obligations or, in the event of conflict between the bilateral agreement and section 17, whether the agreement or the tariff controls. Accordingly, we find that the CAISO’s proposed treatment of TORs is unclear because it is uncertain which provisions of the MRTU Tariff apply to TORs and which provisions of parties’ bilateral contracts apply.

⁴²² We note that the manner by which the CAISO will enable TOR holders to remain capable of utilizing their facilities’ capacity - through reservation of capacity over interties and provision of high priority source to sink scheduling rights to the TOR holder for capacity in the CAISO’s internal control area - is consistent with the CAISO’s treatment of ETCs.

⁴²³ See Kristov Testimony at 107-108.

The parameters established under section 17 concerning treatment of TORs are generally reasonable, but incomplete and fail to assure parties that their bilateral contracts will be honored. Consequently, we direct the CAISO to make a compliance filing within 60 days of the date of this order to further clarify section 17 as discussed below.

988. While we agree with the CAISO that section 17 need not reiterate the CAISO's obligations that are stipulated in TOR agreements, the MRTU Tariff does need to specify the "generic treatment" of TORs under MRTU. The CAISO acknowledges that one such generic treatment not included in the proposed tariff is the fact that under MRTU, TORs will continue to be exempt from access, unaccounted for energy, minimum load compensation and neutrality charges.⁴²⁴ The CAISO proposes to make a compliance filing modifying the MRTU Tariff to make these exemptions explicit. We direct the CAISO to specify in the tariff that balanced TOR self-schedules would continue to be exempt from these charges and direct the CAISO to modify section 17 to specify all such "generic" treatment of TORs within 60 days of the date of this order.

989. San Francisco objects to translating TORs into source and sink scheduling points and asserts that these pairings may not capture the full range of rights to which the TOR is entitled. However, section 17 states that, "[t]he source and sink points for such scheduling rights will be determined by the TOR holder and the CAISO, consistent with the TOR holder's rights in a manner that ensures the ability of the TOR holder to fully utilized its rights." As such, San Francisco can ensure that the CAISO does not diminish rights established by the bilateral contract in its transition to MRTU.⁴²⁵ Section 17(1) preserves TOR capacity on scheduling points for TOR use in all markets by reducing the ATC by the amount of the TOR. We find this proposal preserves the TOR rights on these scheduling points and we accept this provision. Under section 17(2), the CAISO will honor all scheduling rights for TOR capacity that is internal to the CAISO grid, by providing the highest source to sink priority using its Exceptional Dispatch authority in section 34.9.2 to honor all schedule changes. We conclude that section 17(2) is reasonable given the CAISO's inability to set-aside internal capacity using the Full Network Model (as discussed above under ETCs). However, we note that it is essential for the CAISO to have a clear understanding of these TOR provisions in the bilateral contracts for modeling purposes and in the CRR allocation process.

990. MRTU Tariff section 17 makes no reference to how TORs will be scheduled through the CAISO markets⁴²⁶ and fails to identify what information is required for

⁴²⁴ See CAISO Answer at 245.

⁴²⁵ We note that the interim agreement involving the operational relationship between the CAISO and San Francisco's TOR facilities is pending before the Commission in Docket No. ER06-227-000.

⁴²⁶ If the CAISO intends to honor the scheduling provisions stipulated in the various bilateral agreements, section 17 needs to reflect this commitment.

“balanced” and “valid” TOR self-schedules which are necessary under sections 11.2.1.5 and 11.5.7 to reverse congestion charges. We direct the CAISO to address these issues in its compliance filing within 60 days of the date of this order.

991. We disagree with Metropolitan’s assertion that TOR schedules need not be balanced. It is reasonable for the CAISO to require balanced schedules for TOR holders in order to fully honor their transmission rights. If injections and withdrawals are not balanced, then the CAISO must manage the resultant energy excess or shortfall on the CAISO-controlled grid. It would be inequitable for the TOR holder to lean on the CAISO system in this manner and cause unfair cost consequences to the CAISO’s market participants. In addition, the TOR schedule must balance in order for the CAISO to reverse associated congestion charges using the perfect hedge as noted above.

2. Unscheduled TOR Capacity

992. Imperial asserts that, under its proposal, the CAISO can potentially sell or use unscheduled TOR capacity in the CAISO’s HASP or real-time market without compensating TOR holders for the confiscation of their transmission capacity. Imperial asserts that this is inconsistent with the Commission’s policy promoting the sanctity of contracts and, if approved, would constitute a taking of property in violation of the Takings Clause of the Fifth Amendment to the U.S. constitution.⁴²⁷ San Francisco also argues that the tariff fails to ensure that the TOR holder is compensated by the CAISO when the TOR transmission is used by the CAISO.

993. The CAISO responds to these allegations by stating that it has made accommodations in MRTU to ensure that TOR holders will continue to be able to fully utilize their facilities. In response to Imperial’s assertion that the CAISO’s scheduling requirements for TORs and its ability to cut firm exports confiscate transmission capacity without compensation, the CAISO argues that the “Takings” clause of the Fifth Amendment does not apply to the MRTU Tariff because there is no state action implicated by the actions of a corporate entity, such as the CAISO. The CAISO further asserts that the MRTU Tariff provisions applicable to TORs do not constitute regulatory takings because the owners are not deprived of all economic value of their property.

Commission Determination

994. It appears that Imperial’s and San Francisco’s assertions that the CAISO may sell or use unscheduled TOR capacity in the day-ahead and HASP without compensating the TOR holder stems from a misunderstanding. The CAISO explains that, to preserve TOR capacity, it will set-aside TOR capacity on interties by subtracting TOR capacity from the

⁴²⁷ Imperial Comments at 14 (citing *Eastern Enterprises v. Apfel*, 524 U.S. 498 (1998); *Guaranty National Insurance Co. v. Gates*, 916 F.2d 508 (9th Cir. 1990)).

capacity available. Consequently, it does not appear that the CAISO intends to use or sell unscheduled TOR capacity and will honor all schedule changes by providing scheduling priority and using its Exceptional Dispatch authority under section 39.4.2. If, however, the CAISO does intend to make use of such unscheduled capacity, then we direct the CAISO to negotiate with the TOR holder concerning compensation and further details for such use.⁴²⁸ We direct the CAISO to provide further explanation in a compliance filing within 60 days of the date of this order.

3. Scheduling Priority and Curtailment

995. Cities/M-S-R state that section 34.10.2 establishes the scheduling priorities defined by the CAISO for real-time market optimization to meet the need for decreasing supply. The scheduling priorities, as reflected from higher to lower priority, show ETCs and TORs in the middle of the scheduling stack. They argue that TORs and ETCs should be the last to be altered or curtailed, and, therefore, the scheduling priority stack for the real-time market optimization should be revised to reflect that ETCs and TORs receive the preferred priority position. Imperial complains that the CAISO plans to bump the schedules of TOR holders if necessary to accommodate Reliability Must Run (RMR) schedules in the CAISO's market, which in its view would constitute a taking of its property.

996. The CAISO acknowledges that section 31.4 and 34.10.2 place TOR Self-Schedules lower in priority to RMR dispatches.⁴²⁹ The CAISO states that, in effect, TORs have top scheduling priority except for flows necessary to maintain the reliability of the system; TORs have a priority in the CAISO's modeling above all non-RMR uses of the grid. The CAISO states that if TOR schedules are curtailed, then a dire emergency exists.

Commission Determination

997. We find it reasonable to give TORs scheduling priority second only to RMR dispatches necessary to maintain the stability and reliability of the CAISO-controlled grid. This scheduling priority reasonably balances TOR holder's rights to use their facilities with the necessity of maintaining the reliability of the CAISO system. It is

⁴²⁸ One option for the CAISO to consider is to issue CRRs to TOR holders so that TORs would be compensated for their transmission capacity in congested hours, even if they do not make use of the TOR capacity.

⁴²⁹ The CAISO explains that RMR dispatches are designed to support the reliability of the CAISO Control Area, and reflect the same recognition that provided the prioritization for RMR over ETC rights in Amendment No. 7 to the CAISO tariff. *See* CAISO Reply Comments at 243(citing *Cal. Indep. Sys. Operator Corp.*, 101 FERC ¶ 61,219 (2002)).

reasonable to accord RMR generation the highest curtailment priority in those situations where its dispatch is necessary to maintain the stability and reliability of the CAISO-controlled grid. Given that the occasions when RMR dispatches take precedence over TOR holder's transactions will be relatively brief and infrequent, this priority scheme does not constitute a "taking" of the TOR holder's property because it is temporary in nature and does not cause severe financial hardship.⁴³⁰ Additionally, maintaining the stability and reliability of the CAISO-controlled grid appears to be of pivotal importance in maintaining the TOR holder's property value. Such value would be severely impaired if the grid collapses, making it even more difficult to characterize this priority scheme as a "taking."

4. Settlement for TORs

998. Metropolitan asserts that, since the CAISO has failed to include tariff language necessary for the settlement of TOR load at its relevant PNode LMP, by default, TOR load will be settled at the relevant LAP.

999. The CAISO notes that for scheduling and settlement, "Demand for which Energy delivery to the Demand location is provided under ETC or TOR rights will be settled based on custom LAP prices analogous to those for MSS."⁴³¹

Commission Determination

1000. Contrary to Metropolitan's assertion, section 30.5.3.2(a) provides for nodal pricing for settlement of load under TOR self-schedules, "consistent with the submitted TRTC Instructions." This reflects the actual location of load on the CAISO-controlled grid, rather than at the default LAP. As noted above, the TOR receives the perfect hedge, which reverses the day-ahead and real-time congestion charges associated with the schedule. We note that section 17 is silent with respect to TRTC Instructions for TOR schedules and direct the CAISO to make a compliance filing within 60 days of the date of this order clarifying whether TRTC Instructions will be required with respect to TORs and, if so, modifying section 17 accordingly.

⁴³⁰ See, e.g., *Duquesne Light Co. v. Barasch*, 488 U.S. 299, 307-08 (1989) (quoting *Covington & Lexington Turnpike Road Co. v. Sandford*, 164 U.S. 578, 597 (1986) ("A rate is too low if it is 'so unjust as to destroy the value of [the] property for which it was acquired,' and in so doing 'practically deprive[s] the owner of property without due process of law'")).

⁴³¹ See Kristov Testimony at 32.

5. Transmission Losses

1001. Western and Imperial recommend that the CAISO provide an exemption from the imposition of marginal losses on TORs. Metropolitan opposes the CAISO's refusal to assess transmission losses for Metropolitan's TOR on actual loss, rather than marginal loss, basis. Imperial asserts that TOR holders should be given the opportunity to self-supply losses.

1002. In response to issues raised concerning marginal losses, the CAISO states that, absent a specified loss percentage in a bilateral agreement which the CAISO must honor, the CAISO proposes to treat losses on a consistent basis and, as discussed earlier in this order, assign marginal losses to TOR schedules. The CAISO will also provide the direct credit-back of the net revenues collected from marginal losses to the TOR Scheduling Coordinator. The CAISO states that its proposal is a balanced and reasonable approach that treats losses on a comparable basis and should be affirmed.

Commission Determination

1003. The CAISO represents that, absent a specified loss percentage in a bilateral agreement that the CAISO must honor, it will assess marginal losses to Scheduling Coordinators for TOR transactions. We find this proposal to be a reasonable accommodation between honoring TOR holder's rights over non-CAISO-controlled facilities and sending accurate price signals. However, this caveat is not reflected in the MRTU Tariff. We direct the CAISO to make a compliance filing within 60 days of the date of this order reflecting this treatment of marginal losses for TORs where applicable under the MRTU Tariff. Where there are no specified loss percentages in prior agreements, consistent with our finding above regarding the assessment of marginal losses for ETCs, we find it just and reasonable for the CAISO to assess marginal losses to TOR holder's Scheduling Coordinators.

VI. Market Power Mitigation and Resource Adequacy

A. Market Power Mitigation

1004. In its filing, the CAISO emphasizes that the development of its market power mitigation proposal is the result of a three-year stakeholder process that collectively responds to concerns raised by stakeholders, the CAISO Market Surveillance Committee, and the Commission staff. The CAISO states that the execution of forward energy contracting along with the development of resource adequacy requirements has significantly reduced the opportunities to exercise market power on a system-wide and localized basis. Under MRTU Tariff section 39, the CAISO proposes to implement the following market power mitigation measures:

- Bid caps:
 - A \$500/MWh energy bid cap on day one of MRTU implementation, with a two-year transition plan for raising the cap to \$1,000/MWh in annual increments of \$250/MWh, plus a negative \$30/MWh energy bid floor.⁴³²
 - A \$250/MWh bid cap on ancillary services bids and RUC availability bids.
- Local market power mitigation measures:
 - An annual assessment of all transmission paths as either “competitive” or “non-competitive.” This designation affects the application of local market power mitigation on the path for the following year.
 - Bids associated with out-of-merit dispatches identified by the CAISO in its pre-IFM runs will be replaced with a pre-established default energy bid. Resources may choose one of four options to calculate their default energy bids (variable cost, LMP, negotiated, and frequently mitigated unit).
 - Compensation for Frequently Mitigated Units (or FMUs).
- A limited scarcity-pricing mechanism.

1005. The CAISO states that in an LMP-based market, it is imperative that the CAISO have the ability to mitigate the potential exercise of market power in transmission-constrained areas. Otherwise, suppliers located in such areas could be in a position to artificially inflate nodal prices due to the lack of competitive alternatives.⁴³³ The CAISO proposes what it describes as a “PJM style” local market power mitigation package that identifies suppliers with potential local market power and mitigates those suppliers’ bids to pre-established default energy bids, which, according to the CAISO, provide a contribution to fixed cost recovery.

1006. The CAISO proposes to assess and designate transmission paths on an annual basis as “competitive” or “non-competitive” for purposes of applying local market power

⁴³² The Commission found that the initial bid cap should be a hard cap set at \$500/MWh. Twelve months after MRTU implementation, the energy bid cap shall automatically be increased to \$750/MWh, unless the CAISO makes a filing with the Commission showing that its markets are non-competitive and the Commission agrees with this assessment. This process will be repeated 12 months later, and the bid cap will automatically increase to an ultimate level of \$1,000/MWh, unless the Commission supports the CAISO’s analysis that the markets are non-competitive. *See* July 2005 Order, 112 FERC ¶ 61,013.

⁴³³ The CAISO asserts that effective local market power mitigation should result in nodal prices that reflect the marginal cost of the highest cost unit dispatched. The CAISO does not believe that nodal prices should reflect any “scarcity premium” except in instances of true physical scarcity, *i.e.*, where there is insufficient supply to meet demand and reserve requirements.

mitigation measures.⁴³⁴ The CAISO proposes to designate a transmission constraint as competitive if no three unaffiliated suppliers are jointly pivotal in relieving congestion on that constraint. The CAISO also proposes to make the initial determination of which constraints are competitive prior to MRTU implementation, based upon the assumption that all interfaces to neighboring control areas and all Inter-Zonal interfaces for zones that existed prior to the effective date of MRTU are competitive.⁴³⁵

1007. The CAISO states that the determination of whether a unit is being dispatched to relieve congestion on a “competitive” or “non-competitive” transmission constraint will be based on two preliminary market runs which occur prior to its running of the IFM optimization process (pre-IFM runs). These pre-IFM runs, referred to as the Market Power Mitigation and Reliability Requirements Determination, consist of 2 runs of the IFM optimization, the results of which are used by the CAISO to determine RMR units’ pre-dispatch levels and identify the units subject to local market power mitigation measures. Under MRTU Tariff section 31.2.1, the first pass of the pre-IFM run will take into account constraints over the transmission lines that the CAISO has deemed competitive.⁴³⁶ The second pass of the pre-IFM run considers all network constraints in the Full Network Model. According to the CAISO, any increase in a resource’s dispatch level from the first to the second pass is an indication that the resource is being dispatched out-of-merit order due to transmission congestion, and thus is subject to the CAISO’s local market power mitigation measures.⁴³⁷ The CAISO proposes to mitigate

⁴³⁴ See MRTU Tariff section 39.7.2. The CAISO proposes to perform additional competitive constraint assessments during the year if changes in transmission infrastructure, generation resources or demand in the CAISO Control Area and adjacent control areas suggest material changes in market conditions or if market outcomes are observed that are inconsistent with competitive market outcomes.

⁴³⁵ The set of candidate constraints that will be evaluated for competitiveness in the initial assessment will be limited to intra-zonal constraints within the current CAISO congestion management zones (NP15, SP15, and ZP26) that were managed for congestion in real-time in more than 500 hours between April 1, 2006 and March 31, 2007. In its second competitive path assessment, the CAISO proposes to use a 12-month period of historical data that will include several months of operation before and several months after MRTU implementation.

⁴³⁶ As a baseline, the CAISO assumes that interfaces to neighboring control areas and the inter-zonal interfaces used in the CAISO’s pre-MRTU market design are competitive. A limited number of current intra-zonal constraints will be evaluated for their competitiveness prior to MRTU implementation, with more constraints being evaluated in future years. The CAISO will assess competitive path designations annually. See Casey Testimony at 55.

⁴³⁷ We note that the CAISO will only mitigate the portion of the unit’s bid curve that is dispatched out of merit in the second pass of the pre-IFM run. The unit will be mitigated to the lower of the default energy bid or the market bid, but no lower than the

those market bids associated with the out-of-merit dispatch by substituting the market bid with a default energy bid.

1008. Once the CAISO has identified the out-of-merit dispatch of a generating unit, the CAISO will substitute the generator's default energy bid for the bid submitted by the generator in the day-ahead market as set forth in MRTU Tariff section 39.7.1. Similar to the mitigated bids options offered in PJM, under the CAISO's proposal, generators may choose one of four options to calculate their default energy bids.⁴³⁸ The Scheduling Coordinator for each generating unit owner must rank options according to their preference.⁴³⁹ The CAISO will calculate default energy bids for the on-peak and off-peak hours for both the day-ahead and real-time markets.

1009. Under the variable cost option, the CAISO proposes to calculate a resource's default energy bid as the resource's variable costs plus 10 percent. Under this option, variable costs are comprised of two components: fuel cost and variable operation and maintenance (O&M) cost. Fuel cost will be calculated for each bid segment using the heat rate supplied by the resource owner, and variable O&M cost will be \$2/MWh and \$4/MWh for combustion turbines.

1010. Under the LMP option, the CAISO proposes to calculate a resource's default energy bid as the weighted average of the lowest quartile of LMPs at the generating unit PNode in the periods when the unit was dispatched during the preceding 90 days. To qualify for the LMP option, at least 50 percent of the MWh dispatched over the prior 90 day time period must not have been subject to market power mitigation.

1011. Under the Negotiated Option, the default energy bid is derived through consultation between the Scheduling Coordinator for a generating unit and the CAISO or an alternative independent entity selected by the CAISO.

1012. The FMU option is only available for units that meet certain eligibility requirements. To be considered a frequently mitigated unit under the CAISO's proposal, a resource must have a mitigation frequency that is greater than 80 percent of its run hours in the previous 12 months;⁴⁴⁰ must have run for more than 200 hours in the

unit's highest bid price that cleared the first pass of the pre-IFM run. *See* Casey Testimony at 28.

⁴³⁸ These options are specified under MRTU Tariff sections 39.7.1.1 through 39.7.1.4.

⁴³⁹ If no rank order is specified for a generating unit or participating load, then the default rank order will be the following: (1) variable costs plus 10 percent option; (2) negotiated option; and (3) LMP option.

⁴⁴⁰ In support of the level of mitigation frequency, the CAISO states that units that are not mitigated in over 20 percent of their run hours should have sufficient opportunity

previous 12 months;⁴⁴¹ and must have some non-RA capacity⁴⁴² available and not subject to any CAISO capacity tariff.⁴⁴³

1013. If the generator qualifies as an FMU under MRTU Tariff section 39.8.2, the value of the bid adder for FMUs will be either: (1) a unit specific value determined in consultation with the CAISO or an independent entity selected by the CAISO, or (2) a default bid adder of \$24/MWh.⁴⁴⁴ Under option 1, the Scheduling Coordinator will present cost data reflecting their unit-specific avoidable costs to the CAISO or an independent entity selected by the CAISO and negotiate a unit-specific bid adder value that reflects compensation for avoidable fixed costs. The second option is a default value of \$24/MWh, which the CAISO states was calculated using the same formula used by PJM to calculate its default bid adder value where the per MWh dollar value is calculated as the ratio of annual avoidable fixed cost divided by the annual expected energy production.⁴⁴⁵

1014. Finally, the CAISO's proposal includes a scarcity pricing mechanism that raises bids to the bid cap when it runs out of energy bids in real time, and no contingency event (e.g., an unexpected transmission or generation outage) has occurred. If a shortage is the result of a contingency, then the CAISO proposes to pay suppliers their original bid price.⁴⁴⁶ The CAISO states it will consider incorporation of system-level scarcity pricing

to recover their going forward fixed cost through infra-marginal rents at their location during their unmitigated run hours. *See* Casey Testimony at 75.

⁴⁴¹ The CAISO states that the purpose for establishing a threshold for minimum run hours is to provide revenue adequacy for units that are unable to recover their avoidable fixed cost due to frequent mitigation, not to capture those units that run infrequently.

⁴⁴² MRTU Tariff section 39.8.3 states that for generating units with a portion of their capacity identified as meeting an LSE's RA requirements, that generating unit's bid adder will be reduced by the percent of the generating unit's capacity identified as meeting an LSE's RA requirements. The reduced bid adder will be applied to that generating unit's entire default energy bid curve.

⁴⁴³ *See* MRTU Tariff section 39.8.1.

⁴⁴⁴ *See* MRTU Tariff section 39.8.3.

⁴⁴⁵ The CAISO states that it has based its default bid adder value on the same formula used by PJM applied to fixed O&M cost figures for a new combustion turbine in California, as reported in Appendix D of the California Energy Commission 2003 Final Staff Report entitled, "Comparative Cost of California Central Station Electricity Generation Technologies."

⁴⁴⁶ Specifically, MRTU Tariff section 34.8 states that "if contingency only reserves are dispatched in response to a system emergency that has occurred because the CAISO has run out of economic bids when no contingency event has occurred, the contingency only reserves will be dispatched at the maximum bid price."

in Release 2, currently slated for three years following the initial implementation of MRTU.⁴⁴⁷

Discussion

1. Bid Caps

1015. PG&E contends that the Commission should reconsider its decision to allow the energy bid cap to automatically increase to \$1,000/MWh within a two-year period. PG&E states that the establishment of automatic increases in the energy bid cap, without any supporting analysis for each step relative to California or even western market conditions, is unjust and unreasonable. It further believes that it is unjust and unreasonable for the Commission to pre-establish an upward direction of the energy bid cap before evaluating market conditions that are subject to change. PG&E urges the Commission to avoid decisions that take effect at some point in the future unless conditions already exist or there is sufficient evidence to support a higher energy bid cap.

1016. The CPUC argues that the Commission's decision to allow the energy bid cap to automatically rise improperly binds future Commissions and impermissibly delegates the Commission's exclusive responsibilities. The CPUC states that nothing in this docket could provide the Commission with the factual basis necessary to determine whether, months or years after MRTU implementation, the California energy market will be sufficiently competitive to warrant increases in the energy bid cap. The CPUC acknowledges the Commission's discretion to require the CAISO to submit its proposals for the appropriate bid cap level every year, and even to require the CAISO to explain why the proposed level is not at the projected expectation. However, the CPUC contends that it is not within the Commission's power to predetermine a ruling now regarding a future submission. Thus, the CPUC urges the Commission to respect precedent and refrain from adopting measures from other control areas as a "one size fits all" approach.

1017. Regarding the negative \$30/MWh bid floor, according to SoCal Edison, MRTU Tariff section 39.6.1.4 states that "energy bids into the CAISO markets that are less than negative \$30/MWh are not eligible to set any LMP." SoCal Edison understands that energy bids utilized by the CAISO below negative \$30/MWh will be subject to cost verification. SoCal Edison contends the tariff should include the following clarifying language: "Payments made based on bids below negative \$30/MWh are subject to cost verification."

1018. In its answer, the CAISO agrees with SoCal Edison's comments regarding cost justification below the negative \$30/MWh bid floor, and proposes to make the change in a compliance filing.

⁴⁴⁷ See CAISO Transmittal Letter at 95-96.

Commission Determination

1019. We disagree with the CPUC's and PG&E's argument that the Commission should reverse its decision to allow the energy bid cap to automatically increase to \$1,000/MWh within a two-year period. We continue to find the automatic adjustment of the energy bid cap to \$1,000/MWh is appropriate for the CAISO market because it provides market participants with a reasonable amount of time to adjust to the higher energy bid cap. We reiterate that the conditions that led to the imposition of a lower bid cap are no longer relevant to this market,⁴⁴⁸ and continue to believe that an appropriate bid cap level stimulates demand response, provides incentives to enter into long-term contracts, and provides incentives for new investment in infrastructure.

1020. The CPUC argues that the Commission is adopting a one-size-fits-all approach as it relates to setting energy bid caps at \$1,000/MWh. We agree with the CPUC's argument and note that the Commission has adopted a uniform policy on energy bid caps because this market design feature, in combination with other market behavioral rules, has been shown to prevent the exercise of market power. In addition, we find the \$1,000/MWh energy bid cap value has operationally been shown to provide LSEs with an incentive to enter into long-term contracts and new investment in infrastructure. The Commission has the authority to re-examine the overall market design in order to respond to current market conditions. In the September 2005 Order,⁴⁴⁹ the Commission found that there is significant support for the increased bid caps and explained that a low bid cap could adversely impact reliability by artificially suppressing resource prices when resources are scarce, rather than only when market power is exercised. The Commission further recognized that \$1000/MWh is an appropriate bid cap level for the CAISO market under MRTU, but acknowledged that the level could be reached in incremental steps to allow market participants time to adjust to the new caps and other mitigation procedures. We continue to believe that a \$1,000/MWh bid cap, in conjunction with the other measures adopted herein, is appropriate and reiterate that, if the CAISO believes the mitigation package along with strong market behavior rules and the must-offer obligation for resource adequacy generation is insufficient to prevent the exercise of market power, the CAISO can immediately request a change of one or more of the market power mitigation measures, including the level of the bid cap.⁴⁵⁰

⁴⁴⁸ For example, the Commission recently approved the CAISO's request to increase its current \$250/MWh bid cap in its real-time market to \$400/MWh. The Commission explained that the rise and volatility of natural gas prices led to concerns that generators may not have the opportunity to adequately recover their costs. *See Cal. Indep. Sys. Operator Corp.*, 114 FERC ¶ 61,026 (2006).

⁴⁴⁹ *See* September 2005 Order, 112 FERC ¶ 61,310.

⁴⁵⁰ *Id.* P 39.

1021. Finally, we direct the CAISO to submit a compliance filing within 60 days of the date of this order modifying section 39.6.1.4 to clarify that bids below negative \$30/MWh are subject to cost verification.

2. Competitive Path Assessment

1022. WPTF/IEP, Williams and EPSA argue that the CAISO's proposal to implement a competitive path assessment study to measure the potential exercise of market power is overly conservative. PG&E, on the other hand, argues for a more stringent test to examine the competitiveness of existing inter-zonal paths.

1023. WPTF/IEP state it is unjust and unreasonable for the CAISO to mitigate bids when market power does not exist. It claims the CAISO's proposal will have an adverse affect on generators' ability to recover going-forward costs, especially since the CAISO's test will deem a path as non-competitive for an entire year. WPTF/IEP contend this approach is unreasonable because there are instances during a year in which a transmission path can be either competitive or non-competitive. Thus, WPTF/IEP urge the Commission to require the CAISO to make seasonal assessments of the competitiveness of a transmission path.

1024. WPTF/IEP also argue the CAISO has provided little rationale to demonstrate that the three-pivotal-supplier test for assessment of competitiveness is reasonable. It suggests the Commission direct the CAISO to implement a one or two-pivotal-supplier test, within one year, that uses hourly market conditions and only applies the mitigation to those pivotal suppliers whose output increases.

1025. WPTF/IEP also claim that MRTU Tariff section 39.7.2.1 allows the CAISO to redesign the competitive assessment criteria using unspecified methods that are too vague to be just and reasonable. WPTF/IEP claim that the tariff will afford the CAISO the ability to change the terms and conditions of compensation for affected generators without any specific criteria or review by the Commission. Thus, WPTF/IEP urge the Commission to direct the CAISO to remove any references to unspecified methods.

1026. SoCal Edison disagrees with WPTF/IEP, Williams and EPSA, arguing that those entities' comments represent an attempt to change the burden of proof, which contradicts the Commission's mandate to ensure just and reasonable rates. SoCal Edison argues it is reasonable for the CAISO to propose to consider bids "competitive" only if the relevant market is the entirety, or at least a significant portion, of the CAISO grid. SoCal Edison asserts that it would be inappropriate for the CAISO to assume a smaller market is competitive absent direction from the Commission.

1027. In its answer, the CAISO asserts that the competitive path assessments test is reasonable, and claims that the three-pivotal-supplier test reflects what is used in other

ISO/RTO markets. It further states the overall proposal is consistent with the consensus of a majority of stakeholders and had almost unanimous agreement within the stakeholder work group developed to review methodology options for the competitive path assessment. The CAISO also believes the proposal adequately balances the objectives of simplicity, transparency, consistency, market efficiency, and market performance risk.⁴⁵¹

1028. With regard to WPTF/IEP's argument that the CAISO should be required to make seasonal assessments of the competitiveness of transmission paths, the CAISO asserts that a more cautious approach should be implemented during the first year of LMP operation. The CAISO also states no other ISO or RTO is performing a seasonal designation.

1029. The CAISO disagrees with WPTF/IEP's argument that MRTU Tariff section 39.7.2.1 is too vague to be just and reasonable. The CAISO asserts that it is impossible to anticipate every market indicator that might raise concerns as to whether a given transmission path is competitive. The CAISO states that any reassessments will be made using a standard methodology described in the relevant Business Practice Manual, and the results of this analysis would need to indicate that the path was not competitive based on specific criteria included in the Business Practice Manual in order for any path to be re-designated as non-competitive.

Commission Determination

1030. The competitive path assessment study is an important element of the CAISO's market design because it designates a transmission path as competitive or non-competitive for an entire year. These designations are used in the pre-IFM runs to determine where local market power opportunities exist. In concept, we agree with WPTF/IEP's argument regarding the assessment test being overly conservative. However, we are sympathetic to the CAISO's preference to take a more cautious approach during the first year of operation under the new LMP-based market design. The CAISO indicates that the initial assessment will assume all interfaces to neighboring control areas and all inter-zonal interfaces for zones that existed prior to the effective date of MRTU to be competitive. The CAISO will assume various system conditions to assess whether a transmission path is competitive or non-competitive, including seasonal changes, changes in load, and planned transmission and resource outages.

1031. Because the CAISO will have gathered 12 months of historical data in preparation for the second year of MRTU, we believe the CAISO will have enough experience to develop a more comprehensive assessment of competitiveness within 12 months of the initial implementation of MRTU. We support WPTF/IEP's assertion that

⁴⁵¹ The CAISO also refers to Dr. Casey's testimony, which provides additional support for the three-pivotal-supplier test.

the CAISO's proposal may likely over-penalize market participants by assessing a path as non-competitive for an entire year, even if the transmission path or constraint was competitive in two of the four seasons. We expect the CAISO to develop a competitive assessment study that designates a path as either competitive or non-competitive on a seasonal basis with seasonal designations. We believe this modification will enhance local market power mitigation and allow the CAISO to accurately mitigate pivotal resources in the day-ahead and real-time market. Accordingly, we direct the CAISO to modify the competitive assessments study, as discussed above, and to make a compliance filing with the necessary tariff changes to reflect these modifications within 12 months of the effective date of MRTU Release 1.

1032. We also find that the three-pivotal-supplier test is reasonable. We note that any supplier that is pivotal has market power even if there is more than one supplier in the market. In other words, if demand rises to the point where at least some individual suppliers are pivotal because each is necessary to meet demand, then each pivotal supplier has the ability to influence the price in the market. For this reason, some type of pivotal supplier test is needed to assess whether market power opportunities exist within a market. We direct the CAISO to use the three-pivotal-supplier test to identify those transmission paths that are non-competitive for the first year of MRTU implementation. However, we agree with commenters that a three-pivotal-supplier test may be overly stringent and therefore direct the Market Surveillance Committee, during the first year of implementation, to examine whether an alternative competitive screen to identify market power opportunities for generation in load pockets should be considered. We direct the Market Surveillance Committee to include its findings in the CAISO's quarterly, post-implementation performance reports.

3. Default Energy Bid Options

1033. Some commenters argue that the CAISO's proposed options for calculating default energy bids under its local market power mitigation procedures are overly restrictive and fail to provide suppliers with a reasonable opportunity to recover their costs.⁴⁵² Others support the CAISO's proposal, but urge the Commission to reject or modify certain aspects of the proposal.⁴⁵³ We conditionally accept, subject to modification as discussed below, the CAISO's proposal to allow generators four options for calculation of its default energy bid. Commenters' specific comments are discussed below.

⁴⁵² See *e.g.*, WPTF/IEP, EPSA.

⁴⁵³ See *e.g.*, SoCal Edison, PG&E and the CPUC.

i. Variable Cost Option

1034. Under this option, the CAISO proposes to calculate a resource's default energy bid as its variable costs plus 10 percent. Variable costs are comprised of two components: fuel cost and variable operation and maintenance cost.

1035. WPTF/IEP, Coral, and Constellation/Mirant argue that the CAISO's proposed 10 percent adder is unsupported, fails to account for operating costs that a generating owner faces⁴⁵⁴ and state that the CAISO provides no explanation as to why the adder should be 10 percent. WPTF/IEP contend that the proposed variable cost option does not include all variable costs, and therefore fails to provide just and reasonable compensation. WPTF/IEP assert the Commission should require the CAISO to explain how the adder is determined and how it will compensate a generator for the long-run marginal costs of the unit.

1036. WPTF/IEP state that the CAISO has proposed to reduce the default variable O&M rate from \$6/MWh to \$2/MWh (however, combustion turbines and reciprocating engines will have a default O&M adder of \$4/MWh regardless of fuel type). WPTF/IEP note that the Commission previously approved the use of a \$6/MWh variable O&M adder rate for all generating units in California and, at a minimum, the CAISO should add a third adder level of \$6/MWh for gas-fired steam units, to be consistent with Commission precedent.

1037. Constellation/Mirant argue that default energy bid options do not specify the natural gas price index that will be used to calculate the default bid. WPTF/IEP argue that the CAISO proposes an inappropriate natural gas price index for calculating the variable cost option default energy bid. WPTF/IEP note that stakeholders expressed concern that use of an index other than that which references the operating day's gas price will cause financial harm to either the suppliers or the ratepayers. For this reason, WPTF/IEP request that the CAISO be directed to use a gas price which is not more than two days prior to the operating day and to provide a true up to the actual gas price.

1038. SoCal Edison requests that MRTU Tariff section 39.7.1.1 be modified to provide for a "normal" and a "spill" variable cost option to reflect the unique nature of

⁴⁵⁴ WPTF/IEP argue that the 10 percent adder is insufficient to cover the costs associated with, for example, the risk of a forced outage, the subsequent costs to cover new replacement energy, the risk of natural gas price escalation and credit risk. In addition, WPTF/IEP assert that the proposed adder does not address the costs of emissions credits, the costs of take-or-pay gas contracts and gas line imbalance costs. Coral and Constellation/Mirant assert that the proposed default energy bid mechanism fails to compensate generators for their gas costs, penalties and certain balancing requirements.

opportunity costs for hydro units. SoCal Edison explains that opportunity costs for hydro units should reflect two states: opportunity cost during normal operations, and opportunity costs during spill conditions. SoCal Edison explains that, during spill conditions, the opportunity cost may be \$0 or a negative amount and must be replaced with energy that has a positive cost.

1039. In response to issues raised regarding the 10 percent adder, the CAISO states that the adder is based on the PJM local market power mitigation provisions and was specifically approved in the Commission's July 2005 Order. In addition, the CAISO states that the 10 percent adder approved in PJM was not limited to the facts specific to PJM; therefore the adder should not require additional modifications.

1040. The CAISO also notes that the variable cost option has a component for the recovery of natural gas costs, and the 10 percent adder can address miscellaneous costs such as penalties. The CAISO adds that suppliers have the option of choosing the LMP option or the negotiated option, each of which would provide alternative avenues for cost recovery. The CAISO states that commenters have not presented evidence that options proposed by the CAISO do not provide sufficient compensation to cover miscellaneous costs.

1041. In response to WPTF/IEP, the CAISO argues that the \$6/MWh adder is not justified under MRTU because (1) the circumstances under which the Commission's original decision have ceased to exist,⁴⁵⁵ (2) the information supporting a \$6/MWh adder is dated, (3) substantial generation additions have occurred since 2001 and although during the summer the older gas-fired units are on the margin, the CAISO does not believe the O&M characteristics of a minority of units should be used to determine the O&M values during all hours of the year. Moreover, the CAISO states that MRTU Tariff section 39.7.1.1 makes it clear that the \$2/MWh O&M adder is a default value and that resource-specific values for an O&M adder can be negotiated with the independent entity charged with calculating default energy bids. In light of this resource-specific option, gas-fired steam units will have the opportunity to recover their actual O&M costs, and therefore, the CAISO states that there is no need to establish an additional higher default value for such units.

1042. Contrary to Constellation/Mirant's assertion that the natural gas price index that will be used to calculate the default bid is not stated, the CAISO indicates

⁴⁵⁵ According to the CAISO, the mitigation system instituted in a June 2001 order (which was based on variable cost bidding during Stage 1 emergencies) is no longer operational, despite the longevity of one of its constituent parts. *See San Diego Gas & Elec. Co. v. Sellers of Energy and Ancillary Serv.*, 95 FERC ¶ 61,418 (2001).

The calculation of the [default energy bid] will use input costs including a proxy gas index calculated as the simple average of four published gas price indices (Platts Gas Daily, Btu Daily Gas Wire, NGI's Daily Gas Price Index, the ICE index) for each region and will include proxy figures for intra-state gas transport costs based on the posted tariff rates of the gas carriers.⁴⁵⁶

1043. In response to commenters who favor the use of gas prices no more than two days old, the CAISO states, that because of the timing of gas indices' publication, the daily gas price indices used to calculate the default energy bid may be at least two days old.⁴⁵⁷ In addition, the CAISO states that the possibility of after-the-fact true-ups based on actual gas costs was discussed in the stakeholder process and was determined to be unworkable given the complexity it would introduce, particularly if the mitigated bids subject to true-ups set LMPs. The CAISO notes that there is no reason to think that the use of the proposed indices would create a systematic bias in any direction, so a true-up could cut both ways.

1044. The CAISO agrees with SoCal Edison's assertion that hydro units require special treatment to reflect spill and non-spill conditions. The CAISO clarifies that hydro units have the option to seek a consultative default energy bid in using the negotiated option set forth in section 39.7.1.3 to reflect spill and non-spill conditions.

Commission Determination

1045. We find that the proposed option to set a resource's default energy bid at variable cost plus 10 percent is reasonable. Commenters allege that the 10 percent adder fails to account for operating costs such as the risk of natural gas price escalation, cost of emissions credits and the risk of forced outages. However, we note that commenters provide no evidence to demonstrate an inability to recover these costs under this option. In fact, we find that commenters have not supported their allegation that the 10 percent adder will fail to account for natural gas price escalations. The variable cost option is composed of two components consisting of fuel cost and variable O&M costs. The CAISO will calculate the fuel cost component for each bid segment using the heat rate supplied by the resource and the applicable average of four natural gas price indices.⁴⁵⁸ We believe the proxy gas price established from the four regional indices will sufficiently reflect the daily fluctuation in gas prices and allow the 10 percent adder to be used to

⁴⁵⁶ See Casey Testimony at 36-37.

⁴⁵⁷ The CAISO states that because of the publishing schedules of these gas indices, the CAISO may, on occasion, be required to use a gas index that is more than two days old, e.g., during the Thanksgiving holiday.

⁴⁵⁸ As noted above, the published gas price indices include Platts Gas Daily, BTU Gas Wire, NGI's Daily Gas Price Index and the ICE Index.

recover suppliers' incidental costs. While this option accounts for a supplier's operating cost, we note that a supplier whose bid is mitigated to cost plus ten percent will also have an opportunity to recover its fixed costs during times when it is not the marginal unit that sets the market clearing price in the market.

1046. Based on our analysis of the CAISO's proposed default variable O&M values, we find the \$2/MWh and \$4/MWh values to be consistent with the O&M cost of supporting the operation of new generation entering other markets. We also note that, according to the CAISO,⁴⁵⁹ the average O&M costs for a number of generating units in California was less than the default value proposed in this filing. While the O&M adder may appropriately represent the costs of most generating units in California, we recognize that some older generating units may incur O&M costs that are higher than the default value. Market participants who believe that the applicable default value will cause them to under-recover O&M costs can negotiate a specific value to ensure full cost recovery as described below under the negotiated option.⁴⁶⁰ Thus, we accept the values of \$2/MWh and \$4/MWh as the O&M default level for generation as proposed. We deny WPTF/IEP's request to include a third adder for gas turbines. We reiterate that, if a supplier finds that its O&M costs for gas turbine units are higher than the proposed default value, it should enter into negotiations with the CAISO to determine an alternate default energy bid.

1047. We acknowledge the CAISO's explanation that it would be problematic to use a two-day lagged index to calculate gas prices and the true-up of actual gas costs would be unworkable and accept the CAISO's proposal to use the average of the four identified gas price indices.

1048. We recognize SoCal Edison's concerns regarding opportunity costs for hydroelectric units. To the extent that market participants, including hydroelectric units, believe that a particular default energy bid calculation will cause them to under-recover their costs, they may elect the negotiated option for establishing the default energy bid. We add that any negotiated default energy bid for hydroelectric units should reflect a reasonable estimate for opportunity costs.

ii. LMP Option

1049. The CAISO proposes under the LMP Option to calculate a resource's default energy bid as a weighted average of the lowest quartile of LMPs at the Generating Unit PNode during the preceding 90-days. To qualify for the LMP option, at least 50 percent of the resource's energy dispatched over the prior 90-day time period must have been unmitigated. WPTF/IEP and Constellation/Mirant claim the 50 percent limitation option

⁴⁵⁹ See Casey Testimony at 49-50.

⁴⁶⁰ See MRTU Tariff section 39.7.1.1.

is overly stringent and states that the Commission should order the CAISO to allow this option regardless of the extent to which the unit has been mitigated.

1050. In its answer, the CAISO states that no new arguments have been raised on this issue and refers to the support provided in the testimony of Dr. Casey.

Commission Determination

1051. In the July 2005 Order, the Commission approved in concept the CAISO's proposal to offer options for calculating default energy bids. We accept the LMP option under MRTU Tariff section 39.7.1.2, subject to the CAISO submitting the compliance filing directed below to modify its competitive screening process. After reviewing the four options for determining a unit's default energy bid, we agree with commenters that the 50 percent limitation is not necessary or appropriate.

1052. We believe this methodology is a reasonable mechanism that captures an estimate of a unit's variable costs and thus, reflects what the generator would bid under competitive circumstances.⁴⁶¹ Consequently, this option provides a generator with compensation that is comparable to the variable cost plus 10 percent option. We expect that the LMPs during the previous 90-day reference period would reflect competitive bids, regardless of the extent to which the resource was mitigated. Even when a resource has the potential to exercise market power (and thus is subject to market power mitigation for most of its operating hours), the mitigation of the resource's bids would ensure that the resource does not exercise its market power in its bidding. We do not agree with the CAISO's rationale for the screen: that a unit in a load pocket might bid high in hours where it does not have local market power in order to increase the LMP. That is because, in hours when a unit lacks market power, it will not be able to significantly increase the LMP through its bidding; market power involves the ability to influence market prices, and sellers without market power lack the ability to influence prices. Accordingly, we find that generators must be afforded this cost recovery mechanism regardless of the extent to which they are mitigated. We direct the CAISO to make a compliance filing within 60 days of the date of this order removing the 50 percent limitation under MRTU Tariff section 37.7.1.2.

iii. Negotiated Option

1053. Under the Negotiated Option, the default energy bid is derived through consultation with the CAISO or an alternative independent entity selected by the CAISO.

⁴⁶¹ A resource without market power would ordinarily be willing to produce whenever the LMP is above its variable costs. Thus, the average of the lowest set of LMPs during periods when the resource produced would likely be only slightly higher than the resource's variable costs.

1054. WPTF/IEP note that the Commission previously required an independent third party, not the CAISO, to develop the reference prices used in the Automated Mitigation Procedures (AMP). However, under the negotiated option, either the CAISO or an independent third party may determine default energy bids, which according to WPTF/IEP are the equivalent of reference prices for local market power mitigation. Further, the CAISO is proposing that the CAISO, not the Commission, will make a determination prior to the start of MRTU whether the CAISO or an independent third party will determine default energy bids. WPTF/IEP state that the Commission should require the CAISO to use an independent third party or to sufficiently justify why it should be afforded the authority to determine default energy bids.

1055. Constellation/Mirant assert that this option, which allows the resource owner to negotiate its mitigated bid price, provides no specificity as to the criteria for those negotiations or with whom the resource owner must conduct such negotiations.

1056. In response to WPTF/IEP, the CAISO states that it may exercise the discretion permitted under the MRTU Tariff with respect to determination of default energy bids, including negotiations under the negotiated option. The CAISO explains that the use of an independent third party to calculate reference prices under AMP was based on concerns the Commission had previously raised about the CAISO's governance structure which were resolved. The CAISO states that, to the extent that any party has specific issues with the CAISO's exercise of independent discretion, those parties can raise the issues directly with the Commission.

Commission Determination

1057. The CAISO represents that if market participants find that it is unlikely for them to recover their fixed cost under the three options (i.e., variable cost option, LMP option or the FMU option), market participants can negotiate with the CAISO to develop a specific bid price. We find this approach reasonable because it provides market participants with greater flexibility to recover their fixed cost during mitigation. Notwithstanding, because it is the Commission's responsibility to ensure that rates are just and reasonable, we direct the CAISO to submit a compliance filing, within 60 days of the date of this order, modifying the MRTU Tariff to indicate that, at the time the CAISO and market participants negotiate a bid price, the CAISO must file the negotiated default energy bid with the Commission.

1058. With respect to WPTF/IEP's argument, we find that either the CAISO, as the independent operator of the transmission grid,⁴⁶² or an independent third party selected by the CAISO is capable of negotiating a specific value for a default energy bid under this option. Hence, we deny WPTF/IEP's request.

1059. In response to Constellation/Mirant, we agree that MRTU Tariff section 39.7.1.3 lacks specific procedures to address negotiation and resolve disputes relating to the default energy bid. We direct the CAISO to make a compliance filing within 60 days of the date of this order clarifying the procedures a market participant must follow to exercise this option and the type of information a market participant must provide under this process. We agree that, if the parties' negotiations prove unsuccessful, they may bring their disputes to the Commission. Accordingly, we direct the CAISO to include in its compliance filing language clarifying that, if parties cannot reach agreement after 60 days from commencement of negotiations, then the parties may bring the dispute to the Commission.

iv. FMU Option: Eligibility Criteria under the FMU Option

1060. With respect to eligibility of units to qualify for the FMU option, WPTF/IEP contend that the CAISO's FMU proposal is fatally flawed and should be rejected. WPTF/IEP argue that the CAISO's own data demonstrates that no unit in the state would meet the "mitigated in 80 percent of its run hours" test, and that the CAISO has failed to justify an 80 percent limit for California, aside from stating that that number seemed appropriate in PJM. In addition, WPTF/IEP contend that there is no way to ensure that a generating unit would run a sufficient number of hours, and the bid adder cannot ensure that a critically needed unit would recover its fixed costs and thereby stay in the market. Finally, WPTF/IEP argue that a generator needed to maintain reliability that is not under contract and has its bids mitigated should have a means to recover its fixed costs, whether it runs two hours per year or 200 hours.

1061. In response to WPTF/IEP, the CAISO states that the Commission has previously recognized that "the 80 percent test is a useful administrative benchmark for determining what units should be eligible for higher bid caps."⁴⁶³ In addition, the CAISO states that WPTF/IEP's assertion that the 80 percent threshold is infeasible is flawed because the presentation WPTF/IEP relies upon, cited in footnote 41 of its comments, explicitly excludes RMR units. The CAISO states that RMR units are generally the units that are

⁴⁶² In July 2005, the Commission concluded that the CAISO's board is independent, consistent with Order No. 888 and concluded that it is able to administer the CAISO-controlled transmission grid in an impartial, non-parochial and non-discriminatory manner. *Cal. Indep. Sys. Operator Corp.*, 112 FERC ¶ 61,010, at P 32, 36 (2005).

⁴⁶³ See *PJM Interconnection, L.L.C.*, 110 FERC ¶ 61,053, at P 106 (2005).

most critical to ensuring local reliability and thus, absent appropriate mitigation measures, have the greatest opportunity to exercise locational market power. The CAISO states that the fact that non-RMR units failed to have out-of-sequence dispatches in 80 percent or more of all hours is not a flaw in the 80 percent threshold; rather, it suggests that non-RMR units are unlikely to be frequently mitigated for local market power.

Commission Determination

1062. We agree with WPTF/IEP that the 200 hour minimum run requirement may be overly stringent and therefore reject the CAISO's proposal to require units to run at least 200 hours to be eligible for the FMU bid adder. We believe that a frequently mitigated generator should have the opportunity to recover some contribution to fixed costs regardless of how many hours in the year the generator runs. Therefore, we direct the CAISO to make a compliance filing no later than 180 days prior to the effective date of MRTU Release 1 removing the 200 minimum run-hour requirement.

1063. In its response to WPTF/IEP, the CAISO recognizes that non-RMR units are unlikely to be frequently mitigated for local market power. We note that many of the resources currently under RMR contracts with the CAISO represent those units which will likely be frequently mitigated. To the extent that the use of RMR units is phased out in the future, the FMU option will become a market mechanism by which these units will receive a contribution to their fixed forward costs.⁴⁶⁴ One concern with a single arbitrary cut-off threshold such as 80 percent is that it may create a perverse incentive for units mitigated slightly less than the threshold to bid in a manner that increases their mitigation just above the threshold. One method that can avoid this problem is to consider a sliding scale for units that are mitigated less frequently and establish corresponding graduated bid adders for each level of mitigation. Therefore, we direct the CAISO to consider whether the 80 percent mitigation frequency appropriately captures FMUs and whether units that are mitigated less than 80 percent of the time should also receive a bid adder. We direct the CAISO to report its conclusions and submit the necessary tariff revisions to the Commission within 60 days of the date of this order.

v. FMU Option: Bid Adder under the FMU Option

1064. Some commenters seek rejection of the bid adder for FMUs. The CPUC argues that California has features that distinguish it from PJM and therefore, rejection of the bid adder is appropriate.⁴⁶⁵ The CPUC and PG&E suggest that the Commission instead

⁴⁶⁴ Some of these units may be contracted by LSEs under the CPUC RA program.

⁴⁶⁵ Specifically, the CPUC states that the MRTU includes *both* PJM-style deliverability requirements *and* local procurement obligations, which are still evolving in PJM. In addition, the CPUC asserts that development of a CAISO backstop mechanism is more consistent with the MRTU framework, including the CPUC's RA program.

require the CAISO to develop an appropriate backstop procurement mechanism to replace the bid adder, and the CPUC recommends that the Commission direct the CAISO to submit a report indicating whether this mechanism should replace the bid adder prior to MRTU implementation.

1065. SoCal Edison and the CEOB agree with the Market Surveillance Committee's assertion that market distortions may result from incorporating bid adders for FMUs. SoCal Edison also objects to MRTU Tariff section 39.8.3 which allows units with bid adders to set market prices. PG&E states that the proposed fixed cost bid adder for FMUs has not been justified for the California market.⁴⁶⁶ PG&E further states that the adoption of resource adequacy requirements and the anticipated adoption of local resource adequacy requirements by the CPUC provide a further basis for the Commission to reject frequently mitigated unit bid adders as part of MRTU.

1066. WPTF/IEP assert that the proposed adder of \$24/MWh is insufficient. WPTF/IEP state that the CAISO bases the \$24/MWh value on the fixed O&M costs from 2003 for a simple cycle and combined cycle combustion turbine that is projected to have a 9.4 percent capacity factor. WPTF/IEP contend that the base data for this calculation will be stale when MRTU is implemented. In addition, WPTF/IEP argue that the \$24/MWh bid adder is insufficient in light of the fact that the adder developed by PJM using the same approach is \$40/MWh. In place of the bid adder, WPTF/IEP state that the Commission should direct the CAISO, in the interim, to provide those units that are needed for reliability and are not under contract with a suitable opportunity to provide for fixed cost recovery, such as the Reliability Capacity Services Tariff (RCST) proposal filed in Docket No. EL05-146-000.

1067. In response to those commenters who request that the Commission reject the FMU adder, and those who assert that units with such bid adders not be permitted to set market prices, the CAISO states that the proposed bid adders are appropriate and units with these bid adders should be permitted to set market clearing prices because this is consistent with the PJM model upon which the MRTU local market power mitigation provisions are based.

1068. The CAISO states that the value of \$24/MWh was calculated using the same formula used by PJM to calculate PJM's default bid adder value, where the per MWh dollar value is calculated as the ratio of Annual Avoidable Fixed Cost to Annual Expected Energy Production and is therefore, reasonable.

⁴⁶⁶ The CAISO's Market Surveillance Committee terms such bid adders as "the most egregious" of the CAISO's over-reaction to concerns that it might be over-mitigating. See Market Surveillance Committee Opinion on the California ISO's Market Redesign and Technology Upgrade (MRTU) Conceptual Filing, (Apr. 26, 2005), available at <http://www.caiso.com/docs/2005/04/26/2005042611125729395.pdf>.

Commission Determination

1069. We accept the CAISO's proposed \$24/MWh bid adder for FMUs as reasonable. Under the FMU option, the generator accepts the \$24/MWh bid adder but is also free to present actual cost data and negotiate higher bid adders if necessary. As discussed above, if parties cannot reach agreement on the unit specific value after 60 days, then parties can bring the dispute to the Commission.

1070. We reject the CPUC's and WPTF/IEP's request to direct the CAISO to develop a backstop procurement mechanism. We continue to prefer market solutions that rely on forward contracting by LSEs, rather than backstop procurement mechanisms administered by the CAISO. Under MRTU, the CAISO can procure additional resources if needed through the RUC process in the day-ahead market, and the CAISO can procure resources contracted under the RA program through real time.

1071. We conclude that the CAISO's proposal under section 39.8.3, which allows units with bid adders to set market prices, is reasonable.

4. Scarcity Pricing

1072. In MRTU Tariff section 34.8, the CAISO proposes to put into operation a limited reserve shortage scarcity pricing mechanism upon implementation of MRTU. The MRTU Tariff provides for scarcity pricing only when the shortage is not accompanied by a contingency, *i.e.*, only in cases where there is no transmission line or generating unit off-line.⁴⁶⁷ If a contingency exists in conjunction with the scarcity, scarcity pricing would not apply and the CAISO will dispatch the reserves based on the original energy bids. The CAISO states that it will consider the implementation of system-level scarcity pricing as one of many potential elements for implementation in Release 2, currently slated for three years following the initial release of MRTU.

1073. Several commenters⁴⁶⁸ argue the Commission should reject the CAISO's proposal because it lacks a comprehensive reserve shortage pricing mechanism. They argue among other things, that reserve shortage pricing should occur when circumstance show either that there is a real-time shortage of energy or ancillary services, load is curtailed, or RUC cannot remedy a local constraint or system wide shortfall following the day-ahead market. Commenters argue that the CAISO's scarcity pricing proposal does

⁴⁶⁷ Specifically, MRTU Tariff section 34.8 states that "if contingency only reserves are dispatched in response to a system emergency that has occurred because the CAISO has run out of economic bids when no contingency event has occurred, the contingency only reserves will be dispatched at the maximum bid price."

⁴⁶⁸ WPTF/IEP, NRG Companies and Constellation/Mirant.

not include any mechanism to allow prices to rise to the offer cap when RUC is unable to meet local or system-wide constraints.

1074. Commenters also contend the CAISO does not follow the Commission's directives that scarcity pricing must occur when total available generation capacity is insufficient to meet load and its ancillary service requirements in real time. WPTF/IEP state the CAISO proposes to set prices to the cap only under circumstances when the CAISO has run out of economic bids and the CAISO must dispatch contingency-only reserves. Commenters urge the Commission to require the CAISO to put into service a reserve margin scarcity pricing mechanism and timeline for implementation.

1075. In its reply comments, EPSA argues that the Commission should require the CAISO to implement scarcity pricing with Release 1. EPSA states that under the current MRTU model, energy price mitigation occurs on a prospective basis, before prices can rise to scarcity levels. EPSA claims the absence of counteractive scarcity pricing offers buyers an artificial regulatory hedge against high energy prices, which thereby provides an incentive to load to rely on these 'hedged' energy purchases from the spot market rather than seek out longer term contracts. EPSA states the Commission has noted, in several cases, that it is particularly concerned that markets provide "adequate incentives to attract and retain needed investment as well as rates that are not excessive."⁴⁶⁹ Thus, EPSA supports a market design in which suppliers are allocated scarcity pricing whenever there is a real-time shortage of energy or ancillary services, load is curtailed, or RUC cannot remedy a day-ahead market constraint or possible system-wide shortfall.

Commission Determination

1076. In the July 2005 Order and September 2005 Order, the Commission accepted in concept the CAISO's initial limited scarcity proposal as part of its proposed market power mitigation package,⁴⁷⁰ but required the CAISO to develop a more extensive reserve shortage scarcity pricing approach with a later release of MRTU. During this same period, the Commission instituted an investigation into PJM's market design to address the potential need for scarcity pricing in load pockets.⁴⁷¹ This investigation

⁴⁶⁹ *Reliant Energy Mid-Atlantic Power Holdings, LLC v. PJM Interconnection, L.L.C.*, 104 FERC ¶ 61,040, at 61,130 (2003).

⁴⁷⁰ The CAISO's current proposal provides for limited scarcity pricing, but only when outages are not accompanied by a contingency, *i.e.*, only in cases where there is no transmission line or generating unit off-line. In the other ISOs and RTOs, reserve shortage scarcity pricing raises the price of energy when scarcity exists, regardless of whether or not a contingency occurs in conjunction. The CAISO is the only RTO/ISO to lack this element.

⁴⁷¹ *PJM Interconnection, LLC*, 112 FERC ¶ 61,031 (2005).

resulted in a November 2005 settlement that included, among other things, a reserve shortage scarcity pricing mechanism for PJM.

1077. The CAISO's proposal reflects scarcity pricing for shortages of energy bids in real time when no contingency has occurred. However, the CAISO's proposal is too narrowly tailored; prices should rise in all instances where reserves or energy are short, irrespective of whether a contingency has occurred or whether the shortage arises in the day-ahead or real-time market. A shortage in bids for reserves or energy indicates that the CAISO does not have sufficient energy to reliably meet demand for energy in real time. Therefore, prices should rise to reflect the increased need for reserves and energy, whether or not the shortage arises in conjunction with a generation or transmission outage, in both the day-ahead and real-time markets.

1078. While we continue to believe that the CAISO's limited scarcity pricing proposal is a reasonable start for implementation of MRTU, we find that the CAISO's proposal to consider changes implementing system level scarcity pricing with Release 2 (three years from MRTU implementation) represents an unacceptable delay. We agree with concerns raised by commenters who argue that the initial proposal has the potential to suppress prices during shortages. Shortage pricing is necessary to encourage both demand response and supply response, *i.e.*, both conservation programs and building infrastructure and encouraging existing generators to be available to produce energy when most needed. We note that each of the existing RTOs/ISOs already has a mechanism for prices to rise during reserve shortages, thus discouraging "free riding" on energy and encouraging LSEs to contract forward for energy needs.⁴⁷² Accordingly, we believe the CAISO needs to further refine its proposal to include a more broadly-triggered reserve shortage scarcity pricing, and on a more accelerated basis, to ensure that prices are not inappropriately suppressed during periods of genuine scarcity. We will

⁴⁷² Under the reserve shortage scarcity pricing mechanisms accepted for the New York ISO market and the New England ISO market, when reserve shortages occur in a region, the prices for both energy and reserves rise by specified amounts that increase as the severity of the shortage increases. *See New York Indep. Sys. Operator, Inc.*, 103 FERC ¶ 61,339 (2003); *see also ISO New England, Inc.*, 104 FERC ¶ 61,130 (2003). Under the PJM settlement, whenever any of six measures of scarcity occur in any of five designated regions, the unit-specific offer caps of all generators in that region are lifted so that all generators are free to increase their offers up to the PJM-wide \$1,000 offer cap, and the highest accepted offer may set the price in the region. *See PJM Interconnection, LLC*, 113 FERC ¶ 63,038 (2005). The Commission approved the PJM settlement on January 27, 2006. *PJM Interconnection, LLC*, 114 FERC ¶ 61,076. In the Midwest ISO, a shortage condition allows the Midwest ISO to consider additional supply sources that are only available in defined emergency conditions and triggers a shortage-pricing mechanism which administratively establishes the highest accepted offer at \$1,000/MWh. *See Midwest Indep. Transmission Sys. Operator, Inc.*, 108 FERC ¶ 61,163.

conditionally accept the CAISO's limited scarcity pricing proposal for the initial release of MRTU, but direct the CAISO to file tariff language for our review for the implementation of a scarcity pricing methodology that reflects the discussion above within 12 months of the effective date of MRTU Release 1.

1079. Furthermore, we direct the CAISO to develop a reserve shortage scarcity pricing mechanism that applies administratively-determined graduated prices to various levels of reserve shortage.⁴⁷³ Such a pricing structure is advantageous because it does not create incentives for generators to change their bidding behavior based on speculation of when a shortage may occur. Moreover, because California has resource adequacy requirements, we expect that LSEs will procure enough capacity to meet peak load plus a reserve margin, and therefore periods of scarcity should be infrequent. In the event that a shortage occurs, prices should reflect the economic value of the reserves necessary to resolve the shortage. Thus, the prices for both reserves and energy in California should increase automatically as the severity of the shortage increases. We direct the CAISO to modify its limited scarcity-pricing proposal as discussed above and to implement this market design element within 12 months after Release 1. Accordingly, we further direct the CAISO to make a compliance filing with the required modifications to the tariff.

5. "PJM-style" Mitigation

1080. The CPUC, PG&E, and San Francisco generally support the CAISO's market power mitigation proposal. PG&E believes that the PJM-style approach is superior to the current CAISO AMP approach and New York ISO methodology. The CPUC suggests that the PJM approach comes much closer to satisfying the properties of its preferred mechanism because it complements the CPUC's resource adequacy program. It suggests that the Commission acknowledge the interrelationship between the CPUC's resource adequacy program and MRTU and approve the CAISO's local market power mitigation provisions.

1081. WPTF/IEP and NRG Companies oppose the CAISO's PJM-style approach for local market power mitigation. WPTF/IEP and NRG Companies argue that the CAISO's mitigation package will cause the CAISO to over-mitigate generators. WPTF/IEP and NRG Companies support the adoption of a conduct and impact test for local market power mitigation, as utilized in the New York ISO, New England ISO, and Midwest ISO markets. They state that the conduct and impact test is modeled, tested, and proven to provide suppliers with flexibility in offering energy, while protecting against the abuse of market power. WPTF/IEP state that, if the Commission accepts the CAISO's proposal,

⁴⁷³ See, e.g., the New York ISO's and New England ISO's methodology for pricing energy during operating reserve shortages.

the Commission should require the CAISO to make certain modifications to its mitigation proposal to ensure a balance in the CAISO market design.⁴⁷⁴

1082. Calpine urges the Commission to reject the CAISO's local market power mitigation provisions. Calpine contends that the Commission cannot find the CAISO's proposal just and reasonable, because generators do not have a reasonable opportunity to recover their fixed and variable costs for providing capacity and energy services. Calpine also argues that the CAISO has provided no analysis or proof that its proposed market design will ensure that generators will be able to recover their fixed costs. Thus, Calpine urges the Commission to reject the CAISO's market power mitigation proposal.

1083. In reply comments, EPSA supports WPTF and IEP's suggestion that the CAISO implement a conduct and impact test approach rather than a PJM-style approach. EPSA states that if the Commission approves the CAISO's proposal, EPSA would urge the Commission to require the CAISO to make the necessary modifications as proposed by WPTF/IEP.

1084. In reply comments, the CPUC, PG&E, and SoCal Edison disagree with WPTF/IEP's and NRG Companies' allegation that the CAISO's proposal will cause an over-mitigation of generation, and strongly support the use of a PJM-style approach. The CPUC and PG&E contend that the risk of over-mitigation is decreased because: (1) the CPUC's resource adequacy program requires LSEs to procure 15 to 17 percent more resources than their anticipated peak load; (2) the CPUC's local resource adequacy requirements will take effect in 2007; and (3) of the CPUC's long-term resource planning process. The CPUC also states that generators have argued revenue insufficiency issues in a RCST settlement, which has been filed with the Commission.⁴⁷⁵ Furthermore, the CPUC states that WPTF/IEP cite no authority for the proposition that market power has been effectively curtailed in other ISOs/RTOs using a conduct and impact method, or that those ISOs'/RTOs' circumstances are sufficiently analogous to warrant the adoption of this approach in the California market.

Commission Determination

1085. We conditionally accept the CAISO's proposed local market power mitigation provisions, subject to certain modifications, as discussed above. In previous orders, the Commission acknowledged the importance that various elements of a regional market

⁴⁷⁴ We address WPTF/IEP's modifications throughout the market power mitigation section of the order.

⁴⁷⁵ Several parties, including generators, the CAISO, the CPUC and the IOUs developed a settlement to complement the current must-offer obligation with a greater capacity-type payment to compensate generators for their reliability services. *See* Docket No. EL05-146.

should work well together to provide an efficient, well functioning wholesale market for the benefit of customers over the long term. We also find it equally important that resources have reasonable opportunities to recover their fixed and variable cost for providing capacity and energy to the CAISO market. We find the CAISO's market power mitigation proposal, as modified in this order, effectively protects consumers against the exercise of local market power, while providing generators with adequate short-term revenues during times of mitigation and scarcity. We believe that the proposed market power mitigation package in conjunction with the forward contracting imposed under the CPUC's resource adequacy program will provide generators with a reasonable opportunity to become revenue sufficient. Therefore, we accept the CAISO's market power mitigation proposal, with the modifications directed above.

6. CAISO's Request for Rehearing

1086. As discussed earlier in this order, the CAISO will perform two pre-IFM runs of the optimization software to identify the units subject to local market power mitigation.⁴⁷⁶ In its May 2005 filing, the CAISO proposed to base the pre-IFM runs on forecast demand rather than bid-in demand. In the July 2005 Order, the Commission approved the optimization process. On rehearing, however, the Commission reversed its prior decision and directed the CAISO to base the day-ahead local market power mitigation procedures on bid-in demand.⁴⁷⁷ In its MRTU Tariff filing, the CAISO requests that the Commission reconsider this issue and allow the CAISO to base the pre-IFM runs on forecast demand for Release 1.

1087. The CAISO claims that it cannot incorporate the change directed by the Commission into Release 1 without substantially delaying MRTU implementation by 10 to 14 months. The CAISO also argues that the Commission's guidance in the September 2005 Order appear to be based on the erroneous premise that the CAISO will over-mitigate generators if the pre-IFM runs are based on forecasted demand rather than bid-in demand.

1088. WPTF/IEP and Constellation/Mirant argue that the Commission should reject the CAISO's proposal to use CAISO forecasted demand rather than bid-in demand as the basis for market power mitigation in the day-ahead market. Commenters oppose the use of CAISO forecasted demand because this method will cause the CAISO to over-mitigate suppliers. Commenters state that the Commission denied the use of forecasted demand in its September 2005 Order.

⁴⁷⁶ As discussed *infra*, the pre-IFM runs also determine RMR pre-dispatch levels.

⁴⁷⁷ The Commission concluded that "there is little justification for the additional mitigation of supply bids for energy based on the CAISO's demand forecasts rather than the demand by market participants in the day-ahead market." *See* September 2005 Order, 112 FERC ¶ 61,310 at P 69.

Commission Determination

1089. We agree with commenters that in the future the CAISO should use bid-in demand as the basis for market power mitigation in the day-ahead market. However, we are also cognizant of the CAISO's inability to institute this change in Release 1 without substantial delay of MRTU and its associated benefits. Accordingly, we conditionally accept the CAISO's proposal, subject to the CAISO instituting bid-in demand as the basis for applying market power mitigation in the pre-IFM runs no later than MRTU Release 2 to reduce the likelihood of over-mitigation of suppliers. We direct the CAISO to file tariff language for our review to implement this feature no later than Release 2. Accordingly, we dismiss the CAISO's rehearing in Docket No. ER02-1656-029 as moot.

B. Resource Adequacy

1090. Resource adequacy is the availability of an adequate supply of generation or demand responsive resources to support safe and reliable operation of the grid. The RA provisions of the MRTU Tariff, together with the CPUC RA requirements and the provisions of California law applicable to LSEs not under CPUC jurisdiction, establish a process intended to ensure sufficient capacity will be available when and where it is needed to reliably operate the power system.

1091. In 2005, the California legislature enacted AB 380, which directs the CPUC to establish, in consultation with the CAISO, RA requirements for LSEs under CPUC jurisdiction.⁴⁷⁸ AB 380 also directs other LSEs within California to develop their own RA requirements, consistent with WECC and NERC requirements, and directs each locally-owned, public electric utility to meet its planning reserve margin,⁴⁷⁹ peak demand, and operating reserve sufficient to provide reliable electric service to its customers.

1092. Resource adequacy requirements mandate that LSEs secure sufficient resources of their own or through contracts to meet their customers' demands. These contracts then provide a revenue stream to compensate generators for their fixed costs and enable new projects to secure the financing they need for construction. The CAISO claims that the RA provisions of the MRTU Tariff, together with the RUC process, will provide a

⁴⁷⁸ The CPUC adopted RA requirements that direct each LSE to: (1) maintain a planning reserve margin requirement of 15-17 percent; (2) forward contract 90 percent of summer (May through September) peaking needs a year in advance; and (3) limit to five percent reliance on the spot market to meet energy needs. More recently, the CPUC has also adopted local RA requirements based on the CAISO's local capacity requirements study.

⁴⁷⁹ The CAISO explains that a planning reserve margin is the amount of capacity over and above the predicted demand that is necessary to provide adequate real-time operating reserve and account for contingencies such as plant outages and forecast error.

replacement to the Commission's must-offer process to ensure availability of adequate resource levels.

1093. The CAISO states that a RA program should include seven basic elements:

1. Procedures for forecasting demand, including peak demand;
2. Specified planning reserve margin;
3. Additional RA requirements, such as local requirements, based on specified reliability criteria;
4. Criteria for determining the eligible resources and their effectiveness in meeting the reserve margin;
5. Plans developed by LSEs that identify how they have met their RA requirements through a portfolio of resources that they own and/or procure;
6. Rules under which the resources identified in the plans will be made available to the grid operator to balance supply and demand reliably; and
7. Compliance program that ensures that a LSE will comply with the RA program established by the Local Regulatory Authority and precludes the LSE from inappropriately relying on the resource procurement practices of other market participants.

1094. MRTU Tariff section 40, together with section 42, addresses resource adequacy.⁴⁸⁰ The MRTU Tariff proposes that LSEs within the CAISO control area have system RA requirements, based on a 15 percent planning reserve margin requirement. In addition to and distinct from system RA requirements, the MRTU Tariff proposes that LSEs have local capacity requirements to ensure that the CAISO has sufficient resources in the appropriate locations to operate the transmission system. With regard to system RA requirements, the CAISO notes that LSEs subject to the CPUC's jurisdiction will be subject to the requirements established by the CPUC. Further, the CAISO notes that load-following MSSs will only be subject to local capacity area resource requirements of the MRTU Tariff.

1095. Prior to discussing specific provisions, we will first address comments alleging that the Commission does not have the authority to approve tariff provisions that commenters argue would require LSEs to procure resources. We also address whether all LSEs that use the CAISO-controlled grid are subject to the MRTU Tariff RA provisions.

1096. We then address specific provisions on: RA requirements for LSEs; backstop procurement by the CAISO if LSEs do not meet their RA requirements; determination of qualifying capacity for resources that serve to meet LSEs' RA requirements; availability

⁴⁸⁰ We note that, unlike most other elements of the MRTU proposal which the Commission has previously reviewed in concept, this is the first time the Commission is considering the CAISO's MRTU resource adequacy proposal.

requirements for the resources; and finally, information requirements for both LSEs and the resources that the LSEs procure and/or own.

Discussion

1. Authority to Approve

1097. The CAISO claims that the RA provisions of the MRTU Tariff are intended to support and not supplant the RA program ordered by the CPUC for LSEs subject to its jurisdiction (CPUC LSE) or by another Local Regulatory Authority for a non-CPUC jurisdictional entity (non-CPUC LSE). The CAISO states that the resource adequacy provisions address: (1) the information responsibilities of the CAISO and the Scheduling Coordinators who represent LSEs regarding their RA requirements; (2) obligations of Scheduling Coordinators representing RA resources; and (3) CAISO backstop procurement of resources to ensure overall resource adequacy consistent with applicable criteria when LSEs do not procure sufficient resources.

1098. Many commenters assert that the CAISO is overreaching by attempting to impose RA requirements that the CPUC developed for its jurisdictional public utilities upon non-CPUC LSEs, through the MRTU Tariff. They argue that this amounts to federalizing a state and local matter, and that state law more appropriately governs power purchasing requirements embodied in the CAISO's RA provisions. Commenters contend that the non-CPUC LSEs are already obligated to be resource adequate because their own prudent utility practices require it. They add that AB 380 directs each non-CPUC LSE to plan for reliable service to their customers, provide RA-related information to the California Energy Commission and comply with WECC reliability standards. Some argue that AB 380 intentionally distinguishes between CPUC and non-CPUC LSEs, but the MRTU Tariff attempts to aggregate all entities under one set of Commission-approved requirements. Western, on the other hand, contends that the CAISO treats CPUC and non-CPUC LSEs differently, which results in discriminatory treatment. Trinity further expresses its concern that MRTU would allow CPUC jurisdiction over Trinity when California law does not grant such jurisdiction.

1099. Cities/M-S-R argue that the proposed standards developed are subject to CAISO review and argue that there is no reason for the CAISO to interfere with the local resource adequacy decisions.

1100. FPL recommends that the Commission exercise exclusive jurisdiction over pricing in the RA program. Bay Area Municipals, Santa Clara and Lassen object to FPL's suggestion and instead agree with Six Cities that there is a need to limit the application of the CAISO and CPUC RA programs over non-CPUC LSEs. Santa Clara contends that the CAISO's RA proposal oversteps jurisdictional bounds, attempts to have the

Commission assert jurisdiction that belongs with the Local Regulatory Authority and seeks to impose RA requirements that the CPUC cannot directly impose.

1101. The CPUC urges the Commission to reject MRTU Tariff section 40 and order the CAISO to work with stakeholders to develop tariff language that reflects the state's authority over RA. The CPUC argues that the CAISO should limit the section to those areas within the CAISO's jurisdiction, such as RA must offer obligation provisions and other generator performance obligations. Metropolitan and the State Water Project support the CPUC's request.

1102. PG&E also objects to the CAISO's RA proposal as infringing on state authority and, in some cases, adopting requirements contrary to prior Commission orders and existing, or planned, RA programs. It asserts that the CAISO's proposal may trump CPUC requirements if LSEs do not meet the levels proposed by the CAISO's own study or standards that the CAISO may determine. It contends that the CAISO's proposal oversteps traditional jurisdictional bounds and does not reflect the policies adopted by the CAISO in its Interim Reliability Requirements Program (IRRP). It further notes that EAct 2005 expressly limits the Commission's authority with respect to RA as it relates to the new Electricity Reliability Organization. PG&E asserts that the MRTU Tariff should establish default RA requirements that fully defer to state authorities that have adopted RA requirements.

1103. San Francisco argues that RA is a fundamental undertaking that must be completed before any new market design is implemented. CMUA suggests that, based on a review of initial pleadings, a technical conference and settlement procedures are likely to resolve certain of the implementation issues surrounding RA.

1104. The CAISO states that MRTU Tariff section 40 balances state and Local Regulatory Authorities' long-term RA planning with the CAISO's responsibilities to maintain short-term reliability. The CAISO asserts that AB 380 requires the CPUC to develop, in consultation with the CAISO, RA requirements for CPUC LSEs. According to the CAISO, AB 380 also requires each of California's local publicly owned electric utilities to procure adequate resources to meet their peak demand and planning reserve margin. The CAISO contends that AB 380 did not obviate the CAISO's responsibility under AB 1890⁴⁸¹ to maintain the reliable operation of the transmission grid, consistent with planning and operating reserve criteria no less stringent than those established by the WECC and NERC.

⁴⁸¹ In 1996, the California legislature passed AB 1890 which established the CAISO and required it to maintain the reliability of the regional transmission system.

1105. The CAISO states that a number of entities believe that section 40 oversteps jurisdictional bounds⁴⁸² and fails to strike an appropriate balance between assuming operational reliability of the grid and the boundaries of the CAISO and the Commission's jurisdiction.⁴⁸³ The CAISO notes that the Commission has approved appropriate capacity obligations imposed on LSEs participating in power pools, and more recently RTOs/ISOs.⁴⁸⁴ The CAISO also states that the courts have upheld Commission decisions approving capacity or reserve obligations on LSEs in connection with integrated power network operations.⁴⁸⁵ It states that section 40 is consistent with the Supreme Court's recognition that the Commission must ensure reliable and efficient electric service,⁴⁸⁶ and notes that the Commission has approved capacity obligations for all participating LSEs.⁴⁸⁷

⁴⁸² CAISO Reply Comments at 179 (citing Bay Area Comments at 36-37).

⁴⁸³ CAISO Reply Comments at 179 (citing Bay Area Comments at 36-37).

⁴⁸⁴ *Id.* at 180 (citing *New England Power Pool Agreement*, 56 FPC 1562 (1976)).

⁴⁸⁵ *Id.* (citing *Ohio Power Co. v. FERC*, 668 F.2d 880 (6th Cir. 1982); *Cent. Iowa Power Coop. v. FERC*, 606 F.2d 1156 (D.C. Cir. 1979); *Municipalities of Groton v. FERC*, 587 F.2d 1296 (D.C. Cir. 1978)).

⁴⁸⁶ *Id.* at 181 (citing *Gainesville Utils. Dep't v. Fla. Power Corp.*, 402 U.S. 515, 529 (1971) (*Gainesville*). The CAISO notes that the Supreme Court's decision regarding the appeal of Order No. 888 recognized that the Commission has broad authority over the interstate transmission of electricity. *New York, et al. v. FERC*, 535 U.S. 1 (2002). The CAISO contends that this decision further supports the Commission's authority to approve the IRRP proposal.)

⁴⁸⁷ *Id.* at 181 (citing *PJM Interconnection, L.L.C.*, 96 FERC ¶ 61,060, at 61,212-14 (2001) (PJM West) (approving PJM West's available capacity requirement, which imposes a daily capacity obligation on LSEs equal to 106 percent of the total day-ahead estimated load requirement coincident with the zone peak for that LSE); *ISO New England*, 91 FERC ¶ 61,311 at 62,080 (LSEs must acquire generation capacity equal to their peak load plus a reserve margin); *PJM Interconnection*, 81 FERC ¶ 61,257, *order on clarification*, 82 FERC ¶ 61,008 (1998), *order on reh'g*, 92 FERC ¶ 61,282 (2000) (approving Reliability Assurance Agreement which requires each LSE to own or purchase capacity resources greater than or equal to the load that it serves, plus a reserve margin); *New York Indep. Sys. Operator, Inc.*, 90 FERC ¶ 61,319 (2000), *amended*, 96 FERC ¶ 61,251 (2001) (approving an installed capacity obligation on LSEs). The CAISO also notes that the Commission accepted an agreement between the New York ISO and the New York State Reliability Council (NYSRC) which, *inter alia*, gives the NYSRC the authority to establish state-wide installed capacity requirements consistent with NERC and NPCC requirements. *Central Hudson Gas & Elec. Corp.*, 83 FERC ¶ 61,352, at 62,411-13 (1998). The agreement requires that any revisions to the installed capacity requirements be filed with the Commission. *New York State Reliability Council*, 90 FERC ¶ 61,313 (2000). The CAISO contends that the Commission recognized that the New York ISO had primary responsibility for ensuring short-term reliability of

1106. The CAISO asserts that EPCRA 2005 section 1211 and the revised FPA section 515 gave the Commission authority to oversee the establishment and enforcement of reliability standards designed to ensure reliable operation of the bulk-power system. The CAISO notes that the Commission's rules concerning certification of the Electric Reliability Organization and procedures for the establishment, approval, and enforcement of Electric Reliability Standards concluded that "Resource adequacy is a fundamental aspect of reliability."⁴⁸⁸

1107. The CAISO further asserts that under its enabling legislation and Commission-approved tariff, it has already been undertaking actions to ensure planning and reserve requirements are met, locational capacity is sufficient and backstop procurement is performed when necessary. It notes that the mandate of AB 1890 is fully consistent with Order No. 888's ISO Principle 4 that an ISO has primary responsibility for ensuring the short-term reliability of grid operations.⁴⁸⁹

1108. The CAISO notes that, according to Trinity, MRTU seeks to force upon Trinity regulations promulgated by the CPUC despite the fact that California law does not grant the CPUC jurisdiction over Trinity.⁴⁹⁰ The CAISO states that this criticism is unwarranted because it agrees that there should be local control over supply planning. Recognizing that not all market participants are similarly situated, the CAISO asserts that it has provided three options for Scheduling Coordinators of LSEs to meet their obligation to make resources available to the CAISO to ensure system reliability. The three options are: reserve sharing, modified reserve-sharing and load-following MSS. It states that the load-following MSS option recognizes existing incentives in the load-following MSS agreement, namely, significant real-time imbalance energy penalties, which promote the procurement of sufficient resources by the load-following MSS. The CAISO asserts that it developed the modified reserve sharing approach based on comments from non-CPUC jurisdictional entities. In contrast to the reserve sharing option, which relies on a monthly peak value to determine the obligation, the CAISO contends that the modified reserve sharing approach involves a planning timeframe, monthly and annual, and an operational timeframe, day-ahead.

transmission grid operations subject to its control agreement between the New York ISO and the NYSRC covered the short-term reliability matters that were the subject of ISO Principle No. 4. *Id.*).

⁴⁸⁸ *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards*, Order No. 672, 71 Fed. Reg. 8662, 8730 (Feb. 17, 2006), FERC Stats. & Regs. ¶ 31,204, at P 806 (2006), *order on reh'g*, Order No. 672-A, [71 Fed. Reg. 19,814](#) (Apr. 18, 2006), FERC Stats. & Regs. ¶ 31,212 (2006).

⁴⁸⁹ CAISO Reply Comments at 184 (citing *Cent. Hudson Gas & Elec. Corp.*, 83 FERC at 62,410).

⁴⁹⁰ *Id.* at 186 (citing Trinity Comments at 8).

1109. The CAISO notes that, under MRTU Tariff section 40.4.1, it proposes to defer to the criteria of the Local Regulatory Authority to determine the qualifying capacity values for resources. The CAISO contends that section 40 properly recognizes the needs of individual Local Regulatory Authorities to exercise control over LSEs under their jurisdiction and the CAISO's need to implement a comprehensive approach that requires all end users to bear comparable responsibilities.

1110. The CAISO notes that, in approving IRRP, the Commission reemphasized the importance of a RA requirement for the orderly functioning of the market.⁴⁹¹ The CAISO agrees with Santa Clara and Lassen that the Commission should not exercise exclusive jurisdiction over RA programs, but agrees that the Commission does have concurrent responsibility to ensure reliable system operations.

1111. The CAISO states that there must be provisions in the MRTU Tariff to address RA requirements. These include: (1) the amount each Scheduling Coordinator is expected to supply to meet its RA obligation in a fair manner; (2) how specific resources can meet the resource adequacy obligation; (3) how to ensure resources can perform and be deliverable; (4) how information as to what resources have been procured will be communicated to the CAISO; (5) how the RA resources will actually be made available to meet demand; (6) how the CAISO can procure backstop resources to meet its grid management responsibilities if Scheduling Coordinators fall short; and (7) what are the just and reasonable settlement practices for costs related to RA dispatch and backstop procurement.

Commission Determination

1112. The Commission acknowledges the complex jurisdictional concerns raised by commenters in the MRTU proceeding and respects the traditional role of states and local entities over resource adequacy. Our goal is to appropriately recognize state and local jurisdiction over resource adequacy while at the same time fulfilling our statutory mandate under the FPA to ensure that the rates, terms and conditions of jurisdictional sales of electric energy and transmission in CAISO markets are just, reasonable and not unduly discriminatory or preferential.⁴⁹² In this case, we are presented with the confluence of state-federal jurisdiction and the effect of resource adequacy on Commission-jurisdictional prices and, importantly, on the ability of the operator of the interstate transmission grid to ensure reliable service.

⁴⁹¹ See *Cal. Indep. Sys. Operator Corp.*, 115 FERC ¶ 61,172, at P 42 (2006) (IRRP Order).

⁴⁹² 16 U.S.C. §§ 824d and 824e. Additionally, section 205 of the FPA requires that rates, charges, services and facilities subject to the Commission's jurisdiction are not unduly preferential or unreasonably different.

1113. Many of the objections to CAISO's resource adequacy provisions appear to be premised on the idea that, because resource adequacy requirements have not played a major role in this Commission's review of rate matters in the past, they should not play any role now. However, where an interconnected transmission system is operated on regional basis as part of an organized market for electricity, as in California, all users of the system are interdependent, particularly with respect to reliability, *i.e.*, one participant's reliability decisions can impact the reliability of service available to other participants and the related costs the other participants must bear. As noted above, the Commission must act to ensure that rates for jurisdictional services provided in such an interconnected system remain just and reasonable and not unduly discriminatory or preferential pursuant to sections 205 and 206 of the FPA. We find that, in situations where one party's resource adequacy decisions can cause adverse reliability and costs impacts on other participants in a regionally operated system, it is appropriate for us to consider resource adequacy in determining whether rates remain just and reasonable and not unduly discriminatory.⁴⁹³

1114. In addition, resource adequacy plays an important role in addressing whether Commission-jurisdictional wholesale prices reflect the exercise of market power or the scarcity of supply. In particular, we are approving bid caps for the markets operated pursuant to the MRTU Tariff. These bid caps are premised on the notion that bids above these levels may not reflect true scarcity pricing, but rather the exercise of market power or abuse that results in rates that are not just and reasonable. This premise is only valid, however, if there is some mechanism – other than energy price increases – to encourage the construction of new generation where and when needed. Consequently, in the absence of a workable resource adequacy program, it would be difficult for us to approve such bid caps. Without a workable program, the bid caps would simply inhibit new supply, and thereby harm customers, rather than protecting customers from the exercise of market power or abuse.

1115. We also note that the CAISO has the responsibility to ensure the reliability of the transmission system under its control. We find that, without an adequate resource adequacy program, the CAISO cannot fulfill that responsibility. The MRTU Tariff resource adequacy requirements will therefore help the CAISO to operate its grid, in a reliable manner, consistent with the requirements of AB 1890 and WECC/NERC obligations.

1116. We further find that meeting the MRTU resource adequacy requirements is a reasonable condition of participation in the CAISO markets.⁴⁹⁴ LSEs within the CAISO

⁴⁹³ IRRP Order, 115 FERC ¶ 61,172 at P 36; *see also Gainesville*, 402 U.S. 515 at 529 (the Commission has the “responsibility to the public to assure reliable efficient electric service”).

⁴⁹⁴ *See San Diego Gas & Electric Co.*, 95 FERC ¶ 61,115 at 61,355-

control area benefit from the reliable supply of energy at just and reasonable prices. As such, it is not unreasonable to require that all LSEs located on the CAISO-controlled grid accept, as a condition of participation in the CAISO markets, those minimum obligations that are necessary to maintain a reliable supply of energy at just and reasonable rates, and to ensure that one LSE cannot "lean on" the others to the detriment of their customers and grid reliability as a whole. Thus, we are requiring, as a condition of participation in the CAISO, that each LSE within the CAISO-controlled grid maintain adequate resources.⁴⁹⁵ In order for the CAISO-controlled grid to function fairly and effectively, resource adequacy requirements must be borne by all LSEs, not just a few.

1117. The foregoing notwithstanding, we recognize the states' historical role in ensuring resource adequacy. The fact that we must, to fulfill our statutory responsibilities, be assured of a workable approach to resource adequacy does not mean that we should ignore the states' traditional role in this area. Rather, we can fulfill our jurisdictional responsibilities while also respecting the states' traditional role in this area. As a general matter, it is our responsibility to ensure that a workable resource adequacy requirement exists in a market such as that operated by the CAISO. This does not mean that we must determine all the elements of such a program in the first instance. Rather, we can, in appropriate circumstances, defer to state and Local Regulatory Authorities to set those requirements. Our primary responsibility is to ensure that a workable program exists and is adhered to by all LSEs.

1118. Our decision today applies this balanced jurisdictional approach to the MRTU Tariff. While we find that resource adequacy is necessary for the reliable operation of the grid, and to ensure that wholesale rates are just, reasonable and not unduly discriminatory, we are not establishing planning reserve requirements, but instead are adopting those set by state and Local Regulatory Authorities in the first instance. We note that the default MRTU Tariff *system* RA requirements are triggered only when state and Local Regulatory Authorities have failed to act in order to ensure resource adequacy. We are therefore not setting those requirements in the first instance. Moreover, we have no reason to believe that these entities will fail to act and that the default requirements will be triggered. We share with these entities a common commitment to ensure that California markets never again face a situation where there is inadequate supply to serve

57 (2001), *order on reh'g*, 95 FERC ¶ 61,418 (2001), *order on reh'g*, 97 FERC ¶ 61,275 (2001), *order on reh'g*, 99 FERC ¶ 61,160 (2002), *petition pending sub nom. Public Utilities Commission of the State of California, et al. v. FERC*, 9th Cir. Nos. 01-71051, *et al.* (placed in abeyance Aug. 21, 2002).

⁴⁹⁵ While our jurisdiction might not reach to every LSE within the CAISO's markets, any such LSEs, in agreeing to participate directly or indirectly in the CAISO's markets, also agrees to be subject as a contractual matter to the terms and conditions of the CAISO tariff, including those related to resource adequacy. *See Bonneville Power Admin.*, 422 F.3d 908, at 925-26 (9th Cir. 2005).

load. In particular, we commend the CPUC for taking responsible action to ensure that all LSEs subject to its jurisdiction have adequate resources. Our action today does not disturb or impede the CPUC's progressive efforts in this area.

1119. We find, however, that the CAISO must play a greater role in setting *local* RA requirements because it is uniquely situated to assess capacity needs in constrained areas and load pockets. In this manner, the CAISO's role is similar to the role it plays today in assessing RMR requirements. The CAISO will perform an annual technical study to determine the minimum amount of capacity that must be available to the CAISO within each local capacity area. The CAISO will then work with Local Regulatory Authorities to set local capacity area requirements. While the CAISO has a larger role in setting *local* capacity area requirements than in setting *system* RA requirements, we find that the MRTU proposal, with certain modifications, strikes an appropriate balance between recognizing the authority of state and local entities to establish reliability assurance requirements and the CAISO's responsibility to maintain the reliable operation of the transmission grid and administer wholesale markets that produce just and reasonable rates.

1120. We are not convinced that a general technical conference is needed on RA issues at this time. Therefore, we reject CMUA's request for a technical conference on these issues.

2. Applicability

1121. Under section 40.2, the CAISO proposes that each Scheduling Coordinator scheduling for LSEs with demand in the CAISO Control Area must demonstrate that it satisfies the standards set forth in the MRTU Tariff, either as: (1) a reserve sharing LSE; (2) a modified reserve sharing LSE; or (3) a load-following MSS. The CAISO states that the tiers of respective obligations applicable to each category are appropriate to prevent one party from leaning on the procurement practices of another, given the different obligations imposed on each category. Further, the CAISO proposes to develop a program in collaboration with the State Water Project that achieves the fundamental objective of RA while recognizing the State Water Project's unique circumstances.

1122. The Bureau of Reclamation and Western argue that they should be exempt from the CAISO's RA requirements. They submit that the RA provisions of the MRTU Tariff discriminate between the State Water Project and them because, although the RA provisions exempt the State Water Project, these provisions require the Bureau of Reclamation and Western to comply, even though all three entities are similarly situated. They contend that their Central Valley Project resources are coordinated and integrated with the State Water Project and that their operations should be exempt at least to the same extent as the State Water Project.

1123. The Bureau of Reclamation and Western also suggest that the RA requirements are contrary to the terms and conditions of their ETCs. They argue that, as federal agencies, the state does not regulate them, and that the Supremacy Clause precludes requiring a federal agency to comply with RA requirements. Western adds that it should be excluded from the CAISO's RA provisions because, like MSSs that are excluded, it procures sufficient power supplies to meet its needs.

1124. SoCal Edison urges the Commission to require the CAISO to file MRTU Tariff changes that would apply the RA program to the State Water Project to ensure that market participants are not unduly harmed by the negotiated settlement between the State Water Project and the CAISO. SoCal Edison believes that the CAISO's RA proposal for the State Water Project should ensure that the State Water Project's load is treated separately from SoCal Edison's load for all RA purposes.

1125. The State Water Project disagrees with SoCal Edison, claiming Commission precedent directly contradicts SoCal Edison's assertion that RA provisions should be imposed on the State Water Project. The State Water Project notes that, in the case concerning SoCal Edison's Operating Procedure M-438, the protection SoCal Edison seeks here – an assurance that “CDWR's load is treated separately from [SoCal Edison]'s load for all RA purposes” – was not afforded to the State Water Project, although the State Water Project sought such segregation.⁴⁹⁶

1126. The State Water Project also argues that state law specifically exempts it from RA requirements. It claims that its pump loads are to pump water and not to serve retail load; thus it is not a LSE for RA purposes. It asserts that it is neither authorized under state nor municipal law to sell power to end users, nor a federal power marketing agency and does not qualify under the MRTU Tariff definition of an LSE. It states that the New England ISO tariff provides that “Loads associated with pumping of pumped hydro generators, if the resource was pumping,” are “exempt from the Unforced Capacity requirements and are assigned a peak contribution of zero for the purposes of assigning obligations and tracking load shifts.”⁴⁹⁷ Finally, the State Water Project claims that it is not regulated as a power purchaser under the FPA, and is generally exempted from FPA regulation under FPA section 201(f).

1127. Metropolitan argues that the State Water Project is in fact unique because it: (1) operates large, dispatchable pump loads that allow it to provide ancillary services; (2) has shed pump load at the CAISO's request to minimize the extent other entities have had to shed retail load when power supplies ran low; and (3) has acquired sufficient

⁴⁹⁶ State Water Project Reply Comments at 24; *see Southern Cal. Edison Co.*, 109 FERC ¶ 61,263, at P 6 (2004).

⁴⁹⁷ State Water Project Reply Comments at 22 (citing *New England ISO, Inc.*, FERC Electric No. 3, Market Rule 1, Original Sheet No. 7238 (2005)).

resources or can use its curtailable pump load to meet reliability requirements. Metropolitan continues that the MRTU Tariff does not “exempt” the State Water Project from reliability requirements. Metropolitan asserts that the Commission erred when it found that the State Water Project must comply with IRRP.⁴⁹⁸

1128. Golden State Water Company (GSW) notes that the CAISO does not address the fact that the CPUC’s RA requirements apply only within the service territories of California’s three largest IOUs. GSW notes that the CPUC has stated that these requirements may not be appropriate for the state’s smaller, multi-jurisdictional IOUs like GSW.

1129. NCPA argues that RA issues should be addressed in the existing MSS agreements rather than drafting generic MRTU language that will also cover MSS load-following entities. NCPA is also concerned that the MRTU Tariff must respect its MSS agreement’s stipulation that the CAISO does not have authority to dispatch NCPA resources except in accordance with the NCPA Emergency Action Plan. NCPA argues that LSEs should have access to their own resources and not be curtailed in favor of other entities that may not be fully resourced. Santa Clara agrees that load-following MSSs should be exempt from all resource adequacy obligations because strong financial incentives and contractual obligations to meet their loads are already in place.

1130. Several commenters argue that the CAISO’s IRRP tariff amendment filing provides a significantly better fit with existing standards, RA programs and California’s needs. AREM is concerned with the variation in language among the MRTU RA, IRRP and RCST filings.

1131. The CAISO notes that the State Water Project is the CAISO’s single largest transmission user representing five percent of load. It notes that the State Water Project is its own Scheduling Coordinator and the definition of LSE includes a Scheduling Coordinator serving as the representative for end users. The CAISO states that the definition of LSE is meant to be comprehensive, applying to all loads consuming power either directly from the CAISO-controlled grid or off distribution systems in the CAISO Control Area. The CAISO further argues that it would leave a significant hole to have five percent of load unaccounted for, and thus, the definition of LSE appropriately includes the State Water Project. The CAISO states that it is committed to work with the State Water Project to ensure that the requirements of both parties are satisfied.

1132. The CAISO argues that Western incorrectly asserts that the State Water Project is exempt from section 40. The CAISO further contends that Western is not subject to regulatory oversight, but rather non-discriminatory requirements necessary for the

⁴⁹⁸ IRRP Order, 115 FERC ¶ 61,172 at P 42.

CAISO to meet reliability requirements because Western serves load in the CAISO Control Area.

1133. The CAISO states that the issues that require it to work with the State Water Project to develop a comparable RA program based on its water management, pumping load requirements and supply bidding arrangements also exist with the Bureau of Reclamation. The CAISO therefore proposes to treat the Bureau of Reclamation in a similar manner to the State Water Project.

1134. With regard to GSW, the CAISO states that it is unaware of changes that need to be made to the proposed MRTU Tariff to accommodate the state's smaller and multi-jurisdictional investor-owned utilities.

1135. The CAISO also argues that it has attempted to preserve the beneficial operating relationship established in the MSS agreements by crafting section 40 to avoid modifying how load-following MSSs schedule to meet load and the penalties if their resources are insufficient. The CAISO asserts that Scheduling Coordinators for load-following entities are only required to: (1) submit RA plans so that the CAISO can validate that the same resources are not being relied upon by other Scheduling Coordinators; and (2) meet local capacity area resource requirements so that the MSS cannot rely solely on less expensive, remote resources and rely on other entities to procure local capacity.

1136. The CAISO disagrees that the approach taken in IRRP is appropriate for MRTU. The CAISO asserts that IRRP was a temporary program that does not serve as a proper foundation for a long-term market. The CAISO emphasizes that, unlike in IRRP, it must have consistency in the responsibilities across all LSEs in the CAISO control.

Commission Determination

1137. We find that Western, the Bureau of Reclamation, the State Water Project, MSSs and GSW must comply with RA requirements like all other entities with loads in the CAISO Control Area, as a condition for participating in CAISO market. We further find that all LSEs that serve load in the CAISO Control Area must satisfy the RA requirements under MRTU.

1138. Given that that the State Water Project is the CAISO's single largest transmission user representing five percent of load, we agree with the CAISO that exempting the State Water Project from resource adequacy requirements would significantly hamper the CAISO's ability to reliably operate the grid, and find that such a result would be unjust and unreasonable. Therefore, we find that the State Water Project is a LSE and subject to the resource adequacy requirements of the MRTU Tariff. We also find that the State Water Project is its own Local Regulatory Authority and therefore can establish its own planning reserve margin and determine how it will meet its reserve requirements,

including counting curtailable load towards resource adequacy requirements. However, we note that the State Water Project raises ambiguities regarding whether it is covered by the MRTU Tariff definition of LSE. We find that the MRTU resource adequacy provisions, applicable to LSEs and as modified in the body of this order, are essential to the reliable operation of the CAISO-controlled grid and the maintaining of just and reasonable wholesale prices pursuant to FPA section 205. As such, it is critical that the MRTU's definition section clearly and unambiguously define LSE. Therefore, we find that the CAISO should review its definition of LSE to ensure that all entities covered by the MRTU resource adequacy provisions are appropriately included and defined. We direct the CAISO to make a compliance filing within 60 days of the date of this order.

1139. We also note that the last sentence of MRTU Tariff section 40.1 creates ambiguity regarding the applicability of MRTU's resource adequacy provisions to the State Water Project. This sentence reads,

The State Water Resources Development System commonly known as the State Water Project of the California Department of Water shall be required to develop, in cooperation with the CAISO, a program that ensures the Load Serving Entity will not unduly rely on the resource procurement practices of other Load Serving Entities.

Consistent with our finding above that the State Water Project is not exempt from the resource adequacy requirements of the MRTU Tariff, we direct the CAISO to make a compliance filing deleting this sentence within 60 days of the date of this order.

1140. We agree with the CAISO that Western is not subject to regulatory oversight, but merely is subject to non-discriminatory requirements necessary for the CAISO to meet reliability requirements because Western serves load in the CAISO Control Area. We find that Western must meet the requirements of the CAISO's RA program.

1141. Further, we agree with the CAISO that the issues that require it to work with the State Water Project to develop a comparable RA program based on its water management, pumping load requirements and supply bidding arrangements are also present with the Bureau of Reclamation. We find that the CAISO should treat the Bureau of Reclamation in the same manner as it treats the State Water Project.

1142. As we noted in the IRRP Order, we find no basis for exempting GSW or other smaller load serving entities regulated by the CPUC from the requirements of the MRTU.⁴⁹⁹ Similarly, we find that the fact that GSW is regulated by the CPUC rather than by another Local Regulatory Authority is not enough of a reason to exempt GSW from MRTU. We agree with the CAISO that all LSEs, including those that do not represent

⁴⁹⁹ IRRP Order, 115 FERC ¶ 61,172 at P 48.

significant numbers of customers, must bear their fair share of the reserve obligation. We therefore reject the GSW's request to exempt smaller IOUs regulated by the CPUC from the MRTU and direct such entities to comply with the CAISO's RA tariff provisions.

1143. We find that the CAISO has preserved the beneficial operating relationship established in the MSS agreements by crafting section 40 to avoid modifying the basic requirements of how load-following MSSs schedule to meet load and the penalties if their resources are insufficient. Thus, while the MRTU Tariff imposed RA requirements on MSSs such as NCPA, these requirements will remain consistent with the provisions of the corresponding MSS agreement. Accordingly, we find MSSs must comply with the MRTU Tariff RA requirements like all other market participants.

3. Resource Adequacy Requirements for LSEs

1144. The MRTU Tariff proposes that LSEs have system RA requirements, based on a 15 percent planning reserve margin requirement. In addition to and distinct from system RA requirements, the MRTU Tariff proposes that LSEs have local capacity requirements to ensure that the CAISO has sufficient resources in the appropriate locations to operate the transmission system.⁵⁰⁰

1145. With regard to system RA requirements, the CAISO notes that LSEs subject to the CPUC's jurisdiction will be subject to the requirements established by the CPUC. Further, the CAISO notes that load-following MSSs will only be subject to local capacity area resource requirements of the MRTU Tariff.

i. Sections 40.2.1 and 40.5.1: Planning Reserve Margin

1146. The CAISO states that the CPUC and other Local Regulatory Authorities will establish procurement requirements that require all LSEs within their jurisdiction to obtain sufficient resources to meet their load with an adequate reserve margin. The MRTU Tariff sets a 15 percent monthly planning reserve margin requirement for non-CPUC LSEs that select either a reserve sharing LSE or a modified reserve sharing LSE demonstration.

1147. Western and the United States Department of Energy's Berkley Site Office (DOE-Berkeley) argue the 15 percent reserve requirement is excessive and will put upward pressure on capacity and energy prices. Western and Six Cities note that WECC is currently considering only a five percent reserve margin requirement. In its protest, CMUA urges the Commission to cautiously approach RA, given that state law has already adopted a comprehensive RA requirement. Six Cities assert that the imposition

⁵⁰⁰ The CAISO states that most of its must-offer costs have been incurred for needs below the system level.

of a reserve margin is inconsistent with the purported deference to the RA programs of Local Regulatory Authorities. Vernon submits that similar to the IRRP, all Local Regulatory Authorities should be permitted to develop their own demand forecasts and planning reserve margins. Lassen and Bay Area Municipals submit that they are merely requesting that the jurisdiction over this decision be left to the Local Regulatory Authorities. Santa Clara is not arguing that it and other non-CPUC LSEs should be subject to reduced standards, than CPUC LSEs. It is merely explaining that the jurisdiction over such a decision should be left to the Local Regulatory Authority. Western argues that: (1) the 15 percent margin is arbitrary because it is not based on system characteristics or loss of load expectations; (2) the reserve margin imposes an extreme burden on entities that have not already acquired the 15 percent reserve margin; and (3) the restrictions on imports and qualifying facilities make it difficult for LSEs to satisfy this requirement. San Francisco argues that the CAISO is “double counting” the reserve margin. It contends that the CAISO conflates and combines planning and operating reserves by requiring LSEs to provide 115 percent of their daily demand to the CAISO. It concludes that to meet the CAISO’s proposed requirement, an LSE would need to maintain a planning reserve margin of 122 to 125 percent. The Bureau of Reclamation contends that its Central Valley Project generates far more electricity than is needed by its loads. It argues that the 15 percent reserve margin requirement could potentially force it to acquire additional electricity on the open market when demand by its loads cannot be met due to having to hold 15 percent.

1148. The CAISO asserts that it proposes a 15 percent planning reserve margin because such a level is: (1) consistent with the CPUC’s established level; (2) consistent with the criteria WECC uses in its planning assessments; and (3) as noted by the Commission, it is comparable to what is used in many parts of the country.⁵⁰¹ The CAISO proposed this level as a threshold rather than the default it proposed in IRRP because there is greater concern in the MRTU context that RA requirements be consistent. The CAISO argues that a minimum capacity requirement on all LSEs promotes system reliability and that prevents an LSE from leaning on other LSEs without cost consequences. The CAISO notes that, in effect, Western proposes to set its reserve margin assuming that 100 percent of its demand will be met by hydroelectric facilities running 100 percent of the time. The CAISO asserts that Western’s planning reserve margin of five percent highlights the need to establish general minimum reserve margins in the tariff because if Western fails to have all of its demand met by hydroelectric facilities then Western will be leaning on the reserves supplied by other market participants.

1149. The CAISO agrees with Santa Clara and Lassen that the Commission should not exercise exclusive jurisdiction over RA programs, but points out that the Commission also has a responsibility to ensure reliable system operations. The CAISO notes that several municipals do not object to the 15 percent reserve margin itself, but the fact that

⁵⁰¹ CAISO Answer at 24 (citing IRRP Order, 115 FERC ¶ 61,172 at P 36).

the reserve margin is a condition of service. The CAISO notes that Lassen, Cities/M-S-R and Bay Area Municipals do not argue that they should be subject to reduced standards, just that jurisdiction over such a decision be left to the Local Regulatory Authority. Further, rather than approaching RA cautiously as suggested by CMUA, the CAISO suggests the RA be handled in a consistent and comprehensive manner.

1150. While the CAISO recognizes the CPUC's concern that a conflict could arise if both the CPUC and the CAISO were to determine demand and set semi-parallel reliability requirements, it notes that the solution is not to have a tariff devoid of RA obligations. Instead, the CAISO emphasizes communication among all parties.

1151. The CAISO contends that, under section 40.2.1, the 15 percent reserve margin is based only on demand forecasts. The CAISO states that it will make this clarification in a compliance filing. It states that the purpose of the 15 percent reserve margin is to ensure sufficient installed capacity to serve the expected load plus provide operating reserves in the real time while anticipating the inherent error associated with load forecasts and forced outage estimates.

1152. The CAISO notes that San Francisco argues that the CAISO is double counting its reserve margin by requiring LSEs to provide a percentage of their daily demand to the CAISO, as day-ahead forecasts will already include such matters as weather and outages.⁵⁰² The CAISO argues that the 15 percent reserve margin includes operating reserves. Thus, the CAISO's proposal is 115 percent of demand only, which is consistent with San Francisco's own proposal of 107 percent plus ancillary services.

Commission Determination

1153. We believe that setting a 15 percent reserve requirement for non-CPUC LSEs is inconsistent with MRTU's purported deference to the RA programs of Local Regulatory Authorities. Therefore, we reject the CAISO's proposal to set a 15 percent minimum reserve margin. We note that AB 380 directs the CPUC to establish, in consultation with the CAISO, RA requirements for LSEs under CPUC jurisdiction. AB 380 also directs other LSEs within California to develop their own RA requirements, consistent with WECC and NERC requirements, and directs each locally-owned, public electric utility to meet its planning reserve margin, peak demand, and operating reserve sufficient to provide reliable electric service to its customers. However, we believe that if a Local Regulatory Authority fails to implement a reserve margin, then the CAISO should continue to implement the 15 percent default reserve margin included in IRRP in order to ensure the reliable supply of energy at reasonable prices.⁵⁰³

⁵⁰² *Id.* at 27 (citing San Francisco Reply Comments at 12).

⁵⁰³ See IRRP Order, 115 FERC ¶ 61,172.

1154. Under FPA section 205, the Commission has responsibility for just and reasonable wholesale prices. In order for wholesale prices to remain just and reasonable, sufficient resources must be available. While WECC does not currently have a formal planning reserve margin requirement, it uses a 15 percent planning reserve margin for RA purposes when studying power supply assessments (see, e.g., WECC 2005 Power Supply Assessment). Though not an explicit planning reserve margin, WECC has also adopted Minimum Operating Reliability Criteria (MORC) requirements that range between five to seven percent.⁵⁰⁴ Any planning reserve margin adopted by a Local Regulatory Authority must equal or exceed these MORC requirements. While some commenters oppose the imposition of a planning reserve margin on LSEs, they have failed to offer an alternative solution and enforcement mechanism to demonstrate that they are resource adequate. We find that the application of a 15 percent reserve margin, as a default for LSEs whose Local Regulatory Authority has not implemented a reserve margin, is appropriate unless or until WECC sets a different standard, as required by state law.

1155. As we noted in the IRRP Order, we find that applying a 15 percent default planning reserve margin is a reasonable condition of participation in the CAISO markets.⁵⁰⁵ LSEs receive the benefit of a reliable supply of energy at just and reasonable rates and, therefore, must be willing to accept the minimum obligations that are necessary to maintain that reliable supply. And as we explained in IRRP Order, a 15 percent planning reserve margin is comparable to other parts of the country.⁵⁰⁶ We direct the CAISO, within 60 days of the date of this order, to make a compliance filing modifying its RA proposal to create a 15 percent default reserve margin rather than a 15 percent reserve requirement.

⁵⁰⁴ WECC MORC requirements vary depending on the percentage of hydro used to meet load. Load that is served by firm-imports is excluded from the operating reserve requirement because the external control area will be providing the relevant reserves. Similarly, load served by non-firm imports is added to the operating reserve requirement.

⁵⁰⁵ IRRP Order, 115 FERC ¶ 61,172 at P 37 n. 14 (citing *San Diego Gas & Electric Co.*, 95 FERC at 61,355-57, *order on reh'g*, 95 FERC ¶ 61,418, *order on reh'g*, 97 FERC ¶ 61,275 (2001), *order on reh'g*, 99 FERC ¶ 61,160 (2002), *petition pending sub nom. Public Utilities Commission of the State of California, v. FERC*, 9th Cir. Nos. 01-71051 (placed in abeyance Aug. 21, 2002)).

⁵⁰⁶ We believe, however, that Western's comparison of the five percent operating reserve margin with the CAISO's proposed 15 percent planning reserve margin is not possible without adjustments. For example, firm capacity contracts as well as remote and jointly owned base, intermediate, and hydro capacity would raise an LSE's planning reserve margin.

ii. **Section 40.3: Local Capacity Area Resource Requirements**

1156. The CAISO states that all Scheduling Coordinators serving load in the CAISO Control Area will be subject to the CAISO's local capacity area resource requirements. The CAISO will perform an annual technical study to calculate the minimum amount of generation capacity that must be available to the CAISO within each local capacity area.⁵⁰⁷ The CAISO states that the responsibility for local capacity area resources will be allocated to all LSEs that serve load in the local capacity area in accordance with the LSE's appropriate share of load.

1157. Commenters contend that the MRTU Tariff must further support the development and allocation of local capacity area resource requirements. They argue that the study's parameters, assumptions and criteria to be used in the development of the local capacity area resources requirements have not been included in the MRTU Tariff. Some suggest that the study criteria and results should be filed with and approved by the Commission.

1158. PG&E is concerned that the definition of a local capacity area is overly broad and likely to increase the costs beyond the level justified by reasonable reliability needs.⁵⁰⁸ PG&E adds that the definition has not been subjected to appropriate stakeholder review. SoCal Edison submits that both the RMR technical study process in section 41.3 and the local capacity study process in section 40.3.1 appear to address similar reliability needs.

1159. NCPA argues that the local capacity requirement calculations are overstated through the use of double contingency (N-2) reliability criteria with no load shedding. NCPA contends that this standard is more stringent and expensive than NERC criteria.

1160. Cities/M-S-R claim that load-following MSSs are obligated to meet their load under threat of severe penalties, and thus the CAISO does not need to determine the appropriate local capacity area resources. SoCal Edison argues that local capacity area requirements should be applied to load-following MSSs, because there is no other requirement by which such an MSS would be required to have any local resources. San Francisco argues that ETCs should count towards local capacity requirements just as import capability for ETC holders is set aside prior to allocating available import transmission capacity among all LSEs.

1161. The CAISO argues that the MRTU Tariff is not the place for a detailed description of the technical requirements and process applicable to the local capacity study. The

⁵⁰⁷ The CAISO states that a local capacity area is an area in which the transmission is insufficient to serve load and any flow-through of electricity, thereby requiring a minimum amount of generation capacity to be located within the area.

⁵⁰⁸ The MRTU Tariff defines local capacity area as a "transmission constrained area as defined in the study referenced in section 40.3.1 of the CAISO Tariff."

CAISO states that it will publish the study with criteria and base assumptions. The CAISO contends that the MRTU Tariff requires that it cooperate with PTOs and others to identify feasible operating solutions that can reduce the needed capacity requirement reflected in the final study results.

1162. The CAISO also states that it will defer to the Local Regulatory Authority to the extent consistent with meeting applicable reliability criteria⁵⁰⁹ and commits to clarifying this in the MRTU Tariff in a compliance filing. The CAISO argues that the CPUC and other Local Regulatory Authorities will be able to select or reject these operating solutions in determining acceptable levels of end-use customer service reliability.

1163. The CAISO disagrees with NCPA that the criteria used for its local capacity study are overly conservative. The CAISO states that the applicable reliability criteria require adequate local generation to ensure the grid can survive any single contingency (N-1), and that the CAISO make adequate resource adjustments to prepare for the next contingency after the occurrence of the first contingency (N-1-1). Further, the CAISO contends that it is under obligation to implement local reliability criteria pursuant to agreements with the relevant PTO. The CAISO adds that to the extent a PTO's pre-CAISO standards did not allow for load shedding for common corridor and/or double circuit tower line outages (considered N-2 reliability criteria), the CAISO has maintained that practice.

1164. The CAISO claims that MSSs should be responsible for meeting their proportionate share of any local capacity area resource requirements. The CAISO contends that it would be discriminatory if MSSs could solely rely on less expensive, remote resources and rely on other entities to procure the local capacity needed to satisfy applicable reliability criteria.

1165. The CAISO disagrees with San Francisco's argument that ETCs used for delivery within the CAISO should be given full RA credit as is done for ETCs used for imports. The CAISO contends that the local capacity study takes into account energy imported into the load pockets and identifies the capacity requirement within the local capacity area that is necessary to allow energy to be imported while maintaining grid reliability.

⁵⁰⁹ The MRTU Tariff defines applicable reliability criteria as, "the reliability standards established by NERC, WECC, and Local Reliability Criteria as amended from time to time, including any requirements of the [Nuclear Regulatory Commission]." Local reliability criteria are further defined as, "reliability criteria unique to the transmission systems of each of the [PTOs] established at the later of: (1) CAISO Operations Date, or (2) the date upon which a New PTO places its facilities under the control of the CAISO."

Commission Determination

1166. As an initial matter, we see merit in the CAISO's argument that a detailed description of the technical study to determine local capacity area resource requirements is not needed in the MRTU Tariff. We note that the technical evaluation to identify RMR units is not described in the CAISO tariff in detail and find that the CAISO should possess similar flexibility to evaluate local capacity requirements. We find that this evaluation must take place in the context of substantive stakeholder input. Accordingly, we direct the CAISO to clarify in a compliance filing that the detailed criteria and results from the technical study on local capacity area resources will be provided to market participants. We direct the CAISO to make this compliance filing within 60 days of the date of this order.

1167. Furthermore, we note that there is some ambiguity in the MRTU Tariff as to which reliability standards the CAISO will use in its technical study to determine local capacity area resource requirements. The MRTU Tariff simply defines the applicable reliability criteria as "reliability standards established by NERC, WECC, and Local Reliability Criteria as amended from time to time, including any requirements of the NRC." For example, ambiguity as to which standards the CAISO will use in its determination may be created by the fact that some local reliability standards as well as some of WECC's standards are more stringent than NERC's standards. Accordingly, until Commission-approved reliability standards are in place, we direct the CAISO to incorporate into the MRTU Tariff which set of reliability criteria it will use in developing the local capacity area resource requirements.⁵¹⁰ We further require the CAISO to distinguish in the MRTU Tariff between the reliability needs addressed by the RMR technical study process and the local capacity study process, so that it is clear which criteria are being addressed in each process. We direct the CAISO to make a compliance filing within 60 days of the date of this order.

1168. We agree with the CAISO that it would be unfair to allow MSSs to rely on remote resources that are potentially less expensive while other LSEs must procure local capacity to meet reliability requirements. Accordingly, we find that MSSs must comply with local capacity requirements. For similar reasons, we disagree with San Francisco that it should be given full local capacity credit for its ETCs. We also note that the annual technical study will already take into account any transmission capability in a local capacity area before allocating the area's local capacity requirements.

1169. We disagree that the CAISO is using overly conservative reliability criteria. The CAISO indicates that it does not use standards more stringent than an N-1-1 reliability

⁵¹⁰ Once Commission-approved Electric Reliability Organization standards are in place, we will require the CAISO to amend the MRTU Tariff. *See* Order No. 672, [71 Fed. Reg. 8662](#), FERC Stats. & Regs. ¶ 31,204.

criterion, unless required to do so through the PTO agreements. We find that the N-1-1 local reliability criteria is good utility practice and note that the CAISO maintains the N-2 local reliability criteria only in certain areas that used this standard prior to the formation of the CAISO. We direct, however, the CAISO to clarify this issue when it makes the compliance filing directed above incorporating in the MRTU Tariff the set of criteria it will use in developing local capacity area resource requirements.

1170. Finally, we note what appears to be an incomplete sentence at the end of section 40.3.1, which states, in relevant part: “to be used in the technical study that Applicable Reliability Criteria.” We direct the CAISO to correct this sentence in a compliance filing within 60 days of the date of this order.

4. Backstop Procurement and Allocation

1171. The MRTU Tariff provides that the CAISO may procure capacity if LSEs do not meet their RA requirements, or if the CAISO forecasts that reliability requirements for the control area cannot be maintained.⁵¹¹

1172. MRTU Tariff section 40.3.4 authorizes the CAISO to procure local capacity area resources, “pursuant to applicable provisions of the CAISO tariff, including any mechanism incorporated into the CAISO tariff specifically to permit procurement of Local Capacity Area Resources by the CAISO.” The CAISO states that MRTU Tariff section 40.3.4 does not obligate any LSE to procure local capacity area resources, but instead assigns the responsibility for purposes of allocating the cost of its own backstop procurement. It explains that the cost allocation mechanism for CPUC LSEs will incorporate the outcome of the CPUC’s pending proceeding related to local capacity procurement.⁵¹²

1173. In addition, the CAISO proposes to retain backstop authority under MRTU Tariff section 42. Section 42 provides that if the CAISO’s forecast shows capacity is inadequate to meet the applicable reliability criteria during peak demand periods, the CAISO is authorized to engage in contracts for ancillary services, short-term generation supply contracts and load curtailment contracts. The CAISO adds that if necessary, this section allows it to negotiate contracts through processes other than competitive

⁵¹¹ The CAISO indicates that it will continue to enter into annual RMR contracts to ensure generating units required to meet local reliability criteria remain economically viable and are unable to exercise local market power.

⁵¹² *Order Instituting Rulemaking to Consider Refinements to and Further Development of the Commission’s Resource Adequacy Requirements Program; Opinion on Local Resource Adequacy Requirements*, No. 05-12-013 (Cal. P.U.C. June 29, 2006).

solicitations. The CAISO indicates that while it does not expect to have to use this authority, it needs to have this ability in an emergency.⁵¹³

1174. The CAISO states that costs incurred pursuant to the backstop contracts to meet local capacity reliability criteria are allocated in two tiers. The first tier is allocated to the Scheduling Coordinator representing a deficient LSE proportional to its deficiency of local capacity responsibility up to the aggregate local capacity. Any remainder is allocated to each Scheduling Coordinator that serves load in the TAC area in accordance with the LSE's proportionate coincident share, on a gross load basis, of the previous annual peak demand in the TAC area.

1175. The CAISO states that costs incurred pursuant to the backstop contracts to meet other than local capacity reliability criteria will also be allocated in two tiers. The first tier is allocated to any Scheduling Coordinator representing a deficient LSE proportional to its non-local resource adequacy deficiency up to the aggregate non-local deficiency. Any remainder is allocated pro rata to each Scheduling Coordinator based upon the same proportion as the Scheduling Coordinator's metered hourly demand bears to the total metered hourly demand served in that hour.

1176. The CPUC and PG&E urge the Commission to reject sections 40.3 and 42, arguing that these sections permit backstop procurement authority that would end-run the CPUC's RA program and result in "reliability at any price." The CPUC also argues that section 42 does not consider the cost of backstop procurement and thus generators might have incentive to avoid entering into RA contracts with utilities and wait for a potentially more lucrative contract with the CAISO. PG&E and NCPA disagree with the CAISO's proposal to procure beyond the operating time frame and beyond emergency or contingency situations.

1177. The CPUC and CMUA request that the Commission order the CAISO to initiate a stakeholder process to develop a limited backstop procurement mechanism that will not conflict with state RA programs. The CPUC proposes that this mechanism only permit short-term procurement of less than one year so as not to undermine longer term contract markets, be transparent to stakeholders and require the CAISO to explain the reasons for such procurement.

1178. PG&E argues that the CAISO should submit a compliance filing limiting the scope of its backstop authority. PG&E claims that the backstop procurement for local area capacity requirements "would result in unjustified cost-shifting, by elevating procurement choice by some LSEs over the likelihood of backstop procurement by the

⁵¹³ The CAISO notes that there have been a number of circumstances in recent years where the CAISO has been required to rely upon this authority in order to ensure compliance with the applicable reliability criteria.

CAISO, whose costs are borne by all LSEs.”⁵¹⁴ Calpine argues that a back-stop mechanism must be in place in the event that local resource adequacy requirements are insufficient by the MRTU implementation date, because the CPUC’s resource adequacy framework does not by itself assure opportunities for all generation to obtain capacity contracts to ensure fixed cost recovery.

1179. PG&E argues that section 42.1.3 should be revised to provide that the CAISO will follow the California Energy Commission forecasts and include more specificity regarding the purpose of this forecast, its intended uses and level of detail that will be included. PG&E agrees with the CAISO’s interpretation of constraints on the CAISO’s ability, under section 42.1.3, to procure resources in times of shortage. PG&E agrees that Applicable Reliability Criteria would be an appropriate constraint on that procurement ability. However, PG&E states that the proposed MRTU language does not contain that constraint. PG&E suggests that the CAISO modify the proposed MRTU Tariff to expressly state the limitations that its interpretation of the language implies.

1180. Commenters argue that it is not clear which provision, section 41 (procurement of RMR) or section 42, would control cost allocation of local capacity backstop procurement.⁵¹⁵ SoCal Edison asserts that the CAISO should not procure local capacity under an RMR contract because RMR contract costs are billed to PTOs, who are not the deficient LSE. SoCal Edison argues that RMR procurement and local capacity area resource must nevertheless be integrated. In contrast, NCPA and Bay Area Municipals submit that backstop procurement of local capacity area resources by the CAISO should be allocated in the same manner as RMR costs. NCPA argues that PTOs are responsible for the transmission development decisions that created load pockets and are the entities in a position to fix the problem. Bay Area Municipals contend that RMR has met local reliability needs for the last eight years and there does not appear to be any need to change the cost allocation.

1181. Several commenters are concerned that section 42.1.3 provides the CAISO with unlimited authority to procure to “such more stringent criteria as the CAISO may impose.” Bay Area Municipals and Lassen argue that the tariff reference to “any other

⁵¹⁴ PG&E Comments at 36.

⁵¹⁵ Section 40.3.4 states in relevant part:

...the CAISO will procure local capacity area resources in an amount and location sufficient to permit or ensure compliance with Applicable Reliability Criteria and allocate the costs of such procurement *in accordance with Sections 41 and 42* of this CAISO Tariff and/or any other mechanism that may be incorporated into this CAISO Tariff... [emphasis added].

mechanism” in section 42 must be rejected. Cities/M-S-R argue that section 40.3.4 should explicitly require that any modifications to the mechanisms that permit procurement of local capacity area resources must be done through a FPA section 205 filing. Six Cities argues that section 40.3.4 should be clarified to state that if sufficient local capacity area resources have been procured for the overall area because, for example, another LSE has procured more than its share of local capacity area resources, there is no reason for the CAISO to engage in additional procurement. PG&E submits that sections 40.3.4, 42.1.8 and 42.1.9 fail to make clear that entities that pay for backstop procurement will be provided with both local and system resource adequacy credit in proportion to their payment. Strategic argues that while section 40.3 explicitly states that LSEs are not required to procure local capacity area resources, the section should clearly indicate that it does impose an obligation because the CAISO’s backstop procurement authority imposes costs if LSEs do not procure.

1182. Trinity argues that the MRTU proposal would force it to purchase reserves through the CAISO markets despite the fact that it has access to generation that is much greater than its demand. Santa Clara argues that because load-following MSSs are already subject to penalties for not meeting their demand, they should not be allocated any additional costs when other LSEs are deficient and the CAISO must use its backstop procurement authority. It argues that, under its MSS agreement, it already meets its proportionate share of resource requirements, and already provides the CAISO with more than sufficient information to meet the CAISO’s goals. Therefore, Santa Clara argues that subjecting a load-following MSS to duplicative resource adequacy provisions would be unjust and unreasonable. Redding and Modesto protest the proposed allocation of resource adequacy costs under the MRTU Tariff to exports and wheel-throughs serving load inside California but outside of the CAISO Control Area. They assert that allocating CAISO reliability costs to entities outside the CAISO Control Area is not commensurate with cost causation principles.

1183. The State Water Project claims that section 42.1.8’s allocation of backstop procurement based on previous annual peak demand may dampen efforts to alter loads to respond to a price signal that, for the first year, remains largely nonexistent. The State Water Project suggests that a one-year transitional approach be used that would utilize participating loads’ projections of contribution to coincident peak and qualifying capacity, with a true-up to correct any projection inaccuracies.⁵¹⁶

1184. The CAISO responds that sections 40.3.4 and 42 do not grant it unlimited backstop procurement, because it must also comply with applicable reliability criteria, acting in accordance with good utility practice. The CAISO emphasizes that MRTU

⁵¹⁶ The State Water Project also suggests that the same methodology be used to determine participating load in section 40.8.1.3.

Tariff section 42 is already in the current CAISO tariff.⁵¹⁷ It adds that section 7.2.2.2 of the current CAISO tariff already provides that the CAISO Board may establish planning guidelines more stringent than those established by NERC and WECC as needed for secure and reliable operation of the CAISO-controlled grid. The CAISO notes that the only additional backstop sought in MRTU is the ability to procure sufficient local capacity, but that it already has similar authority to designate RMR units to meet local reliability needs.

1185. In response to claims that the CAISO could potentially undertake unnecessary backstop procurement of local capacity area resources, the CAISO argues that it intends to employ safeguards to minimize any such occurrence. First, the CAISO states that it will only procure local capacity to ensure compliance with applicable reliability criteria. Second, the CAISO states it will allow deficient Scheduling Coordinators an opportunity to procure resources. Third, the CAISO will analyze any revised showings to ensure that sufficient resources are secured to address all contingencies in a local capacity area, including consideration of load interruption offered to meet the reliability service level adopted by the CPUC or other Local Regulatory Authority. To the extent procurement remains necessary; the CAISO states it will provide a report to regulators and market participants setting forth the quantity and basis for the need for additional generation capacity. The CAISO adds that it intends to clarify this process in the Business Practice Manuals rather than in the MRTU Tariff.

1186. The CAISO submits that backstop resource adequacy procurement will not be allocated in accordance with section 41, which relates only to RMR procurement and allocation. The CAISO argues that while there is a relationship between RMR procurement for local reliability purposes and locational capacity requirements, there are also differences. The CAISO explains that it procures RMR based on local area reliability services needs, and that these needs are narrower than the local area needs under consideration for resource adequacy. The CAISO claims that RMR costs are assigned to PTOs in part as an incentive to expand the transmission grid. In contrast, the CAISO states that locational capacity area costs are the responsibility of the Scheduling Coordinator who fails to back its loads in specific areas, and that these costs should not be shifted to the potentially broader customer base of PTOs.

1187. The CAISO agrees with SoCal Edison that RMR procurement and local capacity area resource procurement must be integrated to prevent double recovery, but notes that the timing of local capacity area resource procurement depends on procedures to be adopted by the CPUC for its local capacity requirement.

⁵¹⁷ The CAISO notes that this authority is provided in section 40.3.1 of the currently-effective CAISO tariff.

1188. The CAISO disagrees with PG&E that backstop procurement for local capacity area requirements would be borne by all LSEs. The CAISO argues that it is proposing to directly assign costs to LSEs that failed to demonstrate that they provided their share of local capacity area obligation. The CAISO agrees, however, with PG&E that any resource providing local capacity will necessarily have to provide system capacity as well. Accordingly, the CAISO proposes to clarify in a compliance filing that the credit for capacity procured through the CAISO backstop mechanism should be allocated for LSEs' demonstration of both local and system capacity.

1189. The CAISO disagrees with the following protests: Trinity's argument that the backstop allocation would force Trinity to buy reserves; Santa Clara's argument that MSSs should not be allocated costs; and Modesto's argument that exports and wheel-throughs should not be allocated costs. The CAISO claims that the cost allocation is consistent with the two-tiered procurement process that has been previously approved by the Commission. It adds that to the extent there are additional purchases made by the CAISO above the requirements on individual Scheduling Coordinators, these costs are spread across all users of the grid, including MSSs and wheel-throughs. The CAISO notes that the Commission has found that because these purchases sustain the grid and benefit all customers, the costs should be borne by all customers.⁵¹⁸

1190. Bay Area Municipals responds that, while the CAISO attempted to distinguish RMR local area reliability services needs from local area capacity requirements under its RA proposal, the distinction is without difference, other than the level of service reliability. It notes that the need to correct a transmission deficiency, which resulted in load pockets, is the purpose in both cases, and incentives for the PTOs to correct that transmission deficiency are needed in both RMR and local capacity area requirements under the RA proposal. Therefore, according to Bay Area Municipals, local capacity area costs are properly allocated in the same manner as RMR costs, to the PTOs who are responsible for grid expansion and current grid deficiencies. Bay Area Municipals further argues that grid reliability cannot fairly, effectively, or efficiently be made the responsibility of every individual LSE.

Commission Determination

1191. We conditionally accept, subject to the modifications discussed below, sections 40.3.4 and 42 because these sections are necessary to ensure that the CAISO is able to maintain reliability. As the CAISO notes, section 42 is mostly already provided for in the

⁵¹⁸ CAISO Reply Comments at 220 (citing IRRP Order, 115 FERC ¶ 61,172 at P 130).

existing tariff.⁵¹⁹ We find that the only substantial change to section 42 is in regards to the allocation of backstop procurement costs. We conclude that the new allocation methodology properly assigns costs to those LSEs that fail to meet their resource adequacy obligations and then assigns any remaining costs to other users of the CAISO-controlled grid, as these users benefit from the additional reliability.

1192. With regard to section 40.3.4, we find that the CAISO's proposed safeguards mitigate concerns that the CAISO might undertake unnecessary backstop procurement of local capacity area resources. Specifically, these safeguards address the need for transparency and justification of backstop procurement of local capacity area resources. While the CAISO states its intention to clarify its proposed process of safeguards in the Business Practice Manuals, the CAISO has not explained why the safeguards do not belong in the MRTU Tariff. Accordingly, we direct the CAISO to include these safeguards in the MRTU Tariff in a compliance filing within 60 days of the date of this order.

1193. We reject arguments by NCPA and Bay Area Municipals that backstop procurement of local capacity area resources by the CAISO should be allocated in the same manner as RMR costs. We find that such a proposal does not provide adequate incentives for LSEs to meet their share of the local capacity area resources requirements.

1194. Like several other commenters, however, we find that tariff language within sections 40.3.4 and 42.1.8 is unclear as to the allocation of local capacity area resource procurement. We direct the CAISO to clarify on compliance filing the following: (1) why sections 40.3.4 and 42.18 both address allocation of local capacity area resource procurement; and (2) why section 40.3.4(ii) permits allocation of local capacity area resource procurement in accordance with section 41 on procurement of RMR, despite the CAISO's statement to the contrary.⁵²⁰ We direct the CAISO to make this clarification in a compliance filing within 60 days of the date of this order.

1195. We disagree with concerns expressed by Bay Area Municipals, Lassen and Modesto regarding section 40.3.4 that refers to "any other mechanisms...that specifically...address the cost allocation of Local Capacity Area Resource procurement." The MRTU Tariff already characterizes these "mechanisms" as incorporated in the tariff; consequently any mechanism besides those listed in sections 40.3 and 42 would require a FPA section 205 filing and Bay Area Municipals and others may file their concerns at that time.

⁵¹⁹ The CAISO also points out that the language in section 40 of the current CAISO tariff also includes a reference to "more stringent criteria as the CAISO may impose."

⁵²⁰ See CAISO Reply Comments at 220.

1196. We accept the CAISO's commitment to clarify in a compliance filing that sections 40.3.4, 42.1.8 and 42.1.9 credit both local and system resource adequacy requirements for entities that pay for backstop procurement, pursuant to PG&E's request. We direct the CAISO to make this compliance filing within 60 days of the date of this order.

1197. We disagree with Trinity that the MRTU RA proposal would require it to purchase reserves through the CAISO markets; Trinity is free to use its surplus generation towards its RA requirements. The Commission also disagrees with Santa Clara and Modesto's argument that backstop procurement costs should not be allocated to load-following MSSs, exports and wheel-throughs. Load-following MSSs will only be allocated backstop procurement costs related to procurement by the CAISO in excess of a LSE's deficiency, which should be minimal.⁵²¹ Furthermore, all customers, including MSSs and those who use the grid for exports and wheel-throughs, benefit from the reliable operation of the grid and it is therefore reasonable and appropriate that every customer receive an allocation of backstop procurement costs incurred to maintain that reliability.

1198. We will not at this time require the CAISO to modify section 40.3.4, as requested by Six Cities, such that the CAISO should not engage in additional procurement if another LSE has procured sufficient local capacity area resources for the overall area. However, we direct the CAISO to address the merits of Six Cities' proposal. We also direct the CAISO to address the merits of the State Water Project's proposed modification to section 42.1.8 which the State Water Project believes will allow load to respond to price. We find that the CAISO must make a compliance filing addressing these concerns within 60 days of the date of this order.

1199. In addition, we are not persuaded by Strategic's argument that the CAISO must revise section 40.3 to indicate that the section does impose an obligation on LSEs. We see no corresponding benefit to this task.

5. Qualifying Capacity for RA Resources

1200. The CAISO identifies qualifying capacity as the maximum capacity from a RA resource that can be used to satisfy a LSE's RA requirement. The CAISO states that Local Regulatory Authorities may establish criteria for determining qualifying capacity; otherwise, the CAISO proposes that the default criteria in section 40.8 be used.

1201. The CAISO submits that because resources cannot always be relied upon to deliver their maximum capacity, the CAISO proposes to make determinations of net

⁵²¹ This might occur where the CAISO has no choice but to procure a minimum amount of capacity that is more than a LSE's RA deficiency. The cost of the excess capacity above the LSE's deficiency would be allocated based on metered demand or gross load.

qualifying capacity. With regard to imports used as RA resources, the CAISO proposes to allocate total import capacity to mitigate the potential for over-reliance or an infeasible reliance on the capacity over the interties.

i. Section 40.4: Determination of Net Qualifying Capacity

1202. The CAISO states that it will make determinations of net qualifying capacity based on reductions in a RA resource's maximum, or qualifying, capacity due to: (1) testing and verification;⁵²² (2) application of performance criteria; and (3) deliverability restrictions.⁵²³

1203. The CAISO states that in determining net qualifying capacity, it does not currently propose to impose any reductions due to performance criteria. However, the CAISO commits to preparing a report within one year of the effective date of the resource adequacy section of the MRTU Tariff that outlines a proposal with respect to performance criteria that will be implemented upon acceptance by the CPUC and other Local Regulatory Authorities.

1204. The CAISO indicates that it will perform a deliverability analysis on an annual basis, or more frequently if necessary. It also proposes to utilize its Large Generator Interconnection Procedures to ensure that future generator interconnections do not degrade the deliverability of existing resources.

1205. The CAISO states that it will produce an annual report, which it will post on its website, setting forth the net qualifying capacity of all participating generator RA resources. The CAISO states that any disputes to its determination are subject to the CAISO's alternative dispute resolution procedures.

1206. Many commenters are concerned that the CAISO designates itself as the arbiter of what qualifies as net qualifying capacity. SoCal Edison asserts that the CAISO should not be permitted to reduce the net qualifying capacity of a generator due to testing or performance criteria that are not identified in the tariff. Western seeks confirmation that certain MRTU Tariff provisions will not impair Western's determination of qualifying capacity for its hydro resources and imports from certain system resources.

⁵²² The CAISO notes that it proposes to develop and apply similar criteria to RA resources as it has been doing with respect to units providing ancillary services.

⁵²³ The CAISO explains that deliverability measures the degree to which a resource can actually move its output over the transmission system and that there are two categories: (1) the deliverability of generators to provide energy to the transmission system at peak load while not being limited by the transmission system or dispatch of other resources in the vicinity; and (2) the deliverability of generation capacity from outside the CAISO-controlled grid through import paths.

1207. Commenters voice concern that section 40.4.6.1 allows the CAISO to update the deliverability analysis on an annual basis, “or more frequently in accordance with good utility practice.” SoCal Edison argues that the reference to “or more frequently” should be removed. Six Cities argues against subjecting deliverability determinations to alteration or revocation.

1208. Cities/M-S-R protest that the criteria for deliverability are obscure. They argue that the standards ought to be: (1) transparent so that LSEs will know in advance which resources will qualify; (2) open to comment so that LSEs can meaningfully have their input considered; and (3) subject to Commission approval. PG&E states that section 40.4.6.1 appears to make units “deliverable” regardless of other factors, which is in conflict with MRTU Tariff section 25 on the grid planning process that takes deliverability of resources as one of many factors.

1209. Commenters also urge the CAISO to finalize the development of performance criteria for RA requirements. WPTF/IEP maintain that LSEs want contract terms that provide for indemnification of potential penalties associated with interim generator performance as well as replacement provisions for capacity that may ultimately be reduced when performance criteria are introduced in the future. They also state that suppliers are confronted with unhedgeable risk because: (1) there is no liquid capacity market by which to replace de-rated capacity; and (2) it is impossible to calculate the risk of a possible capacity de-rate without market rules specifying how and when a unit's performance data will trigger a change in its capacity rating. WPTF/IEP contend that the unforced capacity construct found in the eastern organized markets provides the most appropriate means to assure that RA suppliers are available to meet their RA requirement responsibilities, thus reducing the need for a penalty structure.

1210. The CAISO claims that while qualifying capacity determinations should be left to the individual Local Regulatory Authorities, it is in the best position to make nondiscriminatory judgments as to net qualifying capacity determinations based on assessments of performance, testing and deliverability assessment. The CAISO recognizes that net qualifying capacity determinations must be transparent and not obstruct efficient commercial RA transactions. The CAISO adds that the analysis should be conducted annually in a timeframe consistent with procurement obligations and only impact net qualifying capacity during the subsequent compliance year. The CAISO concludes, however, that the specifics of the calendar should be left to the Business Practice Manuals.

1211. The CAISO argues against filing its deliverability analysis. It asserts that it does not file studies associated with its grid-planning responsibilities and its local reliability process resulting in designation of RMR units. Instead, the CAISO asserts that these studies are posted on its website, subject to stakeholder review and comment. The CAISO also agrees that the deliverability analysis should be conducted on an annual

basis and in a timeframe that is consistent with LSE procurement obligations, as it plans to reflect in the applicable Business Practice Manual.

1212. The CAISO states that it understands the importance of testing, performance and availability criteria for RA and is examining whether it can accelerate development of the criteria.

Commission Determination

1213. As in the IRRP Order,⁵²⁴ we find that the CAISO is best positioned to make uniform and non-discriminatory determinations of net qualifying capacity through its assessment of deliverability, performance and testing. The CAISO's posting of net qualifying capacity for all participating generators, pursuant to section 40.4.2, will help facilitate resource adequacy commercial transactions and allow Local Regulatory Authorities to better monitor their resource adequacy programs. We therefore accept the CAISO's proposal on net qualifying capacity, subject to the modifications discussed below.

1214. While the CAISO agrees with commenters that the deliverability analysis should be conducted on an annual basis and only impact net qualifying capacity during the subsequent compliance year, this is not reflected in the provisions of section 40.4.6.1. Accordingly, we direct the CAISO to make a compliance filing within 60 days of the date of this order removing language from section 40.4.6.1 that allows the CAISO to update its deliverability study "more frequently [than annually] in accordance with Good Utility Practice." We also direct the CAISO to explicitly provide in this section that the results of the deliverability study will only impact net qualifying capacity during the subsequent compliance year.

1215. We find that the interconnection process is already governed by MRTU Tariff section 25. Consistent with this finding and the IRRP Order,⁵²⁵ we direct the CAISO to make a compliance filing within 60 days of the date of this order, modifying section 40.4.6.1 to eliminate the apparent duty to prevent degradation of an existing unit's deliverability.

1216. We reject Cities/M-S-R's request to have the deliverability analysis made subject to Commission approval. Section 40.4.6.1 provides that documentation explaining that the CAISO will post its deliverability analysis on its website, while section 40.4.2 provides that any disputes are subject to the CAISO's alternative dispute resolution procedures. We find that this, together with our requirement that the deliverability

⁵²⁴ IRRP Order, 115 FERC ¶ 61,172 at P 83.

⁵²⁵ *Id.* P 84.

analysis will only impact the subsequent compliance year, should mitigate any concerns about transparency.

1217. We also reject SoCal Edison's request to include all testing and performance criteria in the MRTU Tariff that will affect a generator's net qualifying capacity determination. We find that the CAISO's stakeholder process and alternative dispute resolution process should adequately resolve any issues.

1218. Finally, we join with other commenters in urging the CAISO to develop performance criteria for RA requirements as soon as this task can be accomplished. Given that planning reserves margins depend on generation performance, Local Regulatory Authorities will have a better ability to determine adequate reserve margins once the performance criteria are in place.

ii. Section 40.4.6.2: Import Allocation Methodology

1219. Section 40.4.6.2 provides that, for purposes of resource adequacy, Scheduling Coordinators for CPUC LSEs will be allocated the total import value by branch group, minus non-CPUC LSEs' import capacity associated with ETCs; encumbrances and TO rights; and non-CPUC LSE resource commitments outside the CAISO Control Area as of October 27, 2005. Any LSE's resource commitments outside the CAISO Control Area that were entered into after October 27, 2005, will be given identical priority.⁵²⁶

1220. Commenters argue that the MRTU Tariff does not allocate import capacity fairly for purposes of meeting RA requirements. Several protesters submit that the CAISO gives non-CPUC LSEs "grandfathering" priority for existing resource contracts but does not provide such priority to CPUC LSEs, leaving only "leftovers" after desirable branch groups are already taken. Other commenters argue that non-CPUC LSEs will be restricted to their historic transmission usage, and that CPUC LSEs should not have the benefit of all import capacity in excess. NCPA argues that the tariff's allocation methodology process does not guarantee any actual transmission service being allocated. It asserts that to the extent there is any disconnect between the planning allocation and the actual allocation produced by the operation of the market, there may be additional problems.

1221. Six Cities and Vernon contend that non-CPUC LSEs that have become PTOs have no ETC rights, because all of their transmission rights converted to FTRs under the CAISO tariff when they became PTOs. They argue that the benefit of these converted rights will now be impaired, and that the new PTOs will not be able to procure additional capacity resources outside the CAISO Control Area, while CPUC LSEs would not suffer

⁵²⁶ The CAISO notes that the allocation for determining deliverability of import RA capacity does not allocate any actual transmission service.

this limitation. Cities/M-S-R claim that the CAISO should recognize LSE's ownership rights of transmission resources that connect to the CAISO Control Area, regardless as to whether or not the transmission capacity is fully utilized in its resource adequacy showing.

1222. In general, commenters recommend that the CAISO permit both CPUC and non-CPUC LSEs to receive resource adequacy import allocations for their existing agreements. Some suggest that remaining capacity over the interties be allocated based on load ratio share or embedded costs paid. Six Cities maintain that allocating import capacity for RA purposes should honor ETC and TOR rights, preserve import capability for existing capacity resource commitments for all LSEs, preserve to the extent possible the value of existing FTR rights and allocate remaining capacity on a non-discriminatory basis. PG&E recommends that the CAISO adopt the CPUC's intertie allocation process whereby each LSE is assigned import capacity allocation based on load share, after which LSEs are assigned initial import capacity allocation on specific paths, with priority provided first to ETCs and then to expressed preferences. SoCal Edison recommends that the Commission direct the CAISO to conduct a stakeholder process to develop a longer-term methodology for allocating RA import capacity. Strategic and AREM request that the CAISO complete the annual import allocation by July for the 2008 resource adequacy compliance year.

1223. Commenters contend that MRTU Tariff section 40.4.6.2 is unclear, noting that all import capacity remaining after capacity is allocated to non-CPUC LSEs existing as of October 27, 2005 would be allocated to the CPUC LSEs. They maintain that the tariff also indicates that resource commitments outside the CAISO Control Area entered into after October 27, 2005 will be given identical allocation priority.

1224. The CAISO agrees that the allocation of import capacity after the CAISO performs its annual deliverability study should be revised such that all import capacity is allocated at the same time and on the same basis, while respecting existing capacity purchases agreement. It proposes that the Commission hold a technical conference in order to develop a detailed implementation process with stakeholders.

1225. However, the CAISO argues that it is not appropriate to withhold additional capacity for the new PTOs. It claims that while the PTOs will continue to be protected by the "perfect hedge" for their actual use of the grid, all resource adequacy planning allocations should be done on a non-discriminatory basis. Finally, the CAISO believes that the specifics of the calendar for import allocations should be left to the Business Practice Manuals.

Commission Determination

1226. We grant the CAISO's request to hold a technical conference to develop an equitable methodology for allocating resource adequacy import capacity. Given the apparent widespread opposition to the CAISO's proposed methodology, we believe that a technical conference could help facilitate a fair and non-discriminatory solution. Accordingly, we direct staff to convene a technical conference to discuss an equitable methodology for allocating resource adequacy import capacity.

1227. In declining to assess the various proposals submitted by commenters, we nonetheless reiterate our finding in the IRRP Order⁵²⁷ that the allocation of import capacity for resource adequacy purposes does not degrade the benefits of existing FTRs that are held by the new PTOs. Allocating import capacity based on existing FTRs without regard to resource commitments serves to reduce the amount of import capability that can be used by those who have made resource commitments. We also agree with the CAISO that the value of existing FTRs remains protected for hedging transmission congestion costs.

iii. Section 40.8: Default Qualifying Capacity Criteria

1228. MRTU Tariff section 40.8 provides for default qualifying capacity criteria if the CPUC or Local Regulatory Authority has not established and provided to the CAISO criteria to: (1) determine the types of resources that may be eligible to provide qualifying capacity; and (2) calculate their qualifying capacity.

1229. SoCal Edison objects to a requirement in section 40.8.1.6 that wind and solar RA resources must participate in the Participating Intermittent Resource Program to avoid being subject to the availability provisions in section 40.6. It argues that the decision whether RA resources should be required to participate in the Participating Intermittent Resource Program should be made by the Local Regulatory Authority and that the CPUC has already established qualifying capacity criteria. PG&E argues that section 40.8.1.6 should adopt the rules identified in the CPUC RA program for the wind and solar resources in cases in which there is less than three years of operating history. The CPUC contends that the CAISO is making improper changes to the Participating Intermittent Resource Program for counting purposes.

1230. Powerex and Cities/M-S-R argue that the CAISO offers no justification in sections 40.8.1.12.1 and 40.8.1.12.2 for different RA standards for external transmission requirements and curtailment between dynamic and non-dynamic system resources. Cities/M-S-R contend that a system resource scheduled on an ETC and/or TOR should

⁵²⁷ IRRP Order, 115 FERC ¶ 61,172 at P 97.

qualify as a RA resource. Western and DOE-Berkeley argue that the MRTU Tariff unjustly eliminates liquidated damages contracts.

1231. The CAISO disagrees with PG&E's request that the MRTU Tariff adopt the CPUC's rules on how qualifying capacity is determined for wind and solar resources that have less than three years of operating history. The CAISO contends that the criteria proposed are the result of the stakeholder process and are default criteria that would only apply if the CPUC or other Local Regulatory Authority failed to act.

1232. The CAISO also disagrees with the CPUC, arguing that it has not proposed significant changes to the Participating Intermittent Resource Program, and has only made changes to conform the existing program to the new market. The CAISO adds that intermittent resources do not have to participate in the Participating Intermittent Resource Program in order to provide qualifying capacity, as long as the resource is acceptable to the Local Regulatory Authority.

1233. The CAISO agrees with Powerex that the different transmission service requirements in intervening control areas for dynamic versus non-dynamic system resources is not justified and commits to making Powerex's suggested tariff edits in a compliance filing.

Commission Determination

1234. We find that SoCal Edison's objection to the requirement that wind and solar RA resources must participate in the Participating Intermittent Resource Program to avoid section 40.6 availability provisions is without merit. First, Scheduling Coordinators for wind and solar RA resources may apply for use-limited status in order to minimize their offer obligations. Second, to the extent that the CPUC or any other Local Regulatory Authority has already established qualifying capacity criteria, the default criteria in section 40.8 do not apply.

1235. We also reject concerns voiced by PG&E and the CPUC on the qualifying criteria for wind resources, solar resources and resources scheduled under the Participating Intermittent Resource Program. The default criteria in section 40.8 are only intended to be used when the CPUC or other Local Regulatory Authority has not established any criteria.

1236. We accept the CAISO's commitment to modify sections 40.8.1.12.1 and 40.8.1.12.2 such that dynamic and non-dynamic system resources have the same RA standards for external transmission requirements and curtailment. We direct the CAISO to make this modification in a compliance filing within 60 days of the date of this order.

1237. We reject Cities/M-S-R's argument that a system resource scheduled on an ETC and/or TOR should qualify as a RA resource. All system resources are subject to the import allocation methodology under section 40.4.6.2.

1238. Finally, we note that, if Western and DOE-Berkeley are dissatisfied with the default qualifying capacity criteria for liquidated damages contracts, we suggest that as Local Regulatory Authorities, they work with the CAISO to develop their own criteria.

6. Availability Requirements

1239. The CAISO states that the MRTU Tariff specifies the manner in which Scheduling Coordinators must make their RA resources available to the CAISO for dispatch. The CAISO submits that the availability obligations differ slightly according to whether the Scheduling Coordinator representing a LSE elects to be a reserve sharing LSE or a modified reserve sharing LSE.⁵²⁸ The CAISO states that, while the reserve sharing option reflects the general, capacity-based structure of the CPUC's RA program,⁵²⁹ the modified reserve sharing option attempts to accommodate the needs of some market participants who are not able or willing to make their resources available after the day-ahead process.

1240. The CAISO states that these two options impose different but comparable obligations and potential sanctions. Three significant differences are as follows. First, the modified reserve sharing LSE must schedule to meet its daily demand plus reserve margin and faces surcharges if it does not. The reserve sharing LSE must schedule or offer all of its physically available resources identified to meet monthly peak demand plus reserve margin but has no exposure to penalties after the submission of its monthly RA plan. Second, the modified reserve sharing LSE must replace in real time any resource that is meeting its demand obligation by the next HASP opportunity or face a surcharge. The reserve sharing LSE has no such requirement. Third, the modified reserve sharing LSE has no further obligation if its resources are not committed in the day-ahead market or RUC. The reserve sharing LSE must, to the extent possible, schedule or offer into the real time all resources that go towards meeting its monthly peak demand.

⁵²⁸ The CAISO notes that a Scheduling Coordinator for a load-following MSS will be subject to a set of requirements based on the existing, Commission-approved MSS program to ensure that it satisfies its RA obligations and does not lean on the resources of other entities.

⁵²⁹ The CAISO notes that any LSE can elect the reserve sharing option.

i. **Section 40.5: Availability Requirements for Modified Reserve Sharing LSEs**

1241. The CAISO states that each day Scheduling Coordinators for modified reserve sharing LSEs must submit hourly demand forecasts for each trading hour, and a self-schedule and/or bid equal to their hourly demand forecasts plus reserve margin. The CAISO states that a RA resource must participate in the RUC process to the extent that the resource has not been self-scheduled or already committed to provide energy or capacity in the day-ahead market. The CAISO adds that RA resources that do not clear in the day-ahead market or are not committed in RUC shall have no further offer requirements in HASP or real-time, except under system emergencies.

1242. The CAISO notes that local capacity area resources that are not fully self-scheduled will be subject to the CAISO's optimization for the remainder of their capacity, which must be bid into the day-ahead market.

1243. The CAISO indicates that, if the Scheduling Coordinator for a modified reserve sharing LSE fails to self-schedule and/or bid equal to its hourly demand forecasts plus reserve margin, it will be charged three times the price of the relevant day-ahead hourly LAP. The CAISO submits that the Scheduling Coordinator is also required to replace as a result of a forced outage the lesser of: (1) the committed resource suffering the forced outage; (2) the quantity of energy committed in the day-ahead market; or (3) 107 percent of the hourly forecast demand no later than the next HASP plus one hour. If the Scheduling Coordinator cannot fulfill its day-ahead market and RUC commitments in the next available HASP, it will be charged two times the average of the six settlement interval LAP prices for the hour.

1244. Six Cities and CMUA argue that the requirement under section 40.5.2 to include resources in their day-ahead schedules or bid local capacity area resources that are capable of operating could exacerbate resource deficiencies. Six Cities assert that there must be a mechanism for the CAISO to identify which local capacity area resources are actually needed and suggest that these circumstances be specified.

1245. San Francisco contends that modified reserve sharing LSEs would provide the same level of resources to the system in its daily operation as all other LSEs⁵³⁰ and thus should be subject to the same terms as all other LSEs with regard to utilizing resources to meet their demand in times of unexpected outages. PG&E asserts that section 40.5.2(2) is discriminatory without justification because modified reserve sharing LSEs are not

⁵³⁰ We note that, under the CAISO's proposal, reserve sharing LSEs must offer their monthly peak demand-determined RA capacity in each hour of each day of the report month. However, reserve sharing LSEs face no surcharge or penalty if their actual availability is less than this amount.

obligated to have their resources available beyond the day-ahead market, in contrast to the obligations of reserve sharing LSEs.

1246. Six Cities and CMUA argue that the 200 percent penalty for failure to replace a scheduled resource that becomes unavailable due to a forced outage is disproportionate. San Francisco claims that while the proposed penalty provisions may be justified during infrequent times when the system is operating at peak demand, the level of penalties is not warranted when the system is not operating at peak capacity. Western maintains that it is unlawful and violates the Anti-Deficiency Act, Reclamation law, and other federal laws for the CAISO to assess uncertain, market-based penalties against Western as a federal agency.

1247. Six Cities and CMUA raise three additional issues with section 40.5.5. First, they argue that the provision in section 40.5.5(1) that imports at a scheduling point that exceed the modified reserve sharing LSE import allocation will not count unless the import schedule clears is unreasonable and will effectively preclude the scheduling of such imports. Second, they argue that the tariff language at the end of the section providing that energy scheduled in the HASP cannot be used as a credit to correct a failure to fulfill the day-ahead scheduling obligation is inconsistent with the replacement mechanism in section 40.5.2(3). Six Cities and CMUA contend that the latter section allows a modified reserve sharing LSE to replace a RA resource that suffers a forced outage up to the next HASP bidding opportunity, plus one hour. Third, they argue that the reference to section 40.5.3 is incorrect because that section deals with demand forecast accuracy.

1248. The CAISO disagrees with the concerns expressed by Six Cities and CMUA with the mandatory offer obligation for local capacity resources in section 40.5.2. First, the CAISO notes that to the extent an LSE's generating resource or local capacity area resource is use-limited, the provisions of the MRTU Tariff governing restrictions on use-limited resources will apply.⁵³¹ The CAISO also argues that it is appropriate that local capacity area resources are being relied on to meet the specific needs of the CAISO in areas where there may be limited transmission capacity. In addition, the CAISO claims that Six Cities has the flexibility each day to designate for each hour the resources that will satisfy its obligation.

1249. The CAISO disagrees with San Francisco that modified reserve sharing LSEs should be treated the same as other LSEs in using resources to meet their demand during outages. The CAISO argues that the modified reserve sharing LSE option allows for shaping of anticipated demand on an hour-by-hour basis while the reserve sharing LSE option focuses on the 115 percent peak demand forecast for the month. The CAISO adds that to account for the difference in the amount of reserves procured for the non-peak

⁵³¹ See below for a discussion on use-limited resources.

hour, additional requirements should be placed on the modified reserve sharing LSE to make up for units suffering forced outages.

1250. The CAISO argues that, for the same reason, penalties for those modified reserve sharing LSEs that do not meet their resource adequacy obligations should not be restricted to times of peak demand. In response to Six Cities and CMUA, the CAISO claims that the 200 percent penalty in section 40.5.5 for failure to replace a scheduled resource that becomes unavailable due to a forced outage is reasonable and consistent with the amount applied to load-following MSS units that do not meet their requirements. Finally, the CAISO disagrees with PG&E that the MRTU Tariff should be revised to remove the limit on resource obligations provided by modified reserve sharing LSEs to the day-ahead market, arguing that the obligations imposed are commensurate with the penalty structures applicable to modified reserve sharing LSEs.

1251. In response to the three additional issues identified by Six Cities and CMUA in section 40.5.5, the CAISO states the following. First, it claims that the only limitation on the use of imports in section 40.5.5(1) is for use above the proportional import allocation for that Scheduling Coordinator. Second, the CAISO agrees that section 40.5.5 should be clarified in a compliance filing to address the situation where a modified reserve sharing LSE replaces a RA resource bid in the day-ahead market that suffers a forced outage up to the next HASP bidding opportunity, plus one hour. Third, the CAISO agrees that the reference should be to section 40.5.2 and not 40.5.3.

Commission Determination

1252. We reject San Francisco's argument that modified reserve sharing LSEs should be subject to the same terms as all other LSEs in utilizing their resources to meet demand during unexpected outages. Modified reserve sharing LSEs are provided greater flexibility in that they are able to shape their availability requirements on an hour-by-hour basis and are not required to offer their resources after the day-ahead process. In further contrast, however, modified reserve sharing LSEs are subject to strict penalties if they do not meet their forecasted demand plus reserve margin. Given these different rights and obligations, we find that different terms are justified.⁵³²

1253. We also reject arguments from San Francisco that the level of penalties is not warranted during non-peak hours. As noted above, modified reserve sharing LSEs can shape their availability requirements on an hour-by-hour basis. Thus the impact when modified reserving sharing LSEs do not offer sufficient resources to meet their availability requirements remains as significant for non-peak hours as it is for peak hours.

⁵³² We also note that San Francisco is free to choose either the reserve sharing or modified reserving sharing option.

1254. We find that Western has failed to identify any federal law or regulation and certainly none the Commission administers that the CAISO's resource adequacy provisions would violate. As the Commission noted in *Pacific Gas and Electric Co.*, the Commission previously found that it "has no authority to enforce the Anti-Deficiency Act."⁵³³ The Commission similarly concluded that "PG&E's exercising its rights to make a filing under the [FPA] is subordinate to federal contracting or Reclamation laws or that it is within our authority to make a finding under the [FPA] based on those laws."⁵³⁴ We therefore reject Western's argument as unsubstantiated and outside the scope of this proceeding.

1255. We direct the CAISO to modify section 40.5.5 with respect to the two issues on which it agrees with Six Cities and CMUA. We direct the CAISO to make a compliance filing with these changes within 60 days of the date of this order. With respect to the scheduling of imports that exceeds a modified reserve sharing LSE's import deliverability allocation, we believe this is a matter appropriately addressed in the technical conference on import allocation methodology, as discussed above.

ii. Section 40.6: Availability Requirements for Reserve Sharing LSEs and RA Resources Serving Reserve Sharing LSEs

1256. The CAISO states that Scheduling Coordinators for reserve sharing LSEs are required to make the RA capacity listed in their monthly RA plans available to the CAISO in each hour of each day of the report-month by submitting a self-schedule or otherwise bidding into the day-ahead market and RUC. The CAISO states that any RA resources that do not submit a bid or self-schedule for all of their RA capacity will be subject to the CAISO's optimization for the remainder of their RA capacity bid into the day-ahead market. The CAISO indicates that RA resources not scheduled for energy or ancillary services in the day-ahead market will be considered in the RUC process with a RUC availability bid equal to \$0/MW. The CAISO adds that RA resources not committed in the day-ahead market or the RUC process for part of their RA capacity, or that have submitted a self-schedule for part of their RA capacity must remain available to the CAISO through real time for the scheduled and non-scheduled portions of their RA capacity.

1257. The CAISO submits that, if the RA resource has not been bid and no outage has been reported, the CAISO will insert a default energy bid established in the master file. It will also determine if all dispatchable RA capacity from short-start units, not otherwise selected in the day-ahead market or RUC, has been bid into the HASP process and will insert a default energy bid established in the master file for any remaining dispatchable

⁵³³ *Pacific Gas and Electric Co.*, 111 FERC ¶ 61,312, at P 14 (2005) (citing *Pacific Gas and Electric Co.*, 96 FERC ¶ 61,102, at 61,406 (2001)).

⁵³⁴ *Pacific Gas and Electric Co.*, 111 FERC ¶ 61,312 at P 14.

net qualifying capacity that is not bid and for which the CAISO has not received notification of an outage.

1258. Section 40.6 provides for additional availability provisions for the following types of RA resources that serve reserve sharing LSEs: short-start resources,⁵³⁵ long-start resources, use-limited resources,⁵³⁶ partial RA resources,⁵³⁷ system resources,⁵³⁸ resources serving export bids, resources represented by liquidated damages contract⁵³⁹ and participating loads.⁵⁴⁰ The CAISO states that short-start resource units must bid in the HASP or submit an economic bid into the real-time market, while long-start resource units not committed in the day-ahead market or RUC will be released from any further RA availability obligation for the operating day. The CAISO also indicates that partial RA resources are only subject to the additional requirement that the resource must be represented by a single Scheduling Coordinator.

1259. The CAISO indicates that imports will be scheduled in the day-ahead market consistent with any block, i.e., multi-block hour constraint of the system resource. It also states that multi-hour block, RA system resources must be capable of hourly selection if not fully committed in the day-ahead market, and, if selected in the RUC process, must be dispatchable in those hours in the HASP and real-time markets. The CAISO indicates that an export bid may be scheduled into the CAISO markets and be cleared by the energy being provided by RA capacity. The CAISO adds that it may use its own discretion to curtail exports from a RA resource to prevent or alleviate a system emergency. The CAISO states that net qualifying capacity represented by a firm liquidated damages contract shall be self-scheduled or bid in the day-ahead market to the extent permitted under the terms of the bilateral contract.

1260. WPTF/IEP's argue that short-start and other RA resources should not be required to remain available into real time and that any availability obligation be limited to capacity that is committed in the RUC process.

⁵³⁵ The CAISO defines short-start units as generating units with start times plus minimum run times of less than five hours.

⁵³⁶ We discuss use-limited resources in more detail in the following section.

⁵³⁷ The CAISO defines a partial RA resource as a resource for which a portion of its capacity has been contracted under a RA plan.

⁵³⁸ The CAISO defines system resources generally as resources located outside the CAISO Control Area.

⁵³⁹ The CAISO defines firm liquidated damages contracts as firm energy contracts that do not require the seller to source the energy from a particular unit and specify a delivery point internal to the CAISO Control Area.

⁵⁴⁰ The CAISO defines participating load as an entity providing curtailable demand.

1261. SoCal Edison asserts that section 40.6.5 contains obligations for RA system resources that do not comport with contracting and scheduling practices in the WECC. SoCal Edison argues that the CAISO should not impose block, i.e., multi-hour, obligations on system RA resources that are not required under the qualifying capacity rules of the Local Regulatory Authority. Further, SoCal Edison argues that the CAISO should not impose a real-time must-offer obligation on RA system resources because such an obligation is not required for reliable grid operations.

1262. PG&E argues that the MRTU Tariff does not impose meaningful obligations on import resources and that the CAISO's definition of participating load is too narrow to address the wide range of valuable demand response programs. PG&E is concerned that these two issues will cause the CAISO to overly rely upon its backstop procurement mechanisms and cause redundant expense.

1263. Powerex argues that Scheduling Coordinators for system resources should not be limited by their day-ahead energy bid prices if bids are not selected. Instead, it argues that they should have the flexibility to revise bid prices in the HASP to reflect the true value of the energy in the hour-ahead timeframe or in real-time. Powerex contends that this would foster a greater level of participation by external resources in the RA market.

1264. Imperial argues that section 40.6.6 on availability requirements for partial RA resources fails to clarify that the must offer requirement does not apply to generation designated to serve bilateral contracts or committed for minimum operating reserves. Imperial asserts that the Commission must ensure that the must offer obligation is implemented in a manner that does not impair the contractual rights of power purchasers serving loads outside the CAISO's control area and does not result in the cutting of export schedules submitted on behalf of those power purchasers.

1265. FPL argues that, if resource-specific imports are not to be treated similarly to internal resources, the Commission should direct the CAISO to terminate their must offer obligation at the conclusion of the day-ahead market. BPA argues that the MRTU Tariff does not accommodate practices such as exchanges or advance/return energy that could enhance availability of responsive import hydro capacity.

1266. WPTF/IEP argue that the MRTU Tariff should not include a reference to "other restrictions" in section 40.6.7 when identifying when a long-start unit not committed in the day-ahead market or RUC is precluded from self-committing after the day-ahead market. WPTF/IEP also state that the limitations of using a default energy bid in section 40.6.8 create the possibility of unreasonable pricing outcomes when the CAISO forces a resource to be dispatched according to the default energy bid prices.

1267. PG&E recommends that MRTU Tariff section 40.6.9 be revised to note the phase-out of liquidated damages other than the State Water Project contracts and the cut-off dates beyond which such contracts can no longer be used for RA purposes.

1268. Turlock argues that section 40.6.11, which allows the CAISO to curtailed exports from an RA resource to prevent or alleviate a system emergency, should be rejected because they provide the CAISO with sole discretion to curtail exports. WPTF/IEP assert that the CAISO does not have a property right to the non-contracted portion of RA resource capacity, and thus the reference to RA resource should be replaced with RA capacity. WestConnect Parties contend that this provision could trap generation in the CAISO market to the detriment of neighboring control areas. Similarly, Imperial argues that this provision will limit access to needed generation within the CAISO and urges the Commission to ensure that the CAISO's filing does not harm reliability in other control areas. Imperial submits that the CAISO's proposal is contrary to the CAISO's primary obligation to maintain the reliability of the interconnection. Imperial also claims that this provision, by effectively confiscating energy that is sold to a neighboring LSE, violates the FPA, the Constitution and the Commission's policy of honoring the sanctity of contracts.

1269. The CAISO disagrees with WPTF/IEP's suggestion that needed short-start resources in section 40.6.3 should only be committed in the RUC. First, the CAISO claims that only RA designated capacity has a real-time obligation and that section 40.6.3 creates a waiver process for units that are required to bid into the real-time market. Second, the CAISO argues that it should have access to RA capacity in real time in order to ensure grid reliability. The CAISO asserts that WPTF/IEP overstate the nature of the real-time obligation because, unlike the Commission's must offer obligation, it depends on voluntary contracting of units with LSEs. Moreover, capacity may be marketed externally and is eligible to re-bid so therefore no lost opportunities exist.

1270. The CAISO disagrees in part with SoCal Edison's request to honor block obligations on system resources and not impose real-time must-offer obligations on these resources. The CAISO argues that, while it will respect block obligations in the day-ahead market, the CAISO's ability to use system resources cannot be limited if the system resources are identified as necessary for a particular hour in the RUC. The CAISO contends that RUC simply commits the system resource in order to make it available into HASP and real time, and that the actual energy decision at that point is on an hourly basis. In addition, the CAISO contends that the HASP software is not able to consider multi-hour energy commitments, because the optimization is only for the next trade hour. The CAISO argues that if a system resource is committed in the day-ahead market or selected in RUC for any hour, it must be dispatchable in real-time. The CAISO adds, however, that if RUC does not select the system resource for any hour of the block, that system resource should be released from any real time offer obligation.

1271. The CAISO contends that it is unclear what additional obligations PG&E believes should be imposed upon imports given that section 40 imposes significant requirements on system resources supplying qualifying capacity.

1272. The CAISO agrees with Powerex that Scheduling Coordinators for system units that are RA resources can submit revised energy bids in the HASP if their bids are not selected in the day-ahead market. Further, it states that it will make Powerex's proposed tariff language change in a compliance filing.

1273. The CAISO disagrees with BPA's argument that the RA structure does not accommodate practices that could enhance availability of responsive import hydro capacity, arguing that nothing in its proposal prevents an LSE from entering into an exchange agreement and counting the capacity.

1274. Regarding FPL's request to eliminate any system resource offer obligations after the conclusion of the day-ahead market, the CAISO commits to the following clarification. System resources that are *not RA resources*, whether resource-specific or non-resource specific, do not have an obligation to participate in RUC or the real-time market if not chosen in the day-ahead market. RA system resources that are not resource-specific must be available in RUC and the real-time market. RA system resources that are resource-specific must be available in the real-time market to the extent that any other RA resource must be available, *e.g.*, long-start resources cannot be started in real-time if not scheduled in the day-ahead market.

1275. The CAISO states it will make a compliance filing deleting the phrase, "or other restrictions," from section 40.6.7.1, because long-start units will know on their own if there are physical limitations that would prevent them from selling voluntarily after the CAISO has granted waiver.

1276. The CAISO claims that, contrary to WPTF/IEP's concerns, the use of a default bid in section 40.6.8 is appropriate. The CAISO argues that a RA resource by definition is designated as available to the CAISO to meet demand and this resource should be made available, absent notification of an outage. Further, the CAISO claims that a CAISO-generated default bid for RA resources that have failed to participate is not the same as a default energy bid for market power mitigation in section 39 because CAISO-generated default bids can be avoided by complying with the bid requirements under section 40.

1277. The CAISO agrees with PG&E that the use of non-import liquidated damage contracts should be phased out. The CAISO claims that because these contracts do not specify a resource, they cannot ensure availability of physical, deliverable capacity to produce energy when needed. However, the CAISO states that the MRTU Tariff defers to the determination of the CPUC or applicable Local Regulatory Authority, but that it

intends to work actively with non-CPUC LSEs to phase out liquidated damages contracts as part of their RA portfolio.

1278. The CAISO disputes Imperial's claim that the MTRU resource adequacy proposal will limit Imperial's access to needed generation, arguing that nothing in section 40 prevents an entity from entering into contracts with resources within the CAISO Control Area. The CAISO also disagrees with Turlock, arguing that the CAISO should be able to curtail exports in real time if the export is a RA resource, because that RA capacity has been procured to meet demand in the CAISO Control Area. The CAISO adds that the concept of recallable resources has been approved by the Commission for use by other RTOs.⁵⁴¹ Finally, the CAISO opposes WPTF/IEP's request as unnecessary that section 40.6.11 have a statement of intent regarding the CAISO's ability to curtail exports from an RA resource.

Commission Determination

1279. As the CAISO indicates, short-start resources may enter into voluntary contracts to offer their capacity through real time, and these contracts should thus reflect the real-time offer obligation. Accordingly, we reject WPTF/IEP's request that short-start resources only be committed in the RUC process.

1280. Consistent with our determination on RUC, we find SoCal Edison's request reasonable that the CAISO honor multi-block constraints as a bidding parameter for system resources in the RUC process. Accordingly, we reiterate our finding that the CAISO should examine whether such software changes could be implemented by Release 1, or to implement them as soon as feasible.

1281. We find that PG&E does not adequately explain why it believes that imports and demand response require more meaningful obligations than what the CAISO has already imposed. Accordingly, we reject PG&E's arguments.

1282. We find reasonable the CAISO's clarifications on system resources in response to: (1) SoCal Edison's request that a real-time obligation not be imposed on RA system resources; and (2) FPL's request to eliminate any system resource offer obligation after day-ahead market. Regarding the former request, RA system resources should only have a real-time obligation to the extent that a RA system resource is committed in the day-ahead market or selected in RUC; otherwise, the RA system resource is released. Regarding the latter, only RA system resources have offer obligations after the day-ahead market, and only to the extent they are non-resource specific, or for resource-specific units, to the extent that the same type of unit located within the CAISO Control Area

⁵⁴¹ CAISO Reply Comments at 225 (citing, *e.g.*, section 5.12.10 of the New York ISO tariff on Curtailment of External Transactions In-Hour).

would have an offer obligation. Accordingly, we will not require the CAISO to make SoCal Edison's and FPL's requested modifications.

1283. We reject WPTF/IEP's argument that the use of default energy bids creates unreasonable pricing outcomes. As the CAISO indicates, such bids can be avoided by simply complying with the resource adequacy bid requirements in section 40. We therefore see no need to modify this MRTU Tariff provision.

1284. We decline to establish a cut-off date beyond which liquidated damage contracts can no longer be used for resource adequacy purposes, as PG&E suggests. While we agree that these contracts fail to ensure availability of deliverable capacity, we find that this matter is more appropriately addressed by the Local Regulatory Authorities. We also note that the CAISO states that it will actively work with LSEs to phase out liquidated damages contracts that are included in resource adequacy portfolios.

1285. We disagree with various commenters' concerns over exports. The resource adequacy proposal in the MRTU Tariff does not change Imperial or anyone else's ability to enter into agreements with resources within the CAISO Control Area, nor does it change their ability to schedule those resources as exports out of the CAISO Control Area. Further, we find that the resource adequacy proposal under MRTU is an improvement over the existing CAISO tariff because currently all exports bear the risk of curtailment during an emergency. As noted earlier in this order on the day-ahead market, the CAISO proposes that exports supported by non-RA resources have the same priority as internal demand and have higher priority than exports supported by RA resources. We believe this priority is appropriate given the capacity payments provided to RA resources. Finally, we see no reason to require a statement of intent regarding the CAISO's ability to curtail exports from a RA resource, since section 40.6.11 clearly states that the CAISO may only curtail to "prevent or alleviate a System Emergency."

1286. We direct the CAISO to modify the MRTU Tariff regarding the following issues: (1) Powerex's request that Scheduling Coordinators for RA system resource units be able to submit revised energy bids in the HASP if their bids are not selected in the day-ahead market; and (2) WPTF/IEP's request that the phrase, "or other restriction," be deleted from section 40.6.7.1 on long-start units. We direct the CAISO to make a compliance filing within 60 days of the date of this order with these changes.

iii. Section 40.6.4: Availability Requirements for Use-Limited Resources

1287. The MRTU Tariff defines a use-limited resource as:

A resource that, due to design considerations, environmental restrictions on operations, cyclical requirements, such as the need to recharge or refill, or other non-economic reasons, is unable to operate continuously on a daily

basis, but is able to operate for a minimum set of consecutive trading Hours each Trading Day.⁵⁴²

1288. The availability requirements for use-limited resources in section 40.6.4 are applicable to system and local resources that are used by reserve sharing LSEs, and are also applicable to local resources that are used by modified reserve sharing LSEs.⁵⁴³

1289. The CAISO states that it recognizes that use-limited facilities are valuable resources to meet system needs and should count towards meeting RA requirements, even if they cannot be available at all times. The CAISO states that hydro is presumed to be use-limited, as are certain qualifying facilities. The CAISO indicates that Scheduling Coordinators for non-hydro and dispatchable use-limited resources must provide the CAISO an application requesting registration of a resource as use-limited and then provide a proposed annual use plan.

1290. The CAISO states that Scheduling Coordinators utilizing non-hydro and dispatchable use-limited resources must submit a supply bid or self-schedule for their RA capacity in the day-ahead market whenever use-limited resources are physically capable of operating. The CAISO states that non-dispatchable use-limited resources and hydro units are required to self-schedule or submit bids in the day-ahead market for their expected energy to be delivered the next trading day or their resources are required to revise their self-schedules or submit additional bids in HASP and the real-time market based on the most current information available regarding expected delivered energy. The CAISO states that non-dispatchable use-limited resources and hydro resources will not be subject to commitment in the RUC process.

1291. The CPUC and SoCal Edison argue that section 40.6.4.1 would give the CAISO the power to veto whether a resource qualifies as use-limited. SoCal Edison argues that while the MRTU Tariff mandates the use of the CAISO's alternative dispute resolution process if an entity disagrees with the CAISO's classification, the relevant Local Regulatory Authority is the appropriate entity to settle any dispute over the use-limited status of a resource. WPTF/IEP argue that the CAISO should detail the criteria that market participants must satisfy in order to qualify a resource as a use-limited resource.

1292. Six Cities contend that an inflexible must offer requirement would make it impossible for LSEs to optimize the utilization of use-limited resources and could result in such resources being unavailable at the time of the system peak. Six Cities is concerned that buyers located outside the CAISO Control Area may purchase

⁵⁴² MRTU Tariff, Appendix A, Master Definitions Supplement.

⁵⁴³ Section 40.5.2(1)(i) states that to the extent that a generating unit providing local capacity area resource capacity constitutes a use-limited resource for a modified reserve sharing LSE, the provisions of section 40.6.4 will apply.

California's use-limited resources early in the season, and that these resources would then be unavailable for purchase or even for self-scheduling by California LSEs during the summer. San Francisco urges the Commission to direct the CAISO to accept the limitations that encumber the resources of many municipal utilities, including potential exemptions from must-offer requirements for hydro-resources and other use-limited resources, and allow a non-CPUC LSE to use these resources to meet its resource adequacy needs. PG&E, on the other hand, contends that the proposed MRTU Tariff does not follow the CPUC RA requirements for use-limited resources, resulting in an uneven playing field between CPUC LSEs and non-CPUC LSEs.

1293. PG&E claims that section 40.6 fails to exclude the following resources that cannot reasonably be expected to make themselves available in the day-ahead: (1) wind or intermittent resources; (2) qualifying facilities under PURPA contracts; (3) demand response; and (4) resources provided under contracts entered into by the California Department of Water Resources entered in response to the energy crisis (CDWR contracts).

1294. PG&E also argues that the day-ahead requirement for resources scheduled according to the Participating Intermittent Resource Program should be eliminated because it is at odds with the CPUC resource adequacy program and because deviations from the day-ahead schedule would not receive the protections that non-RA resources receive.

1295. Western and the State Water Project argue that they should not be placed under any hydroelectric availability obligations. Western cites as reasons the competing water resource, environmental and safety concerns that the Commission noted when it adopted the must-offer requirement during the California energy crisis. The State Water Project, while arguing that it is exempt from the MRTU Tariff RA requirements, seeks clarification that the Commission will continue to recognize the demands placed on hydroelectric facility operators to meet water delivery, flood control and environmental requirements, none of which can accommodate the CAISO's proposed must-offer availability requirement.

1296. PG&E agrees with comments from Western and the State Water Project on excluding hydroelectric facilities from a must offer obligation. PG&E claims that section 40.6.4.3.2 does not exclude hydroelectric facilities or qualifying facilities under host utility power purchase agreements from the CAISO's must offer obligation. PG&E notes that the IRRP exempts these units, which is consistent with the Commission's current must-offer obligation excluding hydroelectric facilities due to their multipurpose limitations as well as generators without their own Participating Generator Agreement. PG&E asserts that the CAISO's response regarding the must-offer obligation that 40.6.4.3.2 would impose on hydroelectric use-limited resources adds little and therefore PG&E requests that the Commission disregard that portion of the CAISO's answer. It

contends that it has and will continue to meet Commission licensing requirements at its hydroelectric project and is committed to responsible stewardship of the hydroelectric facilities.

1297. BPA argues that the resource adequacy structure does not accommodate practices such as exchanges or advance/return energy that could enhance availability of responsive import hydro capacity. Specifically, BPA argues that the MRTU structure does not support guaranteed energy returns and would require importers to risk energy shortages to supply peak generation.

1298. WPTF/IEP contend that to the extent that a Scheduling Coordinator shifts energy production (*e.g.*, runs more in October than in August) based on the CAISO's assessment of the system's reliability needs, the CAISO should compensate that Scheduling Coordinator for any opportunity cost incurred.

1299. The CAISO argues that commenters wrongly characterize the dispatch obligations under section 40.6.4 for use-limited resources. The CAISO contends that the relevant Scheduling Coordinator submits a use plan specifying how the use-limited resource may be dispatched by the CAISO; consequently, the Scheduling Coordinator and resource owner retain control of the dispatch of the facility, "absent exigent circumstances that permit greater control by the CAISO."⁵⁴⁴ The CAISO disagrees with the CPUC that the MRTU Tariff gives the CAISO a veto over the determination of a use-limited resource, arguing that section 40.6.4.1 is consistent with the CAISO's role in verification of resource capabilities through testing and certification. It emphasizes that the resources under consideration are predominately existing facilities with which the CAISO has successfully operated for years by respecting environmental and other concerns that would restrict the facility's availability. The CAISO adds that San Francisco fails to specify how the MRTU Tariff provisions do not address San Francisco's concerns.

1300. The CAISO argues against WPTF/IEP's suggestion that the MRTU Tariff should provide additional detail as to criteria that market participants must satisfy in order to qualify as a use-limited resource. The CAISO claims that this additional detail is not consistent with the Commission's "rule of reason" standard. The CAISO also states that it does not expect significant disagreement as to whether a facility should be considered use-limited, and any disputes can be resolved in accordance with existing dispute resolution mechanisms under MRTU Tariff section 13.

1301. The CAISO proposes to monitor submissions from use-limited resources to determine whether any Scheduling Coordinator is over-relying on such resources, as opposed to following PG&E's suggestion to limit their quantity that can be counted for

⁵⁴⁴ CAISO Answer at 28.

RA purposes. The CAISO claims this is consistent with the CPUC's attempt to address the concern.

1302. In response to PG&E's request that resources such as qualifying facilities, demand response, intermittent resources and resources under CDWR contracts not be subject to a day-ahead offer obligation, the CAISO argues that these resources must be subject to some set of availability requirements. The CAISO claims that while it has tried to accommodate their physical operating restrictions through the development of provisions developing use-limited resources, there must be consistency between a determination of net qualifying RA capacity and that capacity actually being bid and available for dispatch in the CAISO markets.

1303. The CAISO does, however, agree with PG&E that intermittent resources should be permitted but not required to submit bids in the day-ahead market. The CAISO notes that these resources would be exposed to deviation penalties since the Participating Intermittent Resource Program only offers protection in HASP and real time. The CAISO commits to modifying the relevant MRTU Tariff provision in a compliance filing.

1304. The CAISO argues that PG&E's concerns over hydroelectric facility requirements are exaggerated, and that the CAISO has granted these resources discretion as to when to make their resources available. The CAISO asserts that the use-limited program allows the Scheduling Coordinator for the hydroelectric or other non-dispatchable use-limited resource to protect the operation of the facility. The CAISO adds that section 40.6.4.3.2 proposes that hydroelectric resources make themselves available based on the resource scheduler's expected available energy in the day-ahead market and HASP, not the CAISO's expected available energy.

1305. The CAISO disagrees with BPA's argument that the RA structure does not accommodate practices that could enhance availability of responsive import hydro capacity, arguing that nothing in its proposal prevents an LSE from entering into an exchange agreement and counting the capacity.

1306. The CAISO argues that the opportunity costs requested by WPTF/IEP are not warranted for Scheduling Coordinators who adjust their use plans to accommodate system reliability needs. The CAISO adds that compensation for RA capacity is a matter of contract between the generator and the LSE.

Commission Determination

1307. We find that the concerns voiced by several commenters over the qualifications and the availability requirements for use-limited resources are without merit. As the CAISO notes, the Scheduling Coordinator retains control over the use-limited resource

and is responsible for submitting a plan indicating how the resource is to be dispatched by the CAISO. We also find that the CAISO's role in determining what qualifies as a use-limited resource is consistent with its role in determining net qualifying capacity. Further, we note that the CAISO does not anticipate significant problems because the resources in question are primarily existing facilities which the CAISO has successfully operated for years. Accordingly, we will not require any further detail to be incorporated into the MRTU Tariff indicating what qualifies as a use-limited resource.

1308. We deny PG&E's request for a blanket waiver of the availability requirements for wind and other intermittent resources, qualifying facilities, demand response and CDWR contracts. If a Scheduling Coordinator believes a resource is constrained, and unable to effectively offer in the day-ahead market, they must submit an application to the CAISO requesting use-limited resource status. However, we direct the CAISO to modify the MRTU Tariff on compliance filing to permit but not require intermittent resources to submit bids in the day-ahead market. We direct the CAISO to file this modification within 60 days of the date of this order.

1309. The Commission disagrees with comments presented by Western, the State Water Project and PG&E. If a Scheduling Coordinator elects to use a hydro resource to meet its RA requirements, that resource must have some requirement to make itself available. We note that hydro units are under no obligation to be dedicated as RA resources, and we believe the CAISO has made reasonable efforts to accommodate hydro units.

1310. We find that the BPA has not shown that the MRTU's RA structure fails to accommodate practices that could enhance availability of responsive import hydro capacity. Therefore, we reject BPA's arguments.

1311. Finally, we agree with the CAISO that reimbursement for opportunity costs for Scheduling Coordinators that adjust their use plans to accommodate reliability needs is unwarranted. The Scheduling Coordinator freely elects to shift energy production, and in turn to contract for its RA capacity. Scheduling Coordinators must assume the risk of shifting energy production and cannot reasonably request that they be compensated for these decisions.

7. Information Requirements and Compliance

1312. The CAISO states that Scheduling Coordinators for LSEs must provide the CAISO with certain categories of information related to the RA program. The CAISO explains that LSEs under CPUC jurisdiction will provide this information pursuant to the standards adopted by the CPUC. For non-CPUC LSEs, the CAISO outlines the general information requirements to ensure greater consistency among the submissions, while preserving the autonomy of the Local Regulatory Authority. The CAISO states that Scheduling Coordinators representing a load-following MSS must provide the CAISO

with an annual resource adequacy resource plan that sets forth the resources, if any, procured by the load-following MSS to meet local capacity requirements.

1313. The CAISO indicates that, if its review of an annual or monthly resource adequacy plan for LSEs reveals deficiencies, the CAISO will report the deficiencies to the CPUC or other Local Regulatory Authority. The CAISO states that to validate LSE supply plans, Scheduling Coordinators representing generating units, system units or system resources must also provide the CAISO with an annual and monthly plan verifying their agreement to provide any RA capacity. The CAISO states that, if a Scheduling Coordinator representing resources supplying RA capacity fails to provide the CAISO with an annual and/or monthly plan, it will be subject to enforcement protocol section 6.1. Failure to make the resource available in accordance with RA requirements on availability would be subject to sanctions under section 37 of the enforcement protocol as well as any other financial consequence under the MRTU Tariff.

1314. Several commenters argue that the MRTU Tariff appears to force CPUC-adopted reporting requirements upon non-CPUC LSEs. They argue that the information requirements for non-CPUC LSEs should be governed by the resource adequacy programs established by the relevant Local Regulatory Authorities. Six Cities contend that allowing the CAISO “expansive” discretion to determine reporting requirements will undermine the Local Regulatory Authorities’ ability to establish resource procurement policy. Western, on the other hand, argues that the MRTU Tariff is discriminatory in that it imposes different reporting requirements and different sanctions on CPUC LSEs versus non-CPUC LSEs.

1315. LSEs also express specific concerns with the demand forecast reporting requirements. AREM and Strategic submit that the CAISO already has full access to the same reports and forecast data through the CPUC, and that the dual obligations could lead to conflicting requirements and dual penalties for CPUC LSEs. Vernon states that, according to section 40.2.1(3), a non-CPUC reserve sharing LSE that bases its demand forecast on coincident peak must use the coincident peak demand determinations provided by the California Energy Commission, as required by the CPUC. Vernon notes that the California Energy Commission does not currently determine monthly peak demand for non-CPUC LSEs.

1316. Commenters also found issue with RA resource reporting requirements. Williams believes that there is no business purpose or valid reliability objective in requiring the duplicative submission of RA capacity plans from suppliers when LSEs must already submit this information. Six Cities and Santa Clara argue that the CAISO should submit to the relevant Local Regulatory Authority, and not the CPUC as is proposed in section 8.9.15, reports of failures by RA resources to pass compliance tests or performance audits. NCPA and SVP argue that the MSS agreements obligate them to report resource information to the CAISO, making the proposed RA provisions duplicative and

unnecessary. SoCal Edison, on the other hand, argues that this requirement on MSSs is reasonable, because the CAISO will require information from all LSEs in order to assess the status of resource adequacy of the entire CAISO Control Area.

1317. AREM and Strategic submit that the required reporting information is commercially sensitive and should be afforded confidentiality. Strategic also recommends replacing individual references of confidentiality protection in section 40 with a separate sub-section providing protection for all information in the section. Powerex adds that the CPUC is not entitled to receive information about resources outside California.

1318. The CAISO responds that it must be able to track which Scheduling Coordinators are responsible for particular loads. The CAISO claims that this will avoid undue complexity and ensure information is obtained in a comprehensive and consistent manner. It adds that it will continue to work with stakeholders on the specific reporting format for LSEs, but that this level of detail can be specified in the Business Practice Manuals.

1319. With regard to PG&E's request that the MRTU Tariff provide that the CAISO will follow the California Energy Commission forecasts of weekly generation capacity and weekly peak demand and include more specificity on the purpose and level of detail of the forecasts, the CAISO asserts that this level of detail is more appropriate in the Business Practice Manuals.

1320. The CAISO claims that the reporting burden for RA resources is minimal. The CAISO argues that these reporting requirements will allow the CAISO to verify that the capacity indicated by an LSE is confirmed by the Scheduling Coordinator representing the RA resource, and ensure that resources are not over-committed across the portfolios of multiple LSEs.

1321. The CAISO agrees to modify section 8.9.7(a) in a compliance filing in accordance with Santa Clara's request that the CAISO should report a RA resource's failure to pass a compliance test to the applicable Local Regulatory Authority and not just the CPUC.

1322. The CAISO states that it has been working with MSS entities in an attempt to minimize any additional reporting burdens but still ensure the CAISO has the information it needs. The CAISO proposes to revise sections 40.2.1, 40.2.2 and 40.6 of the proposed tariff in order to forge a balance between the respective needs of the parties.

1323. The CAISO agrees with Strategic and Powerex that data submissions, in particular the annual and monthly plans, should be treated as confidential information. The CAISO notes, however, that enforcement may require the CAISO to report information to the

Local Regulatory Authority and also that the CAISO must be allowed to aggregate data to be used for making public statements about aggregate adequacy of supply.

Commission Determination

1324. As noted in the IRRP Order, we reiterate that, in order to ensure short-term reliability and prudent operation of the grid, it is critical that the CAISO collect annual and monthly resource adequacy information from each Scheduling Coordinator representing an LSE in the CAISO Control Area.⁵⁴⁵ We find that the MRTU Tariff provides sufficient information so that all LSEs know what must be filed. We also find that the CAISO's proposal to use standard reporting templates is reasonable, and that the CPUC templates are a reasonable starting point. Reporting format consistency will allow the CAISO to more easily assess the adequacy of the CAISO grid. We direct the CAISO to work with LSEs through the Business Practice Manual stakeholder process to develop an acceptable reporting template that meets each Scheduling Coordinator's needs. Further, we will not rule on PG&E's request that additional information be specified in the MRTU Tariff regarding demand forecasts until the Business Practice Manual stakeholder process has been completed.

1325. In response to Western's argument that the different reporting requirements are discriminatory, we find that the information required simply reflects the different offer obligations and rights by which an LSE chooses to abide. Furthermore, if, as Vernon indicates, the California Energy Commission does not provide coincident peak demand forecasts for non-CPUC LSEs, we direct the CAISO in a compliance filing to modify section 40.2.1(3), within 60 days of the date of this order, such that all non-CPUC LSEs have the ability to use coincident peak demand for their monthly and annual demand forecasts. We also find that the information requirements for RA resources are not duplicative and instead are useful in verifying the RA plans submitted by LSEs.

1326. We direct the CAISO to make modifications to the MRTU Tariff on compliance filing that would (1) address NCPA's concerns on MSS reporting requirements by revising sections 40.2.1, 40.2.2, and 40.6; (2) require the CAISO to report a RA resource's failure to pass a compliance test to the applicable Local Regulatory Authority and not just the CPUC, under section 8.9.7; (3) treat data submissions including annual and monthly plans and information on system resources as confidential; and (4) allow the CAISO to aggregate data for public statements about aggregate adequacy of supply. We direct the CAISO to make this compliance filing within 60 days of the date of this order.

⁵⁴⁵ IRRP Order, 115 FERC ¶ 61,172 at P 65, 68.

VII. Other Tariff Issues

A. Miscellaneous Protests Regarding Tariff Language

Discussion

1. General and Miscellaneous MRTU Tariff Issues

1327. In over 2000 pages of comments filed in response to this proposal, there are hundreds of requests for changes to the proposed MRTU Tariff. The requested changes vary from general in nature⁵⁴⁶ to extremely specific.⁵⁴⁷ Some commenters suggest language changes to specific sections of the tariff in an effort to clarify terms and the CAISO has responded in turn.⁵⁴⁸ However, some suggest language changes to specific sections of the MRTU Tariff without a full explanation of why the change is necessary. This section addresses: (1) those issues identified by commenters that are general “clean up” issues with respect to the proposed MRTU Tariff; (2) those issues identified and addressed in Appendix A to the CAISO’s Reply Comments; and (3) certain additional miscellaneous issues identified by commenters that are not discussed elsewhere in the order.⁵⁴⁹

1328. A number of commenters⁵⁵⁰ raise issues regarding inconsistencies or outdated references in the MRTU Tariff including: incidents where capitalized terms are undefined in the Master Definitions List/Supplement;⁵⁵¹ incorrect numbering conventions;⁵⁵² outdated references;⁵⁵³ typographical errors; and missing cross references.

1329. The CAISO recognizes the general “clean up” issues raised by commenters with respect to the MRTU Tariff. The CAISO notes that it appreciates the time and effort spent by parties to bring inconsistencies to light. It states that some of the proposed

⁵⁴⁶ These proposed changes capture a broad range of requests including lack of compensation for generators, lack of coordination between control areas, and inequitable treatment of market participants under the MRTU Tariff.

⁵⁴⁷ Many commenters offer specific language changes to MRTU Tariff sections.

⁵⁴⁸ See CAISO Reply Comments, Appendix A.

⁵⁴⁹ To the extent that an issue is discussed in the context of a particular design element, we do not address it here.

⁵⁵⁰ See, e.g., SMUD, PG&E, NCPA and SoCal Edison comments. The commenters argue that the undefined terms create confusion and ambiguity.

⁵⁵¹ See MRTU Tariff, Appendix A, Master Definitions Supplement.

⁵⁵² See, e.g., SMUD, PG&E and NCPA.

⁵⁵³ Powerex provides cites to various references to outdated Market Behavior Rules under MRTU Tariff section 37. See Powerex Comments at 30-31.

corrections are addressed in Appendix A to its comments. It further pledges to perform a comprehensive review of the MRTU Tariff to identify and correct all such items. It states that it has begun to address many of the issues identified under its “deferred maintenance” process,⁵⁵⁴ which is an effort to make similar “clean up” changes to the current CAISO tariff, and as a result, no specific action on these items is necessary.

Commission Determination

1330. We agree with commenters who assert that the undefined capitalized terms introduce confusion and ambiguity under the tariff. The MRTU Tariff needs to provide definitions for all capitalized terms and acronyms used. Therefore, we direct the CAISO to make a compliance filing within 60 days of the date of this order addressing this issue.

1331. Under Appendix A, the CAISO addresses proposed changes and clarifications to certain MRTU Tariff sections in response to issues raised by various commenters. To the extent that the CAISO’s response in Appendix A reflects a commitment by the CAISO to incorporate such changes in a further compliance filing or reflects the commitment to submit a separate FPA section 205 filing before the Commission,⁵⁵⁵ we find acceptable its commitments. We therefore direct the CAISO to make a compliance filing within 60 days of the date this order incorporating those responses to issues as outlined in Appendix A of the CAISO’s reply comments.⁵⁵⁶ We also accept the CAISO’ commitment to make an FPA section 205 filing as part of its deferred maintenance project prior to the effective date of the MRTU Tariff.

2. Scheduling of Transmission Outages

1332. Commenters⁵⁵⁷ state that the CAISO’s proposed change in deadline (from 72 hours to 45 days) for the scheduling of transmission outages is unreasonable and unduly burdensome. They stress that it is extremely difficult to accurately schedule maintenance outages 45 days in advance and this new time frame may create reliability issues. PG&E and SoCal Edison each suggest a different process that, according to them, still allows the

⁵⁵⁴ The CAISO states that in the effort to simplify and reorganize the pre-MRTU Tariff under Docket No. ER05-1501-000, the CAISO identified several areas that need updating and used the term “deferred maintenance” to refer to these updates. The CAISO states that it will address the deferred maintenance issues in an FPA section 205 filing of the current CAISO tariff prior to the effective date of MRTU.

⁵⁵⁵ In Appendix A, the CAISO agrees to submit a separate FPA section 205 filing to (1) address the distinction between CAISO Metered Entities and SC Metered Entities and (2) update the language for readiness with MRTU. *See* Appendix A at 3 and 7, respectively.

⁵⁵⁶ *See* CAISO responses included in Appendix A.

⁵⁵⁷ CPUC, PG&E, SoCal Edison, Western and Imperial.

CAISO to determine the CRRs available for monthly release. In its reply comments, the CPUC states that it supports the alternative proposal suggested by PG&E and SoCal Edison. Western contends that the 45-day scheduling requirement will create seams issues with other portions of the Western Interconnection, which uses a 72-hour notice period for scheduling transmission outages.

1333. The CAISO proposes to modify its transmission maintenance outage scheduling requirements to address commenter concerns and to make a compliance filing to revise MRTU Tariff section 9.3.6.3.2 to: (1) specify that advance scheduling is only required for those transmission outages that have a “significant” impact on CRR revenue adequacy and (2) modify the advance notice requirements from 45 days to 30 days in advance of the first day of the month when the outage is scheduled. For transmission outages that would *not* have a significant impact on CRR revenue adequacy, the current 72-hour advance notice would be maintained. The CAISO states that the criteria for determining what constitutes a “significant” impact on CRR revenue adequacy will be developed with stakeholders and incorporated into a Business Practice Manual.

1334. The CAISO argues that Western’s seams argument is misplaced. The CAISO states that the modified outage scheduling requirement should be beneficial to the rest of the Western Interconnection, as these requirements will provide entities in the other parts of the West with better information about outages scheduled in California.

Commission Determination

1335. We find that the proposed changes adequately address protestors’ concerns regarding the advance notice transmission maintenance outage requirements and direct the CAISO to include these changes in a compliance filing within 60 days of the date of this order. With regard to Western’s seams issues, we believe that the modified outage scheduling requirement will not adversely impact the rest of the Western Interconnection. As stated by the CAISO, these new requirements provide Western Interconnection entities with better outage information, enabling them to make more informed decisions.

1336. Also, we note that the last paragraph of MRTU Tariff section 9.3.6, Maintenance Outage Planning, is misleading. That paragraph retains the CAISO’s superseded language, “An Operator may, upon seventy-two (72) hours advance notice . . .” The CAISO is directed to make a compliance filing within 60 days of the date of this order modifying MRTU Tariff section 9.3.6 consistent with the Commission’s directive above.

3. Section 4.4.5.1 – System Planning Studies

1337. PG&E states that under section 4.4.5.1 the CAISO, PTOs and utility distribution companies share information such as projected load growth and system expansion. However, PG&E argues that this section fails to provide protections for transmission

customer confidential information. PG&E states that the final MRTU Tariff should limit the CAISO's ability to publicly post such information.

1338. The CAISO states that PG&E's request is unwarranted because other than changing "ISO" to "CAISO," the MRTU filing does not propose any change to this section and PG&E does not demonstrate that this provision is unjust and unreasonable.

Commission Determination

1339. We find that, consistent with the CAISO's representation, section 4.4.5.1 is based on section 4.4.8.1 of the CAISO tariff and is updated solely to reflect MRTU terminology. Therefore, since the Commission has already accepted this provision, and PG&E has not explained any change in circumstances or other rationale to support modifying this provision, we deny PG&E's request.

4. Section 4.5.1.2.1.2 – Obligation to Report a Change in Credit Rating

1340. Under this proposed section, a Scheduling Coordinator has an obligation to inform the CAISO within three business days if its approved credit rating is reduced below the CAISO requirements. SoCal Edison states that Scheduling Coordinators should notify the CAISO of any changes in credit, not just changes that reduce its rating below the CAISO requirements.

1341. The CAISO states that the language under section 4.5.1.2.1.2 will be superseded by an amendment to section 12 of the current CAISO tariff.

Commission Determination

1342. We find that SoCal Edison's issue has been rendered moot. The Commission issued an order addressing section 12 of the current CAISO tariff on May 12, 2006,⁵⁵⁸ and the CAISO submitted a compliance filing on August 9, 2006, to modify section 12 of the CAISO tariff.

⁵⁵⁸ See *Cal. Indep. Sys. Operator Corp.*, 115 FERC ¶ 61,170 (2006).

5. Section 11.2.4.1 – Calculation of IFM Congestion Fund

1343. IEP/WPTF state that the IFM Congestion Charge⁵⁵⁹ referenced in this section contradicts the definition for Congestion Charge in the Master Definitions Supplement.⁵⁶⁰

1344. The CAISO explains that the term Congestion Charge is intended to refer to the general concept of charges associated with the marginal cost of congestion that can be used for funding CRRs and agrees to further define the term IFM Congestion Charge to provide clarity.

Commission Determination

1345. We find that the definition of IFM Congestion Charge is necessary in the MRTU Tariff in order to provide clarity. Therefore, we direct the CAISO to make a compliance filing within 60 days of the date of this order that includes the definition.

6. Section 11.29.7 – Settlements Cycle

1346. PG&E states that the Settlements Cycle provision is based on the current market design, retains language appropriate to the current Preliminary and Final Settlements Statement Cycles and fails to address the newly proposed Settlements and Market Clearing System and the Pass Through Bill concept envisioned for the MRTU settlement cycle. PG&E states that the final MRTU Tariff should reflect the MRTU Settlement and Market Clearing System settlement process. In addition, PG&E asserts that the proposed MRTU Tariff section 11.29.7.1.1 states that components for each charge will be provided in the settlement period but fails to provide components necessary to validate LMP prices.

Commission Determination

1347. We find that we need additional information to determine whether changes to section 11.29.7 are necessary. Accordingly, we direct the CAISO to make a compliance filing within 60 days of the date of this order that responds to this issue.

⁵⁵⁹ Section 11.2.4.1 states, “For each Settlement Period of the IFM, the CAISO shall calculate the IFM Congestion Charge as the IFM MCC for Demand minus the IFM MCC for supply.”

⁵⁶⁰ The CAISO’s Master Definitions Supplement defines Congestion Charge as “a charge attributable to the Marginal cost of Congestion at a given pricing Node.” MRTU Tariff, Appendix A, Master Definitions Supplement.

7. Section 12.3 – Limitation on Trading

1348. SoCal Edison states that under this section a Scheduling Coordinator, CRR holder, utility distribution company or MSS that does not maintain an approved credit rating shall maintain security, as defined under tariff section 12.1. SoCal Edison asserts that likewise, limits on trading established for Scheduling Coordinators, utility distribution companies and MSSs should be expanded to entities that are allocated CRRs.

1349. The CAISO states that only Scheduling Coordinators may participate in the CAISO markets. Accordingly, a CRR holder will be subject to the limitations on trading provided in section 12.3 because it is not permitted to trade unless it is a Scheduling Coordinator as well.

Commission Determination

1350. Under MRTU Tariff section 4.5.1, the CAISO will accept bids only from Scheduling Coordinators that the CAISO has certified as having met the requirements to become a Scheduling Coordinator. Thus, a CRR holder under section 12.3 must also meet the stated requirements of a Scheduling Coordinator in order to be permitted to trade. Because CRR holders are subject to these requirements as Scheduling Coordinators, we disagree with SoCal Edison that the requirements do not apply to CRR holders and, therefore, it is not necessary to expand this section.

8. Section 12.4 – Credit Obligation for New Responsible Utilities⁵⁶¹ for RMR Costs

1351. MRTU Tariff section 12.4 references a letter of credit in such form as the CAISO may require from time to time and indicates that the letter of credit, “should authorize the CAISO or the Owner to draw on the letter of credit for deposit solely into the RMR Owner Facility Trust Account in an amount equal to any amount due... under the CAISO Invoice.” PG&E states that the term RMR Owner Facility Trust Account needs to be defined.

1352. In response, the CAISO states that no change is necessary to MRTU Tariff section 12.4 because RMR Owner Facility Trust Account is a defined term in the RMR contract.

⁵⁶¹ MRTU Tariff, Appendix A, Master Definitions Supplement defines a New Responsible Utility as, “A Responsible Utility that executes a TCA after April 1, 1998.” These entities were previously referred to as New PTOs.

Commission Determination

1353. We believe the RMR Owner Facility Trust Account, as a capitalized term in the MRTU Tariff, should be defined in the Master Definitions List. We, therefore, direct the CAISO to make a compliance filing within 60 days of the date of this order that includes a definition for the term.

9. Section 16.1.2 - Right to Use and Ownership of Facilities.

1354. Section 16.1.2 states, “The CAISO may refuse to accept ETC Self-Schedules pursuant to Existing Contracts that do not meet the requirements of the principles, protocols and rules referred to in this section 16.1.” TANC asserts that the "principles" and "protocols" on which CAISO may refuse to accept ETC self-schedules have not been specified, and thus creates ambiguity.

Commission Determination

1355. Section 16.1 provides for the continuation of rights and obligations under ETCs. The principles and protocols include all terms, conditions and rates of the existing contracts as they may change from time to time for the duration of the contracts. We find that no additional changes are needed to clarify this section.

10. Section 24.7 – Cost Responsibility for Transmission Additions or Upgrades

1356. Under section 24.7.3, a project sponsor that does not recover the investment cost of an upgrade or addition under a Commission-approved rate through the access charge, or a reimbursement or direct payment from a PTO, is entitled to receive a compensation package based on a negotiation between the project sponsor, the CAISO and the PTO. This section additionally states that if the parties agree to a compensation package, the CAISO will provide notice of agreement on the CAISO website and, only in the event of a dispute, file the proposed compensation package with the Commission. TANC argues that the compensation package for new projects will affect rates and charges and should be filed with the Commission.

Commission Determination

1357. MRTU Tariff section 36.11 states that sponsors of merchant transmission upgrades may be allocated CRR options that reflect the contribution of the upgrade to grid transfer capacity as determined in section 24.7.3. The compensation package referred to under section 24.7.3 includes CRR options. TANC objects to the “posting” of an agreement on the CAISO’s website and argues the compensation package should be filed with the Commission. We agree with TANC that the posting of an agreement

negotiated between the merchant sponsor and the CAISO is insufficient given that the CRR allocation process for merchant transmission upgrades lacks specificity. We previously concluded in our discussion of CRRs that the CAISO's proposal for allocation of CRRs to merchant transmission sponsors lacks sufficient detail and directed the CAISO to further develop its proposal and submit revised tariff language. We conclude that this detail is necessary in order to permit the posting of an agreed-to compensation package for CRR options under section 24.7.3. Therefore, we direct the CAISO to make a compliance filing within 60 days of the date of this order providing this additional detail.

B. Business Practice Manuals

1358. Business Practice Manuals document through procedures, examples and timelines the manner in which the CAISO conducts its operations under the MRTU Tariff. The manuals will serve as guides for internal operations and inform market participants of the CAISO's practices. The information contained in the Business Practice Manuals is meant to provide further explanation of the CAISO's practices but not significantly affect any rates, terms or conditions, consistent with the Commission's "rule of reason."

1359. The CAISO states that it intends to develop and issue Business Practice Manuals that will include more detail than the MRTU Tariff provisions. According to the CAISO, the manuals will provide consistency and transparency in the implementation of MRTU. The CAISO explains that the manuals will cover the following subjects: settlements, bidding process, mitigation, IFM, RUC, HASP, real-time market, CRRs, billing, resource adequacy, credit policy and forecasting. The CAISO states that it will seek stakeholder input at each stage of the manual drafting process and aims to have operational versions of the Business Practice Manuals released in May 2007.

Discussion

1360. Many commenters contend that, because the Business Practice Manuals have not been developed and filed with the Commission, it is impossible for market participants and the Commission to determine the justness and reasonableness of the MRTU Tariff or ensure that the manuals are consistent with the MRTU Tariff. Commenters maintain that the Business Practice Manuals could impose substantive obligations on market participants that effectively take precedence over the terms of the MRTU Tariff. Some commenters, such as CMUA, conclude that the Commission should defer acceptance of the MRTU Tariff and require the CAISO to file all the Business Practice Manuals as part of the MRTU Tariff for Commission approval under section 205 of the FPA. Some request that the Commission reject, suspend or not set an effective date for the MRTU Tariff until the CAISO files the Business Practice Manuals. Others, such as PG&E, argue that certain details that the CAISO intends to include in the Business Practice Manuals should instead be incorporated into the MRTU Tariff. The CPUC requests that

the Commission convene a technical conference to determine what information should be included in the Business Practice Manuals. BPA believes that the contents of the Business Practice Manuals should be binding on the CAISO.

1361. Commenters contend that the CAISO has failed to meet the burden to show that the material included in the Business Practice Manuals does not need to be in the MRTU Tariff. They submit that the burden of proof has been reversed because participants must file a complaint to show that Business Practice Manuals render the CAISO's rates, terms, and conditions unjust and unreasonable.

1362. Commenters also argue that, under the "rule of reason" used to determine which jurisdictional practices must be filed for Commission approval, the Commission requires public utilities to file practices that may affect the terms and conditions of service significantly. Several commenters point to Commission precedent requiring referenced documents such as handbooks and manuals to be filed along with a tariff.⁵⁶² TANC and Bay Area Municipals claim that the CAISO's failure to file the Business Practice Manuals with the MRTU Tariff is analogous to the time the CAISO did not file its protocols as part of its initial filing of the CAISO tariff. TANC and Bay Area Municipals note that the Commission ultimately required the CAISO to file all its protocols with the Commission under section 205 of the FPA. TANC adds that the Commission's order on the CAISO's proposed credit policy revisions⁵⁶³ supports its position that the Commission should defer action on the MRTU Tariff until the CAISO has included final drafts of all Business Practice Manuals in its filing.

1363. Commenters are also concerned that the CAISO's proposal lacks a formal review and approval process for amending the Business Practice Manuals and would allow the CAISO to amend the Business Practice Manuals with only 30 days notice. SoCal Edison notes that both PJM and the Midwest ISO have a formal stakeholder committee process to review and approve changes to their manuals. SoCal Edison and WPTF/IEP recommend that the Commission direct the CAISO to work with stakeholders to establish a review and approval process for amending the Business Practice Manuals. AREM and APS Energy request that parties be permitted to bring any disputes about the contents of the Business Practice Manuals directly to the Commission, bypassing the CAISO's alternative dispute resolution process.

1364. WPTF/IEP submits that the CAISO should file any amendments to the Business Practice Manuals as part of a quarterly compliance filing to the Commission. They also request that the CAISO implement a change management program for each Business

⁵⁶² *Citing Cal. Indep. Sys. Operator Corp.*, 107 FERC ¶ 61,329, at P 20-21 (2004); *Midwest Indep. Transmission Sys. Operator, Inc.*, 109 FERC ¶ 61,157 at P 557, 560; *PJM Interconnection, L.L.C.*, 106 FERC ¶ 61,251, at P 89, 90 (2004).

⁵⁶³ *Citing Cal. Indep. Sys. Operator Corp.*, 115 FERC ¶ 61,170.

Practice Manual that would include: a running log of proposed changes to be stored on a public website; a credible stakeholder review process and a review by a formal stakeholder committee; and issuance of market notices for significant amendments.

1365. The CAISO urges the Commission to reject arguments that the Business Practice Manuals must be filed for Commission review.⁵⁶⁴ The CAISO claims that such a process will be tremendously onerous and waste scarce resources that could better be utilized to move forward with the new markets in California.

1366. The CAISO contends that the level of detail included in the MRTU Tariff is comparable to that in other ISO and RTO OATTs and is acceptable under the Commission's "rule of reason." It points out that, while the Commission treated the CAISO informational filing of protocols as a filing under section 205 of the FPA, it explicitly recognized that many of the protocols did not need to be filed.⁵⁶⁵ The CAISO also claims that the Commission's order on the CAISO's proposed credit policy revisions recognized that portions of the credit policy need not be on file. It further contends that the OATT Reform NOPR strongly suggests that the Commission views creditworthiness requirements as an exception to the general rule that certain details related to a transmission provider's OATT need not be on file.⁵⁶⁶ The CAISO notes that market participants do not need Commission authorization to bypass the alternative dispute resolution process because they can file a complaint.

1367. The CAISO states that it has initiated a rigorous stakeholder process to develop the Business Practice Manuals, and, to the extent stakeholders believe that certain material should be included in the MRTU Tariff rather than the manuals, they should raise their concerns during this process.⁵⁶⁷ Based on that stakeholder input, the CAISO states it will develop a strawman proposal as to which details the CAISO believes should

⁵⁶⁴ The CAISO notes that the Commission has previously rejected arguments that Business Practice Manuals and operating procedures must be filed for Commission review. *Citing Midwest Indep. Sys. Operator, Inc.*, 108 FERC ¶ 61,163 at P 650; *PJM Interconnection*, 81 FERC ¶ 61,257; *New England Power Pool*, 95 ¶ 61,253 (2001); *New England Power Pool*, 110 FERC ¶ 61,396, at P 27-29 (2005); *Southwest Power Pool*, 114 FERC ¶ 61,289 (2006).

⁵⁶⁵ *Citing Pacific Gas and Electric, Co.*, 81 FERC ¶ 61,320, at 62,471 (1997).

⁵⁶⁶ *Citing Notice of Proposed Rulemaking, Preventing Undue Discrimination and Preference in Transmission Service*, 71 Fed. Reg. 32,636, 32702, FERC Stats. & Regs. ¶ 32,636, at P 453-455 (2006).

⁵⁶⁷ The CAISO states that the stakeholder schedule for input on the Business Practice Manual drafts is as follows: initial drafts of the four most critical manuals posted on May 8, 2006; stakeholder meetings held on May 16-18, 2006 and May 23-25, 2006; drafts of all 13 Business Practice Manuals to be posted by July 31, 2006; three weeks of stakeholder review meetings starting mid-August.

be moved from the Business Practice Manuals to the MRTU Tariff. The CAISO proposes that the Commission then convene a technical conference in San Francisco in late September to discuss the straw proposal. Following the technical conference, the CAISO states it could make an FPA section 205 filing to move appropriate material into the MRTU Tariff. The CAISO argues that, consistent with the Commission's order on the Midwest ISO,⁵⁶⁸ the process of evaluating whether additional detail from the Business Practice Manuals should be added to the MRTU Tariff should not delay a comprehensive order on this filing.

1368. The CAISO also commits to creating a strawman proposal for stakeholder review that will include a Business Practice Manual change management process to be incorporated into the MRTU Tariff. Based on stakeholder input, the CAISO states that it will develop a final proposal on the change management process for consideration by the CAISO Board of Governors that will then be submitted for Commission approval under section 205 of the FPA. TANC argues that the change management proposal issued by the CAISO to stakeholders gives the CAISO the authority to unilaterally change provisions in the Business Practice Manuals that the Commission has yet to see.

Commission Determination

1369. The issue of whether provisions intended for inclusion in the Business Practice Manuals must be filed under section 205 of the FPA is determined through the "rule of reason," which governs the types of documents that must be filed for Commission approval. Our policy is that only those practices that significantly affect rates, terms and conditions fall within the directive of section 205(c) of the FPA.⁵⁶⁹

1370. We find that our "rule of reason" test requires a case-by-case analysis, comparing what is in the MRTU Tariff against what is in the Business Practice Manuals. Given that the CAISO is still developing the Business Practice Manuals, we find that such an analysis is premature at this time. We direct the CAISO to continue working with stakeholders to develop the Business Practice Manuals. Once this process is completed, we direct the CAISO to file, within 30 days of the completion of the Business Practice Manuals stakeholder process, but no later than 180 days before the effective date of MRTU Release 1, any necessary additions to the MRTU Tariff. We will then schedule a period of comments; after which, we direct Commission staff to convene a technical

⁵⁶⁸ *Citing Midwest Indep. Transmission Sys. Operator, Inc.*, 109 FERC ¶ 61,157 at P 557-564.

⁵⁶⁹ *See Prior Notice and Filing Requirements under Part II of the FPA*, 64 FERC ¶ 61,986 (1993) (explaining Commission jurisdiction with respect to all rates and charges that are "for or connected with" and all agreements that "affect or relate to," jurisdictional activities).

conference to assist us in the determination of which practices or details remaining in the Business Practice Manuals might appropriately belong in the MRTU Tariff.

1371. We direct the CAISO to file its proposed tariff language regarding a standard, formalized process for amending the Business Practice Manuals, within 30 days of the completion of the Business Practice Manuals stakeholder process but no later than 180 days before the effective date of MRTU Release 1.

VIII. MRTU Implementation Schedule, Readiness and Post-Implementation Review

1372. Due to the large-scale nature of the market redesign, the CAISO proposes three releases of MRTU software. Release 1 will include all market design features and elements that are necessary to: (1) ensure reliable operation of the grid; (2) ensure that the market design works properly; or (3) satisfy a regulatory requirement. The MRTU Tariff before us implements Release 1. As a result of a recent assessment of the status of MRTU software development, the CAISO has moved the projected implementation of Release 1 from early 2007 to November 2007. The CAISO believes that this delay will benefit market participants who need a year or more to develop the internal business practices necessary to effectively participate in the new market.

1373. Release 1A, which will include convergence bidding, may be implemented within 12 months of Release 1. Release 2 will include features that the CAISO has determined are not essential for the initial MRTU implementation.⁵⁷⁰ The CAISO expects to

⁵⁷⁰ The CAISO states in its transmittal letter that the following will be considered as part of MRTU Release 2: (1) use of bid-in demand rather than demand forecast in pre-IFM passes in the day-ahead market; (2) unrestricting the pool of resources in the IFM pass for the day-ahead market; (3) eliminating use of extreme decremental bids on the Pass 1 schedule in the day-ahead market; (4) simultaneous RUC and IFM; (5) use of import capacity in the RUC process; (6) participating load demand response in day-ahead market; (7) the California Energy Commission's proposal on rebate of loss over-collection for renewable resources; (8) system-level scarcity pricing; (9) consideration of a full hour-ahead settlement market; (10) dynamic pivotal supplier test for market power mitigation; (11) multi-settlement system for ancillary services; (12) consideration of import energy in the RUC process; (13) multi-day unit commitment in the IFM; (14) decremental bids on final day-ahead resource schedules; (15) ramping limits for the real-time pricing run with constrained output generation; (16) ramp rates -- operational ramp rate function, operating reserve ramp rate and regulation ramp rate; (17) ancillary service self-provision at the interties; (18) reservation of transmission capacity for ancillary service exports; (19) hourly designation of ancillary service contingency only flag; and (20) combined-cycle modeling. *See* CAISO Transmittal Letter at

implement Release 2 within three years of the Release 1 implementation date. The CAISO states that this deliberate staging of the MRTU process is necessary due to the many challenges associated with developing and implementing a new market design.

Discussion

1. Implementation Schedule

1374. Some commenters argue that MRTU, in particular its LMP element, should be tested and phased in gradually to facilitate a reliable and smooth transition. They dispute the need for a deadline-driven design and the CAISO's ability to meet its November 2007 implementation date. Imperial requests that, as with the Midwest ISO, the Commission direct a preliminary phase-in of the LMP market model and require participants to submit cost-based bids for generation resources so that market participant get accustomed to the LMP congestion charges.⁵⁷¹ SMUD and the MRTU Staging Coalition contend that an expeditious implementation is not necessary because the CAISO is not in crisis. Instead, they support a design with additional incentives for resource adequacy to resolve the CAISO's central market inefficiencies.⁵⁷² These commenters argue that delaying LMP until the CAISO "gets it right" is consistent with the Commission's policy on market redesign.⁵⁷³ The MRTU Staging Coalition believes that the phased-in proposal addresses the current market deficiency (i.e., the timely construction of sufficient infrastructure) and eliminates marginal losses.⁵⁷⁴

95-96. The CAISO states that it will prioritize the above items based upon input from stakeholders, Commission staff and the CAISO Governing Board and Executive Officers.

⁵⁷¹ Imperial also requests that the CAISO provide market participants with promised LMP impact studies, cost analysis and allocations.

⁵⁷² SMUD and the MRTU Staging Coalition point to Witness Alaywan's testimony that this phased-in approach will reduce the risks of market flaws and market failures that a full Release 1 redesign by November 2007 poses. The MRTU Staging Coalition adds that current market design's sub-optimal methods for eliminating infeasible forward schedules, seams with neighboring control areas and excessive uplift charges can be addressed through measured improvements, such as introduction of an IFM with a Full Network Model, the current strong resource adequacy requirement and replacing the current must-offer obligation with RUC. The MRTU Staging Coalition states that the phase-in proposal defers the LMP and the LMP-based design elements such as: CRRs, LAPs, the double payments and charges that must be reverse-settled and the associated modifications to bilateral supply agreements. *See* SMUD Comments, Ex. 1, Alaywan Testimony.

⁵⁷³ *Citing Southwest Power Pool, Inc.*, 114 FERC ¶ 61,289 at P 3.

⁵⁷⁴ The MRTU Staging Coalition states that the CAISO has disregarded the Commission's directive to consult with stakeholders on the costs and benefits of using

1375. Lassen contends that a phased-in approach will: (1) accommodate the complexity of the filing, ensuring stability and order in a seamless and transparent transition; (2) allow for a “result-driven” implementation timeline; (3) provide adequate time to address concerns with incomplete or missing components of the MRTU Tariff; and (4) give the Commission and the CAISO time to address operational and jurisdictional issues.

1376. CMUA questions whether the Commission can ensure that MRTU will be just and reasonable if implementation is rushed. Williams urges the Commission to continue to press for expeditious implementation of MRTU but not to accept inferior proposals or an incomplete design for the sake of expediency. SDG&E urges the Commission to move quickly to approve implementation of the MRTU Tariff by November 1, 2007 because the original tariff is inadequate for purposes of coordinating the short-forward markets to promote efficient and reliable operations.

1377. Constellation/Mirant argue that the deferral of LMP and CRRs will reduce, if not eliminate, the ability of the MRTU implementation to provide transparent and accurate price signals that encourage and facilitate competition in the building of infrastructure. They note that the Commission has supported the use of LMP and CRRs in MRTU since the redesign effort commenced over five years ago. They disagree that LMP creates gaming opportunities.

1378. The CAISO argues that it is not necessary for the Commission to consider SMUD’s and the MRTU Staging Coalition’s proposal, unless the Commission finds that the MRTU Tariff is so fundamentally flawed that the MRTU design is unjust and unreasonable or unduly discriminatory.⁵⁷⁵ The CAISO adds that SMUD and the MRTU Staging Coalition have not shown that their concept is a just and reasonable alternative to the MRTU proposal. The CAISO notes that an analysis of a similar staged or transitional implementation of LMP-based markets prepared by Charles River Associates, at the CAISO’s request, shows that such an approach would be second best to the proposed MRTU design.⁵⁷⁶ The CAISO also notes that SMUD’s and the MRTU Staging

marginal losses. It adds that PJM does not use marginal losses, has no stakeholder consensus to change course and does not plan to implement marginal losses without such a consensus.

⁵⁷⁵ The CAISO emphasizes that it is not required to show that the MRTU Tariff rates, terms and conditions are perfect or superior to alternatives proffered.

⁵⁷⁶ The CAISO believes that the Charles River Associates analysis is applicable to SMUD’s and the MRTU Staging Coalition’s proposal because it similarly involves enforcing all the constraints in optimizing the dispatch in day-ahead and real-time while pricing on a zonal or system basis and then paying for incremental and decremental dispatch in some manner to clear congestion. The MRTU Staging Coalition responds

Coalition's proposal departs substantially from the Commission's findings and directives in prior MRTU orders, particularly with respect to the Commission's support for an LMP-based market design. The CAISO believes that it would be an inefficient use of resources to postpone the LMP elements of MRTU to a later date. The MRTU Staging Coalition and SMUD respond that they do not oppose LMP but believe its implementation should be delayed in order to fully assess the LMP elements of MRTU.

1379. The CAISO believes that an expeditious implementation of MRTU that provides for full testing and confidence in new software will bring the maximum benefit to consumers. It adds that the November 2007 implementation date gives the CAISO and market participants many months of experience with the new design prior to the 2008 summer season. The CAISO contends that, even though the CAISO is not currently in crisis, the November 2007 implementation date is appropriate because, even before the start of the California energy crisis, the Commission had determined that the CAISO market design was flawed and should be redesigned.⁵⁷⁷

Commission Determination

1380. We believe that it is essential that the MRTU market design be implemented only when the CAISO's and the market participants' systems, software and tools have been fully tested and the CAISO and its stakeholders are confident that MRTU will function properly when implemented. We are strongly committed to a sound and orderly MRTU implementation plan and will not allow that to be sacrificed for the sake of expedience. Therefore, as described more fully below, we will require the CAISO to file a readiness certificate with the Commission prior to the implementation of MRTU.

1381. We will not adopt the commenters' proposal to segment MRTU and to stage its implementation. The CAISO market redesign effort commenced over five years ago when the Commission determined, even before the California energy crisis, that the CAISO market design was flawed. The Commission has supported a comprehensive redesign, including the use of LMP and CRRs, and we have not been convinced by commenters' arguments for a staged implementation.⁵⁷⁸ LMP is central to the market redesign, and it would be a tremendously inefficient use of resources to attempt to implement a subset of the market redesign without it.

1382. With regard to the concerns raised by protestors about the MRTU implementation

that its proposal should not be equated with the approach studied in the Charles River Associates analysis because its proposal uses zonal clearing energy prices.

⁵⁷⁷ Citing January 2000 Order, 90 FERC at 61,013-14.

⁵⁷⁸ We note that this comprehensive market redesign is already being implemented in stages; Phase 1A (market power mitigation measures) went into effect in 2002, and Phase 1B (real-time economic dispatch) went into effect in 2004.

schedule, we believe that the CAISO and market participants should proceed diligently to meet the November 2007 implementation date. The stressed system conditions in the CAISO over the past two summers have highlighted the need to remedy the CAISO market flaws and allow the benefits of MRTU to materialize as soon as possible. With the readiness safeguards we are putting in place in this order, we expect that MRTU will be implemented successfully and at this point we are not prepared to delay the MRTU target implementation date.

2. Disbursement of Technical Information and Development of Market Participant Software

1383. AREM and Strategic argue that the current implementation schedule is not workable because they have not been given the technical information needed to develop their internal systems. They contend that they cannot build their systems when technical information is not released to the public⁵⁷⁹ or is provided piecemeal due to the CAISO's testing plan that increases in complexity over time. They urge the Commission to require the CAISO to: (1) provide detailed implementation information to all market participants; (2) revise its schedule to release complete and final technical documentation and Business Practice Manuals on an expedited schedule; (3) allow a reasonable amount of time for market participants to build their systems before testing; and (4) prohibit re-certification until these conditions are met. WPTF/IEP and Williams add that the modeling process and assumptions underlying the simulated LMP data are unclear and not accessible to market participants. They request that the Commission emphasize the need for workable processes that quickly and efficiently address market participant's questions about critical MRTU information.

1384. WPTF/IEP and Williams argue that stakeholders must have access to the topology contained in the Full Network Model,⁵⁸⁰ including the constraints (identification and limits) that will be and will not be implemented in the Full Network Model. They also request that the CAISO specify how it will address dynamic constraints, such as the Miguel and Southern California Import Transmission (SCIT) nomograms, which change with the level of generation.

1385. CMUA questions market participants' ability to monitor market outcomes, the Commission's ability to provide meaningful market oversight in the absence of available information, and market participants' ability to engage in effective risk management if certain tools and market information are not available. CMUA submits a proposal for implementation and data transparency that includes: (1) mechanisms that make publicly, or widely, available key tools that allow market participants to conduct forward risk

⁵⁷⁹ AREM complains that all technical detail in the CAISO's April 3, 2006 status report was considered confidential and redacted from the filing.

⁵⁸⁰ The CPUC supports public release of the Full Network Model.

management, including the Full Network Model and load distribution factors that are needed to assess market outcomes; (2) generation patterns; and (3) entry and exit criteria for system development. CMUA complains that the CAISO status reports have been partially under seal. CMUA proposes that the Commission convene a technical conference on how implementation and data transparency matters will be addressed.

1386. The CPUC is concerned that delays in the release of specifications for Automated Program Interface Documentation could prevent market participants from developing systems in time for the November 2007 MRTU implementation date. The CPUC believes that the CAISO will need to provide these specifications by the latter part of 2006 to enable market participants to prepare their systems and software.

1387. The CAISO acknowledges that market participants will need time to develop systems and business processes to participate in the MRTU market but believes that these systems and processes can be under development while the Business Practice Manuals and other MRTU documentation are finalized. The CAISO contends that it has already published initial drafts of the Business Practice Manuals that are the most critical for market participants in the development of the systems and business processes necessary to participate in the MRTU markets.⁵⁸¹ The CAISO states that the drafts of all 13 Business Practice Manuals will be posted by July 31, followed by three weeks of stakeholder review meetings.

1388. The CAISO adds that it is determining which details of the Full Network Model it can release without violating restrictions on the release of proprietary information or running afoul of confidentiality concerns. The CAISO states that it intends to update stakeholders on this issue at the June 20, 2006 MRTU implementation workshop. The CAISO urges the Commission to refrain from issuing a directive on this issue.

1389. With respect to the release of specifications for Automated Program Interface Documentation, the CAISO states that, on May 31, 2006, it posted technical interface documentation for MRTU bidding, market results, settlements, ADS, and OASIS systems on the CAISO website. The CAISO believes that this posting, as supplemented with revised and additional MRTU technical interface documentation, will provide market participants with sufficient time to prepare for the November 2007 MRTU implementation date.

⁵⁸¹ The CAISO points to the publication of initial drafts of Business Practice Manuals that build upon the following MRTU Tariff provisions: market instruments; market operations; settlements and billing; and definitions and acronyms. The CAISO notes that stakeholder meetings to gather input on the drafts were held in May 2006.

Commission Determination

1390. We agree that it is important for market participants to have timely access to technical information and data needed to develop market participants' internal systems. The CAISO has been providing this technical information, though not on a time line that is satisfactory to some market participants. We note that the CAISO has published initial drafts of the Business Practice Manuals that are critical for the development of market participants' systems and business processes.⁵⁸² Moreover, the CAISO has provided necessary information with respect to the specifications for Automated Program Interface Documentation. While we believe that this information provides market participants with sufficient technical information to develop their systems, we direct the CAISO to develop processes for responding quickly and efficiently to market participants' questions about critical MRTU information and direct the CAISO to file a report with the Commission within 60 days of the date of this order detailing how it is making this information available.

1391. We agree that stakeholders need access to the topology contained in the Full Network Model. As noted earlier, on August 18, 2006, the CAISO made the Full Network Model available, subject to a non-disclosure agreement, to market participants for use in reviewing and analyzing the CAISO's CRR Dry Run simulation and the CRR markets.⁵⁸³ Accordingly, we have directed herein that the CAISO file tariff language that indicates that the Full Network Model is available to market participants if they sign a non-disclosure agreement. We also direct the CAISO to develop a process for ensuring implementation and data transparency matters. We do not find it necessary for staff to convene a technical conference on the process for ensuring transparency. As discussed previously, we direct the CAISO to include in a compliance filing revised tariff sheets including an outline of the process it intends to use to account for changes in the topology of the grid.⁵⁸⁴

3. Additional Section 205 Filings and Release 2

1392. The CAISO anticipates additional FPA section 205 filings later in 2006 and in 2007 related to Release 1. The CAISO states that these filings will cover the following issues: (1) the methodology for determining the day-ahead RUC procurement target; (2) the methodology for post-day-ahead release of resource adequacy capacity; (3) the

⁵⁸² The CAISO has posted drafts of the following Business Practice Manuals: Compliance Monitoring; CRRs, Definitions & Acronyms; Managing Full Network Model; Market Instruments; Market Operations; Metering; Outage Management; Reliability Requirements; Rules of Conduct; SC Application & Responsibilities; and Settlements & Billing.

⁵⁸³ See Full Network Model section above.

⁵⁸⁴ *Id.*

methodology for allocating CRRs to merchant transmission projects; (4) the methodology for defining sub-LAPs; (5) a *pro forma* agreement to bind entities other than Scheduling Coordinators that purchase CRRs to the relevant terms of the MRTU Tariff; (6) a process to recertify Scheduling Coordinators prior to implementation of the new market design; (7) information necessary for inclusion in the MRTU Tariff rather than the Business Practice Manuals; (8) a process to be codified in the MRTU Tariff for obtaining stakeholder input on proposed changes to Business Practice Manuals; (9) tariff provisions modeled on approved provisions in other ISOs that will allow the CAISO to make price corrections in certain circumstances where market design flaws, the MRTU software or equipment malfunctions produce anomalous results; and (10) the rules for providing bid cost recovery to MSSs.

1393. The CAISO states that, although these filings will address important topics, none of them will alter the core elements of the MRTU design reflected in the MRTU Tariff before us.

1394. The CAISO also anticipates implementing a number of market design features in Release 1A, within 12 months of Release 1, and in Release 2, within three years of Release 1.

1395. Cities/M-S-R argue that the numerous matters that must be covered in the upcoming FPA section 205 and Release 2 filings, in conjunction with the matters that will be included in the Business Practice Manuals, shows that the MRTU Tariff is incomplete on its face. Cities/M-S-R and Modesto urge the Commission to direct the CAISO to supplement its current filing now to include the matters in the future FPA section 205 and Release 2 filings. Cities/M-S-R request that the Commission defer acceptance of the MRTU Tariff until the Release 2 filings are submitted.

1396. SDG&E urges the Commission to direct the CAISO to: (1) commence stakeholder activities on prioritizing and assessing the Release 2 design elements, (2) pursue implementation of the Release 2 design elements to follow Release 1 by no more than one year and preferably six months, (3) include in Release 2 all CRRs to be auctioned with the resulting revenue used to offset the fixed costs of the grid paid by LSEs through TACs. The CPUC requests that the Commission direct the CAISO to initiate a stakeholder process to address additional issues related to the integration of intermittent resource issues into Release 2, including transmission line loss overcollection issues.

1397. The CPUC requests that the CAISO initiate a stakeholder effort to address additional issues related to the integration of intermittent resource issues into MRTU for Release 2.⁵⁸⁵

1398. Western argues that the Commission should require the CAISO to model its tariff on the Commission's *pro forma* OATT or to "lock-in" the MRTU Tariff with limited flexibility to make revisions. Constellation/Mirant respond that, like each of the existing ISOs, the CAISO will need to refine, modify and restructure its business process and tariff on a continuous basis. However, they urge the Commission to direct the CAISO to include proposed modifications to the MRTU Tariff only if: (1) the absence of the proposed modification will create a significant market flaw; or (2) the proposed modification is a definitive improvement or enhancement to the MRTU design that will not hinder the November 2007 deployment timeframe.

1399. The CAISO commits to submit a compliance filing with clarifications and revisions to the MRTU Tariff that address certain questions and concerns raised in initial comments.⁵⁸⁶ The CAISO notes that eastern ISOs and RTOs have been required to

⁵⁸⁵ The CPUC states that, for example, the CAISO should consider investigating forecasting and control room technologies that could improve upon the CAISO's current ability to forecast wind. It argues that improved forecasting and control room technologies will improve the integration of wind into the CAISO market. It adds that such an effort would be consistent with the CAISO's commitment to develop by the end of 2006 a proposal supporting state policy regarding renewables.

⁵⁸⁶ The most significant revisions the CAISO commits to make in a compliance filing are: tariff changes associated with the treatment of ancillary service self-provision including automation of the release of energy from self-provided ancillary service capacity in the LAP clearing process and lifting the restriction that ancillary service bids must be accompanied by energy bids in the day-ahead market; revisions that will allow LSEs to better ensure they can fully utilize their available resource adequacy resources in the IFM during times of supply shortage, while at the same time allowing for the self-scheduled exports that are being supported and sources from non-resource adequacy resources; revisions that would require advance scheduling of only those transmission maintenance outages that will have a significant impact on CRR revenue adequacy; the addition of detail on LMP calculations based on stakeholder input received during the forthcoming review of LMP business practice manuals; exemptions from unaccounted for energy and neutrality for TOR self-schedules that are submitted for use of nodes on the TOR facilities in the CAISO's Control Area; provisions clarifying the eligibility of pump resources for CRRs; clarifications to the bid cost recovery mechanism and elimination of rescission of bid cost recovery payments associated with start-up and minimum load costs for non-performance; clarifications concerning payment of ancillary services from imports selected in the day-ahead market and reduced in the HASP due to a derate at the applicable inertia; and clarification of the physical validation requirements for Inter-SC

update their tariffs continually to reflect changing operational and market needs without causing undue burden on those who participate in those markets. The CAISO envisions a similar need to update the MRTU Tariff to address changing needs and to add market features that may be desirable but are not essential for Release 1. The CAISO contends that Western's suggestion that the MRTU Tariff should be modeled upon the *pro forma* OATT is an attempt to force the CAISO to revert to a physical rights model.

1400. The CAISO urges the Commission to deny the requests to add design features to Release 1. The CAISO explains that the need to ensure that the new markets are not excessively complicated when first implemented and the substantial CAISO and stakeholder resources needed to design each market feature lead the CAISO to conclude that a number of market design features that might be desirable were not essential for the "day one" implementation of MRTU.⁵⁸⁷ The CAISO adds that, because all schedule contingencies in the Release 1 development process have been consumed, any significant addition or modification has the potential to substantially impact the Release 1 implementation date. The CAISO claims that the incremental benefits of incorporating such features into Release 1 are more than offset by the adverse impacts of delaying the new markets.

1401. The CAISO assures the Commission and stakeholders that it will devote the requisite time and resources to consider the addition of desirable features into subsequent MRTU market design releases. The CAISO states that it will initiate a stakeholder process later in 2006 to obtain input on how various proposed market design features should be prioritized after Release 1. The CAISO states that it will take into consideration the stakeholders' priorities and its own analysis of the benefits and implementation issues associated with various proposed design features when developing a proposal for developing and implementing post-Release 1 features. The CAISO believes that it is premature to discuss the timing for implementation of these features until that process is complete.

Commission Determination

1402. Although additional features could enhance MRTU, we find that these potential enhancements do not outweigh the need to implement without further delay the numerous benefits that the MRTU Tariff provides to the California markets and the entire West. However, we direct the CAISO to devote the requisite time and resources to consider the addition of desirable features into subsequent MRTU market design releases. In this

Trades. The CAISO states that these changes respond to significant concerns raised by commenters but are consistent with the MRTU's core design elements.

⁵⁸⁷ The CAISO states that it is obligated to demonstrate that the MRTU Tariff is just and reasonable but it is not obligated to demonstrate that its decision to exclude various features from Release 1 is just and reasonable.

regard, we direct the CAISO to initiate a stakeholder process by the end of 2006 to obtain input on how various proposed market design features, other than convergence bidding, should be prioritized after Release 1. Further, we direct the CAISO to address additional issues related to the integration of intermittent resource issues, including transmission line loss over collection issues, in Release 2.

4. Readiness and Post-Implementation Review

1403. The MRTU Staging Coalition claims that the CAISO has failed to provide adequate assurances that the MRTU software systems and market infrastructure will be sufficiently tested by the November 2007 implementation date to allow the CAISO to safely “go live.” SMUD argues that, due to delays in the MRTU software development, market participants will not have sufficient time to test critical elements of the software, unless the implementation date is delayed. PG&E, the CPUC, SMUD and CMUA state that objective readiness criteria must be established and met before MRTU is implemented. PG&E⁵⁸⁸ requests that the Commission direct the CAISO to establish a stakeholder process to develop specific and objective performance criteria for all critical MRTU elements and to make a compliance filing proposing those criteria as part of its readiness certification. PG&E and NCPA propose readiness criteria. PG&E and the CPUC request that the Commission convene a technical conference to determine the appropriate readiness criteria.

1404. PG&E also requests that the Commission require the CAISO to certify MRTU market readiness, 90 days prior to commencement, after it has completed testing and shared results with market participants. PG&E states that MRTU operations should not commence until the Commission has reviewed the CAISO’s certification and comments on that certification. PG&E recommends that the Commission convene a technical conference to address this issue. The CPUC recommends that the Commission review the information underlying the CAISO’s readiness certificate and issue a determination that the CAISO’s and other market participants’ systems are prepared to “go live.”

1405. Commenters argue that the Commission should not approve the MRTU proposal without: (1) a CAISO commitment to third-party verification and public market readiness criteria, and (2) a CAISO commitment to obtain market participant sign-off on the functionality of the software and the criteria for measuring market readiness. The MRTU Staging Coalition adds that the State Estimator software should be fully operational in six months and verified by a third party prior to implementation of nodal LMP and that settlement statements, under the new market design, should be available six months prior to MRTU implementation. NCPA requests that, once the LMP methodology and calculations are established, the Commission direct the CAISO to run

⁵⁸⁸ SoCal Edison and the CPUC support PG&E’s proposal on readiness criteria and certification.

numerous market simulations and to produce settlement interval LMPs for all financial settlement locations for a period of at least six months prior to MRTU implementation. NCPA also requests that the CAISO file CRR and resource adequacy study and allocation information. The MRTU Staging Coalition requests that, prior to implementation, the CAISO show the network model, nomograms, the output of the State Estimator, and in-depth LMP and CRR studies to market participants. SMUD argues that the current timeline for market participants to preview these elements is unreasonably short and that, without a delay or a more simplified implementation of the redesign, market participants will be subject to unacceptable business risk. Once the MRTU design is ready for implementation, Six Cities request that the Commission require a transition period during which the CAISO can determine that all systems, software and processes are functioning properly.

1406. PG&E believes that the Commission should require the CAISO to submit quarterly reports evaluating MRTU performance for the first year to ensure that MRTU is performing as expected and to provide information regarding additional corrective actions. PG&E proposes criteria for this post-implementation evaluation and argues that a technical conference should address potential criteria for evaluation of these quarterly reports.

1407. The CPUC, PG&E and SoCal Edison are concerned that the CAISO needs tariff authority to correct market design and implementation errors. NCPA requests that the CAISO provide an emergency operational protocol. PG&E and the CPUC request that the Commission convene a technical conference or require the CAISO to commence a stakeholder process to develop measures for responding to MRTU flaws. PG&E requests that the Commission require the CAISO to submit these criteria in a compliance filing and to successfully test these measures prior to the effective date of the MRTU Tariff.

1408. Constellation/Mirant respond that the MRTU implementation schedule indicates that the CAISO is committed to full and adequate testing of all new software, including the IFM optimization and Full Network Model elements of the MRTU software.

1409. The CAISO commits that MRTU will become effective only after the CAISO's new software and systems have been determined by the CAISO to be ready for implementation through the readiness process being developed by the CAISO in consultation with stakeholders. The CAISO does not object to the Commission accepting the proposed November 2007 effective date for the MRTU Tariff conditioned upon the determination by the CAISO that its readiness criteria has been satisfied.

1410. The CAISO believes that it is appropriate to develop a process that allows both the CAISO and market participants to show their readiness to move to the new markets prior to MRTU implementation. The CAISO believes that market participants should satisfy their own MRTU readiness criteria developed through the collaborative stakeholder

process that includes completion of training in the new markets and participation in MRTU simulations.

1411. The CAISO commits to develop specific readiness criteria through a collaborative stakeholder process. The CAISO states that it has developed an MRTU readiness proposal that provides a comprehensive approach to identifying and measuring the CAISO's preparedness to perform functions necessary to support MRTU implementation and the preparedness of Scheduling Coordinators and possibly other market participants. It states that this proposal will be discussed with stakeholders at a June 20, 2006 MRTU implementation workshop. The CAISO adds that, after finalization of the readiness approach, it intends to: (1) collaborate with stakeholders to establish measurable readiness criteria, (2) identify mitigation actions for non-performance or failure to meet readiness criteria, (3) established a methodology to determine if the CAISO, Scheduling Coordinators or other market participants are prepared for MRTU implementation, and (4) develop an MRTU readiness tracking system tied to specific milestones within the MRTU program timeline.

1412. The CAISO states that it will report on the development of both the CAISO and market participant readiness criteria in its monthly MRTU status reports to the Commission. The CAISO commits to file, at least 30 days prior to MRTU implementation, a statement confirming this readiness criteria determination with the Commission for information purposes. The CAISO does not believe that there is any justification for requiring Commission approval of the MRTU readiness criteria or the CAISO's readiness determination. The CAISO notes that the Commission only required the New England ISO and the New England Power Pool to provide written notice to the Commission that the pertinent market rule and its associated software were in place two weeks prior to the effective date of the New England LMP-based standard market design.⁵⁸⁹ The CAISO states that it will take seriously any Commission concerns about the market readiness either before or after its informational filing. The CAISO notes that the Commission will also have the authority under section 206 of the FPA to act at any time it believes that readiness concerns will prevent the implementation of just and reasonable markets.

1413. The CAISO adds that it intends to develop and file with the Commission tariff provisions modeled on provisions in other ISOs that will allow the CAISO to make price corrections in certain circumstances in which market flaws, the MRTU software, or equipment malfunctions produce anomalous results. The CAISO anticipates that the trials of the MRTU market prior to full implementation may identify circumstances in which application of such provisions may be appropriate, although it is premature to say whether such provisions will be tested in the MRTU trials.

⁵⁸⁹ *Citing New England Power Pool*, 100 FERC ¶ 61,287 at P 21, Ordering Paragraph E.

Commission Determination

1414. As we stated before, we believe that it is essential that the MRTU market design be implemented only when the CAISO's and the market participants' systems, software and tools have been fully tested and the CAISO and its stakeholders are confident that MRTU will function properly. We are strongly committed to a sound and orderly MRTU implementation plan and will not approve the start of MRTU until after we receive the CAISO's readiness certification and have considered any stakeholder concerns about the CAISO's readiness. We direct the CAISO to file, at least 60 days prior to the effective date of MRTU Release 1, a statement certifying market readiness. As with other ISOs/RTOs, we do not find it necessary to direct the CAISO to make more than an informational filing. If the Commission believes that readiness concerns will prevent the implementation of just and reasonable markets, the Commission will respond accordingly.

1415. We accept the CAISO's proposal for developing measurable readiness criteria through a collaborative process, identifying mitigation actions for non-performance or failure to meet readiness criteria, establishing a methodology to determine if the CAISO, Scheduling Coordinators and market participants are prepared for MRTU implementation and developing an MRTU readiness tracking system tied to specific milestones within the MRTU program timeline. We direct the CAISO, however, to include in its readiness criteria an assessment of the system's effectiveness when responding to instances where demand bids exceed supply bids. Because the CAISO has commenced a stakeholder process to develop readiness criteria, we do not find it necessary for staff to convene a technical conference. Instead, we direct the CAISO to report on the development of both the CAISO and market participant readiness criteria in its monthly status reports. We note that these monthly status reports must continue through MRTU implementation, currently slated for November 2007.⁵⁹⁰

1416. We note that the CAISO proposes to develop and file with the Commission tariff provisions that allow the CAISO to make price corrections when market design flaws, the MRTU software, or equipment malfunctions produce anomalous results. We believe that the CAISO should include stakeholders in the development of these provisions and should test these measures prior to the commencement of MRTU.

1417. We agree with PG&E's proposal to require the CAISO to submit quarterly reports evaluating MRTU performance and operational issues for the first year and providing information on corrective actions. Accordingly, we direct the CAISO, as of the effective date of MRTU Release 1, to commence filing post-implementation performance reports

⁵⁹⁰ The CAISO proposes to file its monthly status reports in the docket established by the instant filing rather than in Docket No. ER02-1656. We agree and direct the CAISO to commence filing its status reports in this proceeding.

on a quarterly basis within 30 days of the end of each calendar quarter. We will not direct a technical conference on post-implementation evaluation criteria at this time, but we find that the CAISO should develop such criteria collaboratively with stakeholders. In addition to the information that the CAISO will provide in these quarterly reports based upon this post-implementation evaluation criteria, we direct the CAISO to include the following: (1) a demonstration of compliance with NERC reliability standards and (2) an assessment of the system's ability to meet the ancillary service control, capability and availability standards set forth in MRTU Tariff sections 8.4.2, 8.4.3 and 8.4.4.⁵⁹¹

The Commission Orders:

(A) The CAISO MRTU Tariff is hereby conditionally accepted for filing, to be effective November 1, 2007, subject to further modifications, as discussed in the body of this order.

(B) The CAISO is hereby directed to make the compliance filings specified in the body of this order, within the timeframes provided in the body of this order.

(C) Commission staff is hereby directed to convene technical conferences, as discussed in the body of this order.

(D) The CAISO is hereby directed to work with market participants on RUC self-provision and to provide the Commission with reasons for the inclusion or exclusion of RUC self-provision no later than MRTU Release 2, as discussed in the body of this order.

⁵⁹¹ In order to ensure compliance with these standards, we direct the CAISO to include an assessment of the following in its quarterly, post-implementation performance reports: (1) the generating units of each participating generator scheduled to provide spinning reserve and non-spinning reserve are available for dispatch throughout the settlement period for which they have been scheduled; (2) the generating units of each participating generator scheduled to provide spinning reserve are responsive to frequency deviations throughout the settlement period for which they have been scheduled; (3) the ability of ancillary services providers to respond to signals from the CAISO Energy Management System to provide regulation when ACE exceeds the allowable CAISO Control Area dead band for ACE; (4) each provider of spinning or non-spinning reserve can provide its resource at the dispatched operating level within ten minutes after issuance of dispatch instructions; and (5) the generating units providing voltage support have automatic voltage regulators to correct the bus voltages within the prescribed voltage limits and within the machine capability in less than one minute.

(E) The CAISO is hereby directed to publish all instances of Exceptional Dispatch on its OASIS website beginning on the effective date of MRTU Release 1, as discussed in the body of this order.

(F) The CAISO is hereby directed to make information regarding the procurement of ancillary services available on the CAISO OASIS, as discussed in the body of this order.

(G) The CAISO is hereby directed to notify the Commission of any resource adequacy resource failing a compliance test or failing to pass a performance audit, as discussed in the body of this order.

(H) The CAISO is hereby directed to file a report to the Commission on the potential benefits of including multi-segment bidding for certain ancillary services before making its MRTU Release 2 filing, as discussed in the body of this order.

(I) The CAISO is hereby directed to develop software to support exports of ancillary services and to propose necessary tariff changes to implement this feature no later than MRTU Release 2, as discussed in the body of this order.

(J) The CAISO is hereby directed to develop and file interim measures, no later than 180 days prior to the effective date of MRTU Release 1, to address the potential economic incentive of LSEs to underschedule in the day-ahead market until the implementation of convergence bidding, as discussed in the body of this order. The CAISO is hereby directed to file proposed tariff language to implement convergence bidding within 12 months after the effective date of MRTU Release 1, as discussed in the body of this order.

(K) The CAISO and neighboring control areas are hereby directed to jointly report on their periodic meetings to resolve seams issues in quarterly status reports filed with the Commission within 30 days of the end of each calendar quarter, as discussed in the body of this order.

(L) The CAISO is hereby directed to develop and file a plan for bid cost recovery for units with a run-time greater than 24 hours for implementation no later than MRTU Release 2, as discussed in the body of this order.

(M) The CAISO is hereby directed to work with its software vendors to develop an application that will accurately detail the constraints of combined cycle units and to file proposed tariff language to implement such improvements no later than MRTU Release 2, as discussed in the body of this order.

(N) The CAISO is hereby directed to increase the number of LAP zones in its MRTU Release 2, as discussed in the body of this order.

(O) The CAISO's Department of Market Monitoring is hereby directed to monitor the LAP clearing process and to notify the Commission of anomalous occurrences, as discussed in the body of this order.

(P) The CAISO's Market Surveillance Committee is hereby directed to include its finding on an alternative competitive screen to identify market power opportunities for generation in load pockets in the CAISO's quarterly, post-implementation performance reports, as discussed in the body of this order.

(Q) The CAISO is hereby directed to work with the State Water Project to investigate non-software solutions for participating load modeling for use in MRTU Release 1 and to propose any necessary tariff modifications no later than 180 days prior to the effective date of MRTU Release 1, as discussed in the body of this order.

(R) The CAISO is hereby directed to work with market participants to present additional opportunities for demand response resources to participate in the CAISO market, as discussed in the body of this order. Parties interested in developing demand response in the CAISO market are hereby directed to file a proposal within 60 days of the date of this order, as discussed in the body of this order.

(S) The CAISO is hereby directed to file with the Commission within 30 days of its completion, for informational purposes, the complete results of the CRR dry run, as discussed in the body of this order.

(T) The CAISO is hereby directed to file proposed tariff language to implement the ability to sell CRRs in the CRR auction no later than MRTU Release 2, as discussed in the body of this order.

(U) The CAISO is hereby directed to modify the competitive assessments study and to make a compliance filing with the necessary tariff changes to reflect these modifications within 12 months of the effective date of MRTU Release 1, as discussed in the body of this order.

(V) The CAISO is hereby directed to file proposed tariff language to implement a reserve shortage scarcity pricing methodology within 12 months of the effective date of MRTU Release 1, as discussed in the body of this order.

(W) The CAISO is hereby directed to file proposed tariff language to implement bid-in demand as the basis for applying market power mitigation in the pre-IFM runs no later than MRTU Release 2, as discussed in the body of this order.

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(X) The CAISO is hereby directed to file, at least 60 days prior to the effective date of MRTU Release 1, a statement certifying market readiness, as discussed in the body of this order.

(Y) The CAISO is hereby directed to file monthly status reports on MRTU progress in this proceeding, Docket No. ER06-615-000, as discussed in the body of this order.

(Z) The CAISO is hereby directed, as of the effective date of MRTU Release 1, to file post-implementation performance reports on a quarterly basis within 30 days of the end of each calendar quarter, as discussed in the body of this order.

(AA) We hereby dismiss the requests for rehearing in Docket Nos. ER02-1656-027, ER02-1656-029 and ER02-1656-031, as discussed in the body of this order.

By the Commission.

(S E A L)

Magalie R. Salas,
Secretary.

Appendix A

Motions to Intervene

Timely Motions to Intervene

Alliance for Retail Energy Markets

APS Energy Services, Inc.

Arizona Electric Power Cooperative, Inc. and Southwest Transmission Cooperative, Inc.

Bay Area Municipal Transmission Group

Bonneville Power Administration

United States Bureau of Reclamation

California Electricity Oversight Board

California Energy Resources Scheduling Division

California Municipal Utilities Association

California Public Utilities Commission

Calpine Corporation

California Energy Resources Scheduling Division

The California Department of Water Resources

Cinergy Services, Inc.

Cities of Anaheim, Azusa, Banning, Colton, Pasadena, and Riverside, California

Cities of Redding and Santa Clara, California, and M-S-R Public Power Agency

City and County of San Francisco, California

City of Santa Clara, California

City of Burbank, California

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City of Roseville, California

City of Vernon, California

Cogeneration Association of California and The Energy Producers and Users Coalition

Constellation Energy Commodities Group, Inc., Constellation New Energy, Inc., and Mirant Parties (Mirant Energy Trading, LLC, Mirant California, LLC, Mirant Delta, LLC, and Mirant Potrero, LLC)

Control Area Coalition

Coral Power, L.L.C.

Electric Power Supply Association

Edison Mission Energy

United States Department of Energy's Berkley Site Office

FPL Energy, LLC

Golden State Water Company

Imperial Irrigation District

Lassen Municipal Utility District

Metropolitan Water District

Mirant Companies (Mirant Energy Trading, LLC, Mirant California LLC, Mirant Delta LLC, and Mirant Potrero LLC)

Modesto Irrigation District

Morgan Stanley Capital Group Inc.

MRTU Staging Coalition

Northern California Power Agency

NRG Companies

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Pacific Gas and Electric Company

Powerex Corp.

Power and Water Resources Pooling Authority

San Diego Gas & Electric Company

Sacramento Municipal Utility District

Salt River Project Agricultural

Sempra Global

Sempra Generation

Southern California Edison Company

Strategic Energy, LLC

The Utility Reform Network

Transmission Agency of Northern California

Trinity Public Utilities District

Turlock Irrigation District

Western Area Power Administration

Western Power Trading Forum

Williams Power Company, Inc.

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Motions to Intervene Out-of-Time

American Public Power Association

Arizona Public Service Company

Epic Merchant Energy LP and SESCO Enterprises LLC

City of Los Angeles Department of Water and Power

PacifiCorp

San Francisco Bay Area Rapid Transit District

WestConnect Parties (Arizona Public Service Company, ElPaso Electric Company, Public Service Company of New Mexico, Public Service Company of Colorado, Tucson Electric Power Company, Sierra Pacific/Nevada Power Company, Salt River Project Agricultural Improvement and Power District, Western Area Power Administration, Tri-State Generation and transmission Association, Imperial Irrigation District, and Southwest Transmission Cooperative, Inc.)

Appendix B

Short Citations for Parties

Alliance for Retail Energy Markets	AREM
American Public Power Association	APPA
APS Energy Services, Inc.	APS Energy
Arizona Electric Power Cooperative, Inc. and Southwest Transmission Cooperative, Inc.	Arizona/Southwest Coops
Bay Area Municipal Transmission Group (the City of Santa Clara, the City of Alto, and the City of Alameda, California)	Bay Area Municipals
Bonneville Power Administration	BPA
United States Bureau of Reclamation	Bureau of Reclamation
California Independent System Operator Corporation	CAISO
California Energy Resources Scheduling Division	CERS
California Municipal Utilities Association	CMUA
California Public Utilities Commission	CPUC
Calpine Corporation	Calpine
California Energy Resources Scheduling Division of the California Department of Water Resources and Sempra Generation	CERS/Sempra
The California Department of Water Resources State Water Project	State Water Project
Cinergy Services, Inc.	Cinergy
Cities of Anaheim, Azusa, Banning, Colton, Pasadena, and Riverside, California	Six Cities

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Cities of Redding and Santa Clara, California, and M-S-R Public Power Agency	Cities/M-S-R
City and County of San Francisco, California	San Francisco
City of Santa Clara, California	Santa Clara
City of Burbank, California	Burbank
City of Roseville, California	Roseville
City of Vernon, California	Vernon
Cogeneration Association of California and The Energy Producers and Users Coalition	Cogeneration Parties
Constellation Energy Commodities Group, Inc., Constellation New Energy, Inc., and Mirant Parties (Mirant Energy Trading, LLC, Mirant California, LLC, Mirant delta, LLC and Mirant Potrero, LLC)	Constellation/Mirant
Control Area Coalition (Bonneville Power Administration, Imperial Irrigation District, Los Angeles Department of Water and Power, Sacramento Municipal Utility District, Salt River Project, Turlock Irrigation District and the Western Area Power Administration)	Control Area Coalition
Coral Power, L.L.C.	Coral
Electric Power Supply Association	EPSA
Epic Merchant Energy LP and SESCO Enterprises LLC	EPIC/SESCO
United States Department of Energy's Berkley Site Office	DOE-Berkley
FPL Energy, LLC	FPL
Golden State Water Company	GSW
Imperial Irrigation District	Imperial

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Lassen Municipal Utility District	Lassen
Metropolitan Water District of Southern California	Metropolitan
Modesto Irrigation District	Modesto
MRTU Staging Coalition (Strategic Energy L.L.C., Coral Power, L.L.C., Sacramento Municipal Utility District, APS Energy Services, Inc., the California Manufacturers and Technology Association, the California Large Energy Consumer Association)	MRTU Staging Coalition
Northern California Power Agency	NCPA
NRG Companies (NRG Power Marketing, Inc., West Coast Power, LLC, and NEO California Power, LLC)	NRG Companies
Pacific Gas and Electric Company	PG&E
Powerex Corp.	Powerex
San Diego Gas & Electric Company	SDG&E
Sacramento Municipal Utility District	SMUD
Southern California Edison Company	SoCal Edison
Strategic Energy, LLC	Strategic
Transmission Agency of Northern California	TANC
Trinity Public Utilities District	Trinity PUD
Turlock Irrigation District	Turlock
Western Area Power Administration	Western
Western Power Trading Forum and Independent Energy Producers Association	WPTF/IEP
Williams Power Company, Inc.	Williams

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Appendix C

Acronyms

AB	Assembly Bill
ADS	Automated Dispatch System
AMP	Automated Mitigation Procedures
ASMP	Ancillary Service Marginal Price
ASRP	Ancillary Service Requirements Protocol
ATC	Available Transmission Capacity
CAISO	California Independent System Operator Corporation
CCA	Community Choice Aggregators
COG	Constrained Output Generator
CPUC	California Public Utilities Commission
CRRs	Congestion Revenue Rights
EMS	Energy Management System
ESPs	Electric Service Providers
ETC	Existing Transmission Contract
EZ	Existing Zone
FMUs	Frequently Mitigated Units
FPA	Federal Power Act
FTRs	Firm Transmission Rights
HASP	Hour-Ahead Scheduling Process
IFM	Integrated Forward Market
IOUs	Investor Owned Utilities
IRRP	Interim Reliability Requirements Program
ISO	Independent System Operator
LAP	Load Aggregation Point
LDF	Load Distribution Factor
LECG	LECG, Inc. (Consulting Firm for the CAISO)
LMP	Locational Marginal Pricing
LRA	Local Regulatory Authority
LSEs	IOUs, ESPs and CCAs, collectively
LTPP	Long-Term Planning Process
MORC	Minimum Operating Reliability Criteria
MRTU	Market Redesign and Technology Upgrade
MSS	Metered Subsystem
MUT	Minimum Up Time
MW	Megawatt
MWh	Megawatt hour
NOPR	Notice of Proposed Rulemaking
OASIS	Open Access Same Time Information System
OATT	Open Access Transmission Tariff

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O&M	Operation and Maintenance
PTOs	Participating Transmission Owners
PURPA	Public Utility Regulatory Policy Act of 1978
QFs	Qualifying Facilities
RA or Resource Adequacy	Resource Adequacy
RCST	Reliability Capacity Services Tariff
RMR	Reliability Must Run
RTO	Regional Transmission Organization
RUC	Residual Unit Commitment Process
SCIT	Southern California Import Transmission
SIBR	Scheduling Infrastructure Business Rules
SLIC	Scheduling and Logging System for the CAISO
TAC	Transmission Access Charge
TORs	Transmission Ownership Rights
TRBA	Transmission Revenue Balancing Account
TRTC Instructions	Transmission Right and Transmission Curtailment Instructions