

March 1, 1999

The Honorable David P. Boergers  
Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, D.C. 20426

**Re: California Independent System Operator Corporation,  
Docket No. ER99-\_\_\_\_-000  
Amendments to the ISO Tariff**

Dear Secretary Boergers:

Pursuant to Section 205 of the Federal Power Act ("FPA"), 16 U.S.C. § 824d, and Section 35.13 of the Commission's regulations, 18 C.F.R. § 35.13, the California Independent System Operator Corporation ("ISO")<sup>1</sup> respectfully submits for filing six copies of an amendment ("Amendment No. 14") to the ISO Tariff and Protocols. Amendment No. 14 includes a series of revisions to the Tariff and Protocols that principally constitute Phase I of the ISO's comprehensive redesign of its Ancillary Service markets, in compliance with the Commission's Order of October 28, 1998.<sup>2</sup> Amendment No. 14 represents a substantial step in the ISO's efforts to ensure that the markets through which it procures Ancillary Services are workably competitive and that opportunities and incentives for the exercise of market power are reduced. In addition, as explained below, Amendment No. 14 also includes several other proposed changes to the ISO Tariff and Protocols. Revised tariff sheets reflecting the changes proposed herein are contained in Attachment A.

**I. EXECUTIVE SUMMARY**

Before the October 28 Order was issued, the ISO had already embarked on a process to discuss with Market Participants and other stakeholders improvements in the ISO's Ancillary Service markets. Those redesign efforts intensified following the issuance of the October 28 Order. The past four months have seen extensive and comprehensive activity on the part of the ISO and the interested stakeholders to develop a revised approach to the procurement of

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<sup>1</sup> Capitalized terms not otherwise defined herein are defined in the Master Definitions Supplement, ISO Tariff Appendix A, as filed August 15, 1997 and subsequently revised.

<sup>2</sup> See *AES Redondo Beach L.L.C., et al.*, 85 FERC ¶ 61,123 (1998) ("October 28 Order").

Ancillary Services to remedy defects that have been identified in the Ancillary Service markets and to facilitate broader and more competitive participation in those markets.

That process has identified a number of areas for improvement in the ISO's Ancillary Service markets. Recognizing that all of the necessary and desirable improvements cannot be implemented at once, the ISO has developed a phased approach. Amendment No. 14 contains amendments to the ISO Tariff and Protocols necessary to implement the six components of the redesign of the ISO's Ancillary Service markets that have been determined to have the highest priority, each of which is proposed to take effect on the later of May 1, 1999 and the date when the ISO gives notice that the necessary software has been delivered, installed, and tested.<sup>3</sup> These elements of the Ancillary Service redesign proposal are as follows:

- Modifications to the ISO's Ancillary Service procurement process to enable the ISO to purchase additional quantities of one Ancillary Service that can substitute for another Ancillary Service, in order to reduce total costs (the "rational buyer" proposal).
- Modifications to the amounts payable to the operators of resources that fail to comply with ISO dispatch instructions, together with a plan to purchase additional quantities of Replacement Reserves to cover any forecast deficiencies in available energy, in order to reduce reliance on out-of-market purchases for that purpose.
- Automation of the communication of Dispatch instructions to resources supplying Imbalance Energy to allow the ISO to make better use of those resources, thereby reducing its requirements for Regulation service (no changes to ISO Tariff or Protocols are required).
- Introduction of separate pricing for the upward and downward components of Regulation service to increase the efficiency of the Regulation market.

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<sup>3</sup> As explained below, two elements of the Ancillary Service redesign (automation of the communication of Dispatch instructions to resources supplying Imbalance Energy and the form agreement to be developed to facilitate participation of dispatchable Loads in the Ancillary Service markets) do not involve tariff amendments. One of those proposals (the "participating Load" agreement) also does not require extensive software changes. Please note that certain materials attached to this filing and available on the ISO Home Page refer to five elements of the Ancillary Service redesign, which elements do not include the "participating Load" agreement.

- Development of a form of agreement to facilitate the participation of dispatchable Loads in Ancillary Service markets (no changes to the ISO Tariff or Protocols or to ISO software are required).
- Modifications to permit Scheduling Coordinators to engage in trades of Ancillary Services to provide alternative means for them to fulfill their Ancillary Service obligations.

Amendment No. 14 also includes additional modifications to the ISO Tariff and Protocols that have been found to be necessary to implement two measures that were approved as part of Amendment No. 13 – the allocation of responsibility for Ancillary Services based on metered Demand, rather than scheduled Demand, and the withholding of payment for uninstructed deviations from Ancillary Service capacity. Finally, Amendment No. 14 includes: (1) proposed modifications to the Ancillary Services Requirements Protocol (“ASRP”) to reflect the ISO’s new requirements concerning communications and direct control systems for units providing Regulation service; (2) a proposed modification to the ISO Tariff to provide for the payment of amounts due for Ancillary Service capacity dispatched under certain Regulatory Must-Run (“RMR”) Contracts to the relevant Participating Transmission Owner; and (3) a change to the Market Monitoring Information Protocol to clarify the relationship between the ISO and the independent Market Surveillance Committee.

The redesign of the ISO’s Ancillary Service markets also includes measures other than those included in Amendment No. 14. These include the reform of contracts for the purchase of RMR generation and the manner in which such generation is dispatched. Efforts to address the perverse incentives created by these contracts are under way in other proceedings. In addition, the ISO will proceed with additional enhancements to its Ancillary Service markets that have been identified through the stakeholder process. These additional enhancements will be implemented through tariff changes that will be filed at a later date, after implementation of the items herein. Any proposals for additional enhancements will also reflect the success of the measures proposed in the instant filing as evaluated by the ISO with input from Market Participants. The ISO will continue to work with Market Participants and other stakeholders to evaluate, develop and prioritize additional improvements in its Ancillary Service markets.

The ISO intends to monitor and evaluate conditions in its Ancillary Service markets following the implementation of the high priority enhancements that are the subject of this filing and the other measures described above, including RMR contract reform. If those efforts lead to the establishment of workably competitive

conditions in Ancillary Service markets, in which opportunities for the exercise of market power are substantially curtailed, the ISO would lift the price caps that it has been authorized to impose on its procurement of Ancillary Services and Imbalance Energy. The ISO explains below the standard and procedures it intends to apply in determining the continued need for price caps in these markets and their appropriate level.

## **II. BACKGROUND**

### **1. The Initial Design and Operation of the Ancillary Service Markets**

The ISO is responsible for ensuring that sufficient Ancillary Services are available to maintain the reliability of the ISO Controlled Grid. To fulfill this responsibility, the ISO conducts auctions for Regulation, Spinning Reserve, Non-Spinning Reserve and Replacement Reserve in the Day-Ahead and Hour-Ahead Markets. The initial design for these markets was included as part of the comprehensive "Phase II" filings submitted on March 31, 1997. In its order dated October 30, 1997, the Commission conditionally granted the ISO interim authorization to commence operations and accepted the proposed Ancillary Services market design with certain modifications.<sup>4</sup>

The ISO commenced operations on March 31, 1998. The requirements for each Ancillary Service were initially based on the aggregate load scheduled by Scheduling Coordinators in each market. At that time, no FERC-jurisdictional Market Participant had the authority to sell Ancillary Services at market-based rates. Essentially all bidders in the Ancillary Service markets were therefore initially subject to cost-based caps.

Soon after the commencement of operations, the ISO became concerned about the insufficiency of bids or "thinness" of the Ancillary Service markets. These problems were especially acute in the Regulation markets. In the first few weeks of operation, Regulation bids met less than 40 percent of the ISO's requirements for that service, resulting in high costs, reliance on RMR Units, and significant concerns regarding system reliability. The ISO determined that the thinness in the

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<sup>4</sup> *Pacific Gas and Electric Co., et al.*, 81 FERC ¶ 61,122 (1997) ("October 30 Order"). The Phase II filings included a proposed two-part bid evaluation approach for Ancillary Services bids which was abandoned prior to the ISO Operations Date. In response to concerns about the ISO's bid evaluation proposal, the Commission directed the ISO to file a report "that explores the issue of bid evaluation further" by January 1, 1999 (one year after the initially projected ISO Operations Date). *Id.* at 61,494. On January 4, 1999, the ISO submitted a Motion for Extension of Time in the Phase II dockets wherein it requested leave to comply with this directive by including a discussion of the ISO's Ancillary Services bid evaluation procedures in the instant filing.

Regulation markets was due to cost-based rate caps on Regulation capacity as well as the ISO's method of pricing Energy from units providing Regulation service. In Amendment No. 8 to the ISO Tariff, filed on May 19, 1998, the ISO proposed an interim solution to this problem called the "Regulation Energy Payment Adjustment" ("REPA").<sup>5</sup> The Commission accepted the REPA proposal by order issued on June 24, 1998.<sup>6</sup> The Commission recognized that the REPA mechanism was a short-term solution to bid insufficiencies in the Regulation market, and directed the ISO to report on the progress of efforts to develop a long-term Regulation market redesign within 90 days of the June 24 Order.<sup>7</sup>

## **2. The Summer 1998 Price Spikes and the ISO's Emergency Motion**

On June 30 and July 10, 1998, the Commission accepted for filing, without suspension or hearing, proposed market-based rates for certain Ancillary Services submitted by a number of California Market Participants.<sup>8</sup> In comments preceding the issuance of those orders, the ISO had expressed concern about the ability of Ancillary Service providers to exercise market power during certain hours of the Ancillary Service markets. The ISO had therefore requested that parties seeking to sell Ancillary Services at market-based rates be required to demonstrate that they lacked market power through time-differentiated market studies. In the alternative, the ISO had also requested that the Commission permit the ISO to cap these rates at a level that would provide an incentive to bid into the Ancillary Service markets but would ensure that generators could not charge excessive prices. The Commission rejected these requests, expressing concerns that price caps would reduce the supply of available Ancillary Services to the detriment of the market, and permitted the proposed market-based rates for Ancillary Services to go into effect immediately.<sup>9</sup>

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<sup>5</sup> The proposed solution involved a REPA payment equal to the product of the Energy available in the Regulation bid (Regulation Up plus Regulation Down) and the greater of \$20/MWh or the Hourly Ex Post Price, adjusted by a factor ("C") initially set at 1, but which could be adjusted down to zero.

<sup>6</sup> California Independent System Operator Corp., 83 FERC ¶ 61,309 ("June 24 Order").

<sup>7</sup> *Id.* at 62,272. The Commission also directed the ISO to monitor the Regulation market and report on the impact of REPA within 30 days. *Id.* at 62,272. On July 24, 1998, the ISO submitted a report of the ISO Market Surveillance Unit ("MSU") which concluded that Regulation bid sufficiency had "improved substantially following implementation of REPA."

<sup>8</sup> *AES Redondo Beach, L.L.C., et al.*, 83 FERC ¶ 61,358 (1998) ("June 30 Order"); *Long Beach Generation, L.L.C., et al.*, 84 FERC ¶ 61,011 (1998) and *Ocean Vista Power Generation, L.L.C., et al.*, 84 FERC ¶ 61,013 (1998) (together, the "AES Orders").

<sup>9</sup> In the June 30 and July 10 Orders, the Commission also concluded that Replacement Reserves were not an ancillary service within the meaning of Order No. 888. See June 30 Order, 83 FERC ¶ 61,358 at 62,446. For the purposes of this filing, the term "Ancillary Services" is used as defined in the Master Definitions Supplement, Appendix A to the ISO Tariff, and includes Replacement Reserves.

In the first two weeks of July, after the AES Orders, the California market witnessed dramatic spikes in the price for Replacement Reserves, with prices reaching as high as \$5,000/MW and even \$9,999/MW for certain hours. During this period, the ISO exercised its discretion to refrain from purchasing Replacement Reserves when possible to avoid passing such exorbitant costs on to consumers. On certain days, however, high demands created reliability concerns that prevented the ISO from exercising such discretion.

In order to protect energy consumers from the impact of these price spikes, the ISO, on July 13, 1998, filed an Emergency Motion for Stay, Notice of Action Taken, Request for Rehearing, and Motion for Clarification ("Emergency Motion") requesting a stay of the market-based rate authority granted in the AES Orders. The ISO also notified the Commission that, in order to contain prices in the interim, it would cap the prices that it would pay to bidders that had been granted market-based rate authority. It provided Market Participants with notice of these caps on the same day. The ISO further requested in the Emergency Motion that, if the Commission did not stay or rescind its orders granting market-based rate authority, it explicitly authorize the ISO to continue to cap Ancillary Service bids.

On July 17, the Commission denied the stay requested in the ISO's Emergency Motion.<sup>10</sup> The Commission did, however, recognize that the ISO needed to take emergency measures to address the unprecedented conditions in the California electricity market and found that the ISO's interim establishment of price caps for Ancillary Services was reasonable. *Id.* at 61,199. The July 17 Order also directed that the ISO's Market Surveillance Committee ("MSC") and the Market Monitoring Committee of the California PX ("MMC") prepare and submit to the Commission reports regarding the Ancillary Service markets. *Id.* at 61,200.

### **3. Reports and Comments on the Ancillary Service Markets**

On August 17 and 19, 1998, the MMC and MSC submitted their reports on the Ancillary Service markets as directed by the Commission. The MSC's Preliminary Report on the Operation of the ISO's Ancillary Services Markets identified nine factors contributing to the inefficient operation of the ISO's Ancillary Service markets:

- (1) some firms were subject to cost-based price caps while others are allowed to earn market-base rates;

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<sup>10</sup> *AES Redondo Beach L.L.C., et al.*, 84 FERC ¶ 61,046 (1998) ("July 17 Order").

- (2) the demand for Ancillary Services had been higher than anticipated;
- (3) the amount of each Ancillary Service demanded by the ISO did not depend on market prices and these demands were not procured in a rational manner;
- (4) perverse incentives guiding generator bidding behavior had been created by RMR Agreements;
- (5) the ISO had on many occasions purchased Ancillary Services separately in small geographic areas, increasing the potential for the exercise of market power;
- (6) the ISO's dispatch practices had not been transparent to Market Participants;
- (7) the allocation of Ancillary Services costs to Scheduling Coordinators had been flawed;
- (8) suppliers of Ancillary Services from outside the ISO Control Area had been excluded; and
- (9) the ISO's computer systems were still facing various software difficulties.

To resolve these problems, and to encourage the development of workably competitive Ancillary Service markets, the MSC recommended that the ISO:

- adopt rational and transparent purchasing practices for Ancillary Services, seeking additional regulatory flexibility as needed;
- revise and supplement the RMR Agreements;
- support the move towards market-based rates for all Market Participants, with the requirement that owners of significant amounts of generation capacity sign financial contracts for differences to mitigate their incentives to exercise market power in these markets;
- retain the authority to impose a "damage control" price cap and exercise that authority until these markets are demonstrably competitive;

- purchase Ancillary Services through a state-wide auction, using RMR Agreements to supplement Zonal shortfalls in capacity; and
- revise purchasing protocols to help reduce the need for Regulation services.

The MMC's Report included three main findings concerning the Ancillary Service markets in relation to the PX Energy markets. First, the MMC found considerable evidence that the PX Energy markets were themselves at times thin and not fully competitive. It therefore concluded that any actions taken by the ISO to improve the Ancillary Service markets should be carefully scrutinized to be sure they did not adversely affect the PX Energy markets. Second, the MMC's analysis of market share numbers indicated that at certain levels in the aggregate supply curve, a very small number of firms had the effective ability to determine the prices in the Ancillary Service markets. The MMC concluded that, in a competitive equilibrium, the option prices (to buy Energy) represented by Ancillary Services Capacity prices should be closely related to, and no greater than, the underlying Energy prices. Third, the MMC stated that the ISO's Ancillary Service markets were far from equilibrium, because: (1) Ancillary Services Capacity prices changed radically while Energy prices follow a regular pattern; and (2) Ancillary Services Capacity prices were well above Energy prices.

The MMC offered a number of policy recommendations. First, it concluded that, in the short run, some intervention, such as a price cap, was needed in the Ancillary Service markets. Second, the MMC set forth a number of preconditions to competitive Ancillary Service markets, including:

- additional supply of Ancillary Services Capacity;
- a mechanism to allow Ancillary Services demand to respond to price signals;
- the development of proper incentives in RMR Agreements;
- implementation of a rational buyer approach that could include buying Energy when it is cheaper than Ancillary Services Operating Reserve Capacity; and
- the removal of cost-based caps on Operating Reserve prices.

On September 4, 1998, the ISO filed its comments on the MSC and MMC Reports ("Comments"). In those Comments, the ISO agreed with the Committees'



recommendation that the ISO retain the authority to impose damage-control price caps as a short-term measure until such time as workably competitive markets were developed. The Comments also included a proposal for developing such workably competitive markets. The ISO proposed to adopt an integrated approach toward achieving long-term structural solutions for the Ancillary Service markets, under which it would develop improvements to the Ancillary Service markets through a collaborative and deliberative process that would solicit input from all interested parties and propose solutions by action of the stakeholder ISO Governing Board.

On September 22, 1998, the ISO submitted its Status Report on a Long Term Solution to Address Shortages in Regulation Bids to the Commission in accordance with the June 24 Order on Amendment No. 8. In that Status Report, the ISO indicated that it was addressing issues related to the insufficiency of Regulation bids as part of the integrated approach to improve the Ancillary Services market design described in its September 4 Comments. On October 4, 1998, the ISO filed an update on its progress in the efforts to develop long-term improvements to the Ancillary Services market design.

#### **4. The AES Rehearing Order**

Numerous parties had requested rehearing of the Commission's July 17 Order in *AES Redondo Beach, L.L.C., et al.* On October 28, 1998, the Commission issued its Order on Rehearing in *AES Redondo Beach, L.L.C., et al.*, 85 FERC ¶ 61,123 ("October 28 Order"). In response to continued concerns about the workability of the existing Ancillary Service markets and to the conclusions and recommendations of the MSC and MMC, the Commission took two immediate actions. First, the Commission directed all Ancillary Services suppliers that had rate schedules on file under which they were authorized to sell energy at market-based rates to the ISO to amend their rate schedules to add Ancillary Services. *Id.* at 61,461. Second, the Commission authorized the ISO to continue the purchase price cap that it had previously authorized. *Id.*

The Commission also agreed with the conclusions of various parties that the design of the Ancillary Service markets was deficient. Rather than imposing specific modifications, however, the Commission agreed with the ISO that the best result would be achieved through the ongoing stakeholder process, which would incorporate the views of all participants. Therefore, it directed the ISO to facilitate a comprehensive, stakeholder process, designed to develop structural solutions to the market design problems outlined in the MSC and MMC Reports and any other market design problems identified in the stakeholder process, and to file a comprehensive proposal for redesign of the Ancillary Service markets no later than

March 1, 1999. *Id.* at 61,462. The Commission further directed the ISO to indicate in the March 1 filing whether it intended to continue its discretion to use a purchase price cap. *Id.* at 61,464. If the ISO sought to retain that discretion, the Commission directed the ISO to provide objective criteria for exercising such discretion in the March 1 filing as well as a formula or specific level for the purchase price cap. *Id.*

Lastly, the Commission recognized that certain short-term improvements to the Ancillary Service markets could and should be implemented prior to the March 1 comprehensive filing. The October 28 Order therefore indicated that it would be appropriate for the ISO to submit one interim tariff amendment addressing Ancillary Services issues to effectuate such short-term improvements. *Id.* at 61,462.

## **5. Interim Actions Involving the Ancillary Service Markets**

Since the Commission's October 28 Order, the ISO has been involved in an extensive stakeholder process to redesign the Ancillary Service markets. This process is described more fully below. In addition, the ISO has taken several other actions that relate to the Ancillary Service markets. As noted above, for the first several months of operation, the ISO procured Ancillary Services on the basis of the aggregate load scheduled by Scheduling Coordinators in each market. Even before the October 28 Order, the ISO recognized that such schedules did not necessarily provide a good forecast of the load for which the ISO would need to carry Operating Reserve in real time. In the summer of 1998, the ISO therefore began procuring Ancillary Services based on the ISO's own load forecast. This provided a more accurate means for the ISO to predict its Ancillary Service requirements.

In addition, with the Commission's blanket authorization of market-based rates in the October 28 Order, the cost-based caps on Regulation which had contributed to Regulation bid insufficiency were no longer a factor, and the need for REPA was diminished. The ISO observed market clearing prices for Regulation dropping to zero in most hours. The ISO Governing Board responded to these developments in November 1998 by reducing the REPA calculation "C" factor to zero, effectively suspending REPA.

The ISO filed Amendment No. 12 to the ISO Tariff with the Commission on December 4, 1998. In this amendment, the ISO proposed to extend its authority to reject bids in the real-time Imbalance Energy market (the "BEEP Cap").<sup>11</sup> The ISO

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<sup>11</sup> The ISO had originally proposed a temporary cap on real-time Energy bids due to certain shortcomings in the ISO's Balancing Energy and Ex Post Price ("BEEP") software in ISO Tariff Amendment No. 7. The Commission accepted this proposal with certain modifications by order issued

explained that, although the BEEP software issues would likely soon be resolved, the interrelationship between the ISO's Ancillary Services and real-time Energy markets made it inadvisable to eliminate the cap on Imbalance Energy bids until more workably competitive Ancillary Service markets could be attained. In Amendment No. 12, the ISO therefore proposed to raise the level of the BEEP Cap in stages as certain changes designed to improve the Ancillary Service markets were implemented.

By order issued on January 27, 1999, the Commission rejected Amendment No. 12.<sup>12</sup> The Commission did recognize that there were conditions supporting purchase price caps in the Imbalance Energy market and that these conditions were linked to the conditions which led to its authorization of interim price capping authority in the Ancillary Service markets. Rather than accepting the ISO's proposal, however, the Commission instead authorized the ISO to adopt a purchase price cap for Imbalance Energy at whatever level it deems necessary or appropriate and to waive Tariff provisions to the extent necessary to implement such a cap. 86 FERC ¶ 61, 059, slip op. at 7. This authorization was subject to the requirement that "in its March 1, 1999 filing, the ISO explain and justify its longer-term plans [with respect to the Imbalance Energy cap]." *Id.*

On December 11, 1998, the ISO submitted Amendment No. 13 to the ISO Tariff. Amendment No. 13 included several proposals designed to improve the Ancillary Service markets and therefore represented the interim Ancillary Services filing discussed in the Commission's October 28 Order in *AES Redondo Beach, L.L.C., et al.* The Ancillary Services proposals included Tariff modifications to implement nonpayment for uninstructed deviations and to begin allocating Ancillary Service obligations to Scheduling Coordinators based on their respective metered Demands, rather than their scheduled Demands. The Commission accepted Amendment No. 13 with certain modifications by order issued on February 9, 1999.<sup>13</sup>

### **III. THE PROPOSED AMENDMENTS**

#### **A. The Stakeholder Process**

The proposed amendments to the ISO Tariff and Protocols to restructure the Ancillary Service markets are products of an extensive stakeholder process. That process was launched in September 1998, when a working group was formed to

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on May 28, 1998. *California Independent System Operator Corp.*, 83 FERC ¶ 61,209.

<sup>12</sup> *California Independent System Operator Corp.*, 86 FERC ¶ 61, 059 (1999).

<sup>13</sup> *California Independent System Operator Corp.*, 86 FERC ¶ 61,122 (1999).

identify potential projects to improve the Ancillary Service markets. The Commission's October 28 Order refocused and accelerated the stakeholder involvement. The ISO led several stakeholder forums, including meetings and conference calls, through which the ISO and stakeholders developed design elements and identified priorities.<sup>14</sup> To improve communications, the ISO implemented a "chat-room" forum accessible through the ISO Home Page. The redesign option descriptions were posted on the ISO Home Page for viewing by any interested participant. The chat room allowed stakeholders to express their views and recommendations on each option to the ISO. All comments were captured and viewable on the ISO Home Page, so that stakeholders could view and learn from the inputs of other stakeholders.

Throughout the fall, the ISO more clearly defined problems with the Ancillary Service markets in cooperation with the Market Participants. The ISO and the Market Participants identified 33 separate potential redesign elements to address these problems. Some of these elements were combined because of interrelationships or because a modification to one element would accomplish the objectives of multiple elements. This reduced the list of 33 elements to 20, which was the basis for discussion at the Stakeholder Forum on December 14, 1998.

At the December 14, 1998 meeting, the ISO and stakeholders worked to develop priorities for the different redesign elements that had been identified. With those priorities, the ISO approached the software vendors to develop cost estimates and schedules to present to the stakeholders at the January 6, 1999 Market Issues Forum.

At the January 6, 1999 meeting, the primary topic was further discussion of the prioritization of the different potential elements of the Ancillary Service Market Redesign, taking into account the estimates of the cost and time required to implement different elements and other demands on the ISO's software development efforts, including efforts to ensure that the ISO's systems are "Y2K compliant." Participants in the forum discussed the relative benefits of each candidate redesign element, using three primary criteria, all of which were tied to the shortcomings in the Ancillary Service markets identified by the MSC and in the October 28 Order:

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<sup>14</sup> The key meetings (other than meetings of the ISO's Governing Board) at which Market Participants offered comments that have been constructively integrated into the ISO's development of a draft market redesign plan are identified in Attachment B.

- To what extent would the redesign element be expected to contribute to an increase in the supply or availability of Ancillary Service capacity?
- To what extent would the redesign element be expected to contribute to a decrease in the ISO's demand for Ancillary Services (i.e., would the redesign element enable the ISO to satisfy Applicable Reliability Criteria while procuring a smaller amount of Ancillary Service capacity)?
- To what extent would the redesign element be expected to increase the efficiency of the ISO's Ancillary Service markets?

The ISO indicated that the implementation of redesign elements that enhanced the supply of Ancillary Service capacity, reduced the ISO's demand for such capacity, and increased the efficiency of the Ancillary Service markets were necessary (though not necessarily sufficient without improvements relating to RMR Contracts) for the ISO to conclude that price caps in Ancillary Service markets could be raised. Stakeholders also identified and discussed the redesign elements that they believed would enhance their ability to participate in the ISO's Ancillary Service markets.

Because of the magnitude of the efforts required to develop the different Ancillary Service redesign elements that were identified as high priority items by the stakeholders, as well as the other software projects to which the ISO was committed, the ISO determined that not all of the top priority items could be finished by this summer. The ISO and the stakeholders accordingly undertook further prioritization to identify the most critical redesign elements that would serve as the focus of the ISO's implementation efforts for the summer of 1999.

Based on the input of the stakeholders and its own assessment of the efficacy of the measures under consideration for improving supply, demand and efficiency in its Ancillary Service markets, the ISO's management recommended to the ISO's Governing Board, at its January 28 - January 29 meeting, a list of six measures that would be proposed for immediate implementation, upon completion of the necessary software. Those measures form the principal basis for the proposed amendments to the ISO Tariff and Protocols reflected in this filing. Materials presented at the January meeting of the ISO Governing Board which extensively describe this stakeholder process and which include a list of the elements considered therein can be found in Attachment C to this filing.

## **B. Proposed Revisions to Ancillary Service Market Provisions**

The ISO proposes in Amendment No. 14 the implementation of six measures to improve the operation of its Ancillary Service markets, at the earliest practicable time. These six elements are described below. In addition, as also explained below, the ISO has determined that additional changes to the ISO Tariff and Protocols are appropriate to implement two modifications to Ancillary Service markets that were proposed and approved as part of Amendment No. 13. Finally, the ISO proposes changes to the ASRP to reflect the ISO's specification of new communications and direct control system requirements for generating units providing Regulation service.

### **1. Auction Process Changes ("Rational Buyer")**

The MSC in its August 17 Report and the Commission in the October 28 Order both identified the limited flexibility afforded to the ISO in procuring different capacity necessary to meet its requirements for different Ancillary Services as a significant shortcoming in the design of the ISO's Ancillary Service markets. Currently, the ISO determines separately the amount of capacity that it needs for Regulation, for Spinning Reserve, for Non-Spinning Reserve and for Replacement Reserve, and procures the capacity to meet each of those requirements in separate, sequential markets. The different Ancillary Services may, to some extent, serve as substitutes. That is, capacity that meets the requirements for a higher quality Ancillary Service, such as Spinning Reserve, generally also meets the requirements for a lower quality Ancillary Service, such as Replacement Reserve. Nevertheless, the current market design does not permit the ISO to increase its purchases of Spinning Reserve and to decrease its purchases of Replacement Reserve if prices in the former market are lower than prices in the latter market. The MSC recommended the implementation of a "rational buyer" approach that would enable the ISO to engage in this type of substitution.<sup>15</sup>

The ISO agrees that giving the ISO the flexibility to substitute additional purchases of higher quality Ancillary Services for purchases of lower quality Ancillary Services could reduce the ISO's total costs of procuring Ancillary Services. The ISO believes that the addition of this flexibility would encourage bidding behavior that is consistent with a competitive market by eliminating the

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<sup>15</sup> The Commission subsequently directed the New York Independent System Operator to modify its procurement of ancillary services to incorporate a rational buyer approach. *Central Hudson Gas & Electric Corp., et al.*, Docket Nos. ER97-1523-000, *et al.*, "Order Conditionally Accepting Tariff and Market Rules, Approving Market-Based Rates, and Establishment Hearing and Settlement Judge Procedures" (January 27, 1999).

opportunity for Market Participants to game the sequential auction in hopes of receiving a high price for Replacement Reserve, the last service procured (and the lowest quality service).

Amendment 14 accordingly implements the rational buyer approach to the procurement of Ancillary Services, giving the ISO the flexibility to adjust the quantities of Regulation, Operating Reserve and Replacement Reserve that it purchases to reduce total costs of procuring its Ancillary Service requirements. The ISO notes that the MSC endorses the implementation of this approach to increasing the flexibility of the ISO's purchase of Ancillary Services. A copy of the MSC's report on this subject is contained in Attachment D. The changes to the ISO Tariff and Protocols to implement the rational buyer approach to the evaluation of bids in the ISO's Ancillary Service auction are shown, in black-lined form, in Attachment E.

## **2. Proposal for Uninstructed Deviations and Use of Replacement Reserves**

Among the problems with the ISO's Ancillary Service markets identified in the MSC Report were: (i) incentives created by the prices received by Scheduling Coordinators when resources they represent generate energy in the absence of an instruction by the ISO ("uninstructed deviations")<sup>16</sup> and (ii) disincentives for suppliers to participate in the ISO's Ancillary Service markets, in the hope that they might receive a higher price if the ISO calls on their resource to generate energy "out of market" if the bids available to meet real-time imbalance energy needs are insufficient. In fact, during peak months (July and August 1998), the ISO spent over \$30 million on out-of-market energy purchases to cover unscheduled demand.

In conjunction with the stakeholders, the ISO developed a compromise proposal to address these problems, which is included in Amendment 14. This proposal includes the following elements:

- (i) in addition to the Replacement Reserve procured for other reliability purposes, the ISO will procure Replacement Reserve (to the extent not self-supplied by Scheduling Coordinators) to account for the

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<sup>16</sup> This incentive arises from the fact that different prices apply to changes in energy output by a resource in response to an ISO dispatch instruction ("instructed deviations") and to uninstructed deviations. Instructed deviations are settled at the price determined for each ten-minute interval by the ISO's BEEP software. Uninstructed deviations are settled at the hourly average of the BEEP Interval prices. When a Market Participant believes that the hourly average price will diverge from the BEEP Interval price, it may have an incentive to disregard the ISO's dispatch instruction to increase the payments it receives.

difference between the load scheduled by Scheduling Coordinators and the ISO's load forecast, reduced by the portion of this difference that the ISO expects to be available from other sources, including Supplemental Energy bids in the real-time energy market;

- (ii) costs of Replacement Reserve will be allocated to Scheduling Coordinators based on extent to which their actual demands exceed scheduled demands or their actual generation falls short of scheduled generation; and
- (iii) the amounts payable to resources that disregard an ISO dispatch instruction (either by failing to generate additional energy when the ISO issues an incremental dispatch instruction or by failing to reduce generation when the ISO issues a decremental dispatch instruction) would be modified to eliminate the opportunity for Scheduling Coordinators to profit by ignoring the ISO's dispatch instructions. This would be accomplished by conditionally providing for the settlement of uninstructed deviations from an ISO dispatch instruction at the weighted average of the prices applicable to resources that complied with that dispatch instruction, referred to as the "effective price."<sup>17</sup>

These modifications are designed to work together with the other changes proposed and accepted in Amendment No. 13: the elimination of payments for energy and Ancillary Service capacity when a Market Participants generates uninstructed energy from Ancillary Service capacity (referred to as the "no pay" modification) and the allocation of Ancillary Service costs on the basis of metered demand, rather than scheduled demand. The effective price proposal and the no pay modification together reduce incentives for generators to disregard the ISO's dispatch instructions and ensure that the Ancillary Service capacity upon which the ISO relies will be available for the intended purpose.<sup>18</sup> Allocating Ancillary Service costs based on metered demands eliminates an incentive for the underscheduling of demand, which should reduce the necessity for the ISO to make out of market purchases to cover unscheduled demands in real time. The reliance on Replacement Reserve to meet any remaining shortfall further reduces the ISO's

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<sup>17</sup> As explained above, under the ISO Tariff, instructed deviations are settled at the BEEP Interval Price. The "effective price" is thus the weighted average of the BEEP Interval Prices during the duration of the dispatch instruction.

<sup>18</sup> The ISO recognizes that these proposals do not address incentives for uninstructed deviations by resources that have not submitted a bid or that fail to honor Supplemental Energy bids. The ISO intends to monitor market performance to determine whether additional measures are necessary to address these situations.



need for out of market purchases. This should increase the supplies of Ancillary Services available to the ISO by removing a disincentive for suppliers to make capacity available in the ISO's Ancillary Service markets.<sup>19</sup>

The amendments to the ISO Tariff and Protocols that would implement the revised approach to the procurement and settlement of Replacement Reserve are shown in black-lined format in Attachment F. The amendments necessary to implement the effective price proposal are shown in black-lined format in Attachment G.

### **3. Automation of Imbalance Energy Dispatch Instructions**

Currently, the ISO dispatches resources that have submitted bids for the supply of Imbalance Energy by individual telephone calls from ISO dispatchers to the Scheduling Coordinators representing the resources (except for resources that have been selected to supply Regulation, which are dispatched through automatic generation control). The ISO's dispatchers have had to take this process into account in implementing the merit order stack created by the BEEP software. The uncertainty regarding whether all dispatch instructions can be communicated and responded to in a timely manner has led the ISO's dispatchers to select resources out-of-sequence, to ensure that sufficient energy is available.<sup>20</sup> This, in turn, leads to market distortions because resources that are dispatched out of sequence are paid their bid price, rather than the market-clearing interval price. It also impairs the ability of the ISO to rely on Imbalance Energy bids to follow load fluctuations, which increases the ISO's requirements for Regulation.

To address these problems, the ISO plans to implement modifications to the communication system through which resources will be notified automatically when their Imbalance Energy bids are accepted by the system. Scheduling Coordinators will be able to acknowledge the notification through the same communications system. By streamlining the Imbalance Energy dispatch process, this element of the redesign proposal should reduce the ISO's requirements for Regulation. In addition, the automation of dispatch instructions will increase the incentives for

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<sup>19</sup> To be sure, the ISO's requirements for Replacement Reserve will also increase. It is hoped, however, that the increase will be moderated by the elimination of incentives for the underscheduling of demand.

<sup>20</sup> For example, if the ISO dispatcher anticipates a need for a large amount of incremental energy to meet demand in the next interval, the dispatcher may select a large bid that can meet all or most of the incremental requirements in preference to a number of smaller, less expensive bids, out of a concern that it may not be possible to contact and obtain a response from enough resources to meet the demand.

Market Participants to submit bids by increasing the certainty that bids in the BEEP software merit order stack will be dispatched in sequence.

The automated BEEP dispatch system will be effected by software modifications and will use the existing communications system. The ISO believes no modifications to the ISO Tariff or Protocols are required to implement the automated BEEP dispatch system. The ISO will post a notice on the ISO Home Page, which will also be communicated to Market Participants by electronic mail, when the system is ready to commence operations.

#### **4. Separate Pricing of Upward and Downward Regulation**

Regulation encompasses both the upward and downward movement of a generating unit in response to a direct control signal from the ISO. Currently, the ISO separately determines its requirements for upward Regulation and downward Regulation.<sup>21</sup> However, the same price is applied to both components of Regulation service. That is, the highest bid selected to provide upward Regulation capacity or downward Regulation capacity establishes the market clearing price for both. This causes the ISO to incur excessive costs for Regulation, which the ISO has estimated to average approximately \$100,000 per day.

To correct this market design flaw and thereby increase the efficiency of the Regulation market, the ISO proposes to provide for the establishment of separate market clearing prices for upward Regulation capacity and downward Regulation capacity. With this change, scarcity of bids for one Regulation product (downward Regulation, for example) will not increase the costs of both Regulation products. The modifications to the ISO Tariff and Protocols necessary to implement this change are shown in black-lined format in Attachment H.

#### **5. Participation of Loads in Ancillary Service Markets**

The ISO Tariff contemplates that dispatchable Loads may participate in Ancillary Service markets. See ISO Tariff, Section 2.5.6. To date, however, the participation of Loads in these markets has been hampered by the absence of a form of agreement that would set forth the terms and conditions that would govern a dispatchable Load's provision of Ancillary Services. As part of its efforts to increase the amount of Ancillary Service capacity upon which it may draw, the ISO

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<sup>21</sup> In Amendment No. 11, the ISO modified the Tariff to specify that capacity selected to supply downward Regulation could be bid in subsequent Ancillary Service auctions. That amendment was accepted on September 17, 1998. *California Independent System Operator Corp.*, 81 FERC ¶ 61,234 (1998).

is proceeding with the development of a pro forma Participating Load Agreement in conjunction with interested stakeholders.<sup>22</sup> No changes to the ISO Tariff and Protocols are proposed and no software changes are needed to accommodate the participation of dispatchable Loads in Ancillary Service markets. When operators of loads sign Participating Load Agreements, the ISO will file those agreements with the Commission.

#### **6. Trades of Ancillary Services Between Scheduling Coordinators**

Currently, the ISO's software does not have the capability to recognize bilateral trades of Ancillary Service obligations or capacity between Scheduling Coordinators. During the stakeholder process, a number of Market Participants identified the development of this capability as a high priority item. The ISO agrees that the development of this feature would potentially be beneficial insofar as it could enhance the ability of Scheduling Coordinators to self-provide Ancillary Services and thereby reduce the ISO's demand for Ancillary Services. Inter-Scheduling Coordinator trades of Ancillary Services will also provide an additional mechanism for Scheduling Coordinators to engage in firm bilateral energy trades within the ISO Control Area, including trades originating as a firm energy import (i.e., energy together with reserves) from another control area. The ISO accordingly has determined to give high priority to the development of the software necessary to accommodate Inter-Scheduling Coordinator trades of Ancillary Services. The changes to the ISO Tariff and Protocols necessary to implement this change are shown in black-lined format in Attachment I.

#### **7. Additional Tariff and Protocol Modifications To Implement Approved Proposals for Ancillary Service Billing on the Basis of Metered Demand and "No Pay"**

As noted above, the ISO submitted Amendment No. 13 in accordance with the Commission's determination in the October 28 Order to accept one interim filing addressing Ancillary Service procurement issues before the instant filing. That amendment included, among other things, a proposal to begin billing Scheduling Coordinators for Ancillary Services based on their metered demands, rather than their scheduled demands. It also included a proposal to withhold payments to suppliers of Ancillary Services that generate energy from capacity that has been committed to the ISO as reserves (whether through the ISO's auctions or through

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<sup>22</sup> The Participating Load Agreement would serve a purpose analogous to Participating Generator Agreements, numerous examples of which have been filed with the Commission.

self-provision). Both proposals were approved to take effect, upon notice by the ISO that the software necessary to implement them has been implemented and tested.

During the course of developing the software to implement these proposals, the ISO has determined that additional modifications to the ISO Tariff and Protocols are appropriate to clarify the operation of these provisions.

Attachment J contains in black-lined form additional modifications that implement the proposal for billing based on metered demand approved in the February 9 Order. In addition to clarifying the operation of this proposal, these changes address a potential gaming opportunity. The gaming potential deals with self-provision of Ancillary Services in the Hour-Ahead Market and arises because of the change to billing based on metered Demand. Currently, the Day-Ahead Market and the Hour-Ahead Market are settled separately, and there is no opportunity to self-provide in the Hour-Ahead Market for Day-Ahead scheduled Load. However, with billing based on metered Demand, final Hour-Ahead self-provision schedules are netted against a Scheduling Coordinator's obligation, and a Scheduling Coordinator will be able to make significant changes to bids and self-provision schedules in the Hour-Ahead Market. This ability meet those obligations either by self-supplying qualifying capacity or by purchasing Ancillary Service capacity in the ISO's Hour-Ahead Market allows a Scheduling Coordinator to profit at the expense of others. . For example, a Scheduling Coordinator that anticipates an increase in the price of an Ancillary Service from the Day-Ahead Market to the Hour-Ahead Market could self-provide its obligation for that Ancillary Service in the Day-Ahead Market, then withdraw that self-provision and sell the capacity in the ISO's Hour-Ahead Market for the service. It would, under the Tariff and Protocol provisions as revised in Amendment No. 13, pay for its non-self provided Ancillary Service requirements at the ISO's "average" cost, while it sells the withdrawn capacity at the higher Hour-Ahead price. This would shift costs to other Scheduling Coordinators that rely on the ISO's Ancillary Service markets.

To address this gaming opportunity, the ISO proposes to revise the ISO Tariff and Protocols to provide that a decrease in self-provided Ancillary Service capacity reflected in Day-Ahead Schedules will be replaced at the Hour-Ahead price. With this change, capacity self-provided through the ISO's Day Ahead Market will be treated identically to bid capacity, and Scheduling Coordinators will be held financially responsible for the binding obligation represented by final Day Ahead Market schedules.<sup>23</sup>

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<sup>23</sup> Since the ISO began operations, Scheduling Coordinators have been charged the Hour-Ahead Market Clearing Price if the final Day-Ahead Ancillary Service schedules are reduced in the

Another change relates to the interplay between determining Scheduling Coordinators' Ancillary Service obligations on the basis of metered Demand and the introduction of the capability for Scheduling Coordinators to trade Ancillary Service obligations. Since Ancillary Service trades will be in absolute MW, and obligations are based on metered Demand, Scheduling Coordinators will be unable to precisely determine their net obligation after a trade until Preliminary Settlement Statements are issued. To address any excess self-provision that may arise, the ISO is proposing that any capacity subject to the ISO's Ancillary Service standards (including certification and testing) be eligible for excess self-provision credits at the ISO's average procurement cost. This change recognizes that such capacity, if self-provided in excess, reduces the ISO's net Ancillary Service requirements for other Scheduling Coordinators. This change assures that Scheduling Coordinators are not discouraged from seeking to self-provide or engage in Inter-Scheduling Coordinator Ancillary Service Trades to serve their total obligations.

Attachment K contains in black-lined form additional modifications to implement the "no pay" proposal also approved in the February 9 Order. These changes clarify that the withholding of payments for uninstructed deviations does not apply when the market clearing price for an Ancillary Service is negative and effect other clarifications.

## **8. Generator Communications Project for Resources Supplying Regulation**

The ISO Tariff currently requires all Participating Generators providing Regulation to the ISO to provide communications links that meet the ISO's standards for direct digital control. ISO Tariff, Section 2.5.6.2; see also Section 5.1.3(d). Section 4.2.1 of the ASRP amplifies this requirement, specifying that each Generating Unit offering Regulation must be "capable of being controlled and monitored by the ISO Energy Management System."

As part of its efforts to improve the functioning of markets for Ancillary Services, including Regulation, the ISO has determined that improved control over Generating Units supplying Regulation will help to enable it to use those resources

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Hour Ahead Market. The ISO notes that one of the issues raised by stakeholders in the Ancillary Service market redesign discussions (Issue No. 27 on Attachment C) relates to the provisions under which Scheduling Coordinators may buy back from the ISO Ancillary Service capacity that they have previously committed. The modifications contained in this filing are not intended to predetermine the outcome of discussions regarding this issue, which, as explained below, will continue after this filing.

more efficiently and thereby to reduce its requirements for that service. The ISO has initiated a Generator Communications Project to install an advanced communications and direct control system, referred to as the Remote Intelligent Gateway System or "RIGS," at all Generating Units providing Regulation by the end of 1999.

To ensure that the responsibility of generators to have equipment in place meeting the standards of the RIGS system is clear, the ISO is proposing changes to Section 4.2.1 and Appendix A of the ASRP. These changes specify that the communications and control equipment in place at Generating Units supplying Regulation meet the standards of the proposed RIGS system, by installing and using either RIGS equipment or alternative equipment proposed by the generator, which the ISO agrees provides an equivalent level of communications and control. The proposed changes are shown in black-lined format on Attachment L.

#### **D. Other Proposed Tariff and Protocol Changes**

The ISO also proposes two other changes to the ISO Tariff and Protocols as part of Amendment No. 14.

##### **1. Proper Crediting of Ancillary Service Payments Under RMR Contracts**

As the Commission is aware, the ISO has contracts with the owners of a number of generating units that permit it to call on those units to support the reliable operation of the grid during certain conditions. Generating units with such RMR contracts can be called upon to provide Ancillary Service capacity, and when they do so, they receive (through the Scheduling Coordinators that represents them) the market clearing price for the Ancillary Service provided. In accordance with Section 5.2.7 of the ISO Tariff, the ISO recovers amounts paid under RMR Contracts from the Participating Transmission Owner in whose Service Area the RMR generating unit is located, after deducting amounts received by the owner of the RMR generating unit from its Scheduling Coordinator for Energy and Ancillary Services.

The terms of the contracts filed by owners of RMR generation vary with respect to whether the owners are required to credit against amounts due under the contracts (and recoverable by the ISO from the relevant Participating Transmission Owner) the market revenues they receive for Ancillary Service capacity.<sup>24</sup> Some contracts provide for such credits; others do not.

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<sup>24</sup> All of the contracts require the RMR unit owner to provide a credit with respect to market revenues received for Energy.

Those RMR contracts that fail to provide for a credit for market revenues received by the owner for Ancillary Service capacity are inconsistent with the design of the ISO's Ancillary Service markets, as reflected in Section 5.2.7. They also inappropriately provide for the RMR owner both to receive a payment from the ISO to support the fixed costs of its generating unit and to retain the market revenues it receives for Ancillary Services called upon by the ISO.

To remedy this inconsistency and to restore the operation of the intended market design, the ISO proposes a new subsection 2.5.27.7 of the ISO Tariff (shown in Attachment M), which provides that when an RMR contract does not provide for a credit for Ancillary Service capacity revenue received by the RMR owner from its Scheduling Coordinator, the ISO may make payments for such capacity to the Settlement Account of the relevant Participating Transmission Owner, rather than to such Scheduling Coordinator. In this way, the absence of a crediting provision in the RMR contract is remedied by redirecting the market revenues for Ancillary Service capacity provided by an RMR unit as the result of a dispatch notice issued by the ISO. Any RMR unit owner affected by this change will continue to receive the payments to which it is entitled under its contract.

## **2. Status of the Market Surveillance Committee**

The ISO proposes a clarifying change to Section 5.1 of the Market Monitoring Information Protocol ("MMIP"). That Protocol (among other things) describes the qualifications for members of the independent MSC and the nature of activities the MSC will undertake to evaluate and make representations with respect to the markets administered by the ISO. The proposed change, which is shown in black-lined format in Attachment N, would confirm the status of the members of the MSC as independent of the ISO. The ISO believes this change confirms the intended role of the MSC and so effects no substantive change.<sup>25</sup>

### **C. Assessment of Proposed Ancillary Service Redesign Elements and Ongoing Process**

The ISO believes that the substantial modifications to the ISO's Ancillary Service markets proposed in this filing, together with the Commission's approval of market-based pricing for all participants in the ISO's Ancillary Service markets and changes that have already been approved by the Commission in previous amendments to the ISO Tariff, address most of the structural deficiencies in the

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<sup>25</sup> See October 28 Order, 85 FERC at 61,462 (MSC to provide independent assessment of ISO's Ancillary Service Market Redesign proposal to the Commission).

ISO's Ancillary Service markets that were identified in the MSC's August 17 Report.<sup>26</sup> The process of improving the functioning of the Ancillary Service markets is not, however, complete.

First, the MSC identified perverse incentives created by contracts with owners of RMR Generating Units as a significant factor contributing to deficiencies in the ISO's Ancillary Service markets. The ISO is working in other Commission proceedings with the owners of those units and other parties to achieve a satisfactory resolution of those issues.<sup>27</sup> Whether or not any resolution that is produced by those efforts will be sufficient to remove the impediment that current contractual arrangements present for workably competitive Ancillary Service markets remains to be seen.

Second, as discussed earlier, the effort required to develop, install, and test the software necessary to implement the measures proposed above is substantial. The ISO and the participants in the stakeholder process have identified additional improvements to the ISO's Ancillary Service markets that will be implemented when software development resources permit. These enhancements are:

- Software developments to preserve the firmness of imports in inter-Scheduling Coordinator trades. As noted above, implementation of the ability for Scheduling Coordinators to trade Ancillary Services will enable them to engage in firm energy trades within the ISO Control Area. This includes, in many cases, trades of energy and Ancillary Services that originated as a firm import from another Control Area. This further step would directly preserve the firmness of energy imported into the ISO Control Area on a firm basis when the energy is traded to another Scheduling Coordinator. It would also allow credits for firm imports when Ancillary Services are procured zonally. This measure would increase the competitiveness of imported Ancillary Services.
- Permit Scheduling Coordinators to both bid and self-provide the same Ancillary Service from a single generating unit. Currently, the ISO's software permits Scheduling Coordinators to bid one Ancillary Service

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<sup>26</sup> A table listing the deficiencies identified by the MSC and the steps that have been taken and proposed to address them, is contained in Attachment O.

<sup>27</sup> On February 5, 1999, the Chief Administrative Law Judge issued an order accepting and filing a Memorandum of Agreement to Finalize Settlement of dockets relating to the rates and other terms of RMR contracts. See *Pacific Gas & Electric Co., et al.*, Docket Nos. ER98-495-000, *et al.* (Feb. 5, 1999).



and self-provide another from the same generating unit. This enhancement would permit them simultaneously to bid and self-provide a single Ancillary Service from a single generating unit. By increasing the options available to market participants, this change should enhance the attractiveness and efficiency of the ISO's Ancillary Service markets.

These features will be the subject of a future filing, in which necessary amendments to the ISO Tariff and Protocols will be proposed.

Third, the ISO and the stakeholders will continue the evaluation of other redesign elements that were considered by the stakeholders, but which received a lower priority ranking. The remaining redesign elements proposed in the Ancillary Service Market Redesign project are included in the list provided as Attachment C. These elements will receive further review. Their implementation will be prioritized by the ISO Governing Board, taking into account the results of the measures that are proposed in this filing and those that have already been approved by the Commission.

#### **IV. ANCILLARY SERVICES AND IMBALANCE ENERGY PRICE CAPS**

In the October 28 Order, when the Commission confirmed the ISO's authority to impose caps on prices in its Ancillary Service markets, it directed the ISO to set out the criteria through which it would exercise that authority.<sup>28</sup> The Commission subsequently imposed a similar requirement with respect to the ISO's authority to cap prices in its Imbalance Energy market.<sup>29</sup>

Currently, the ISO has established caps of \$250/MW in Ancillary Service capacity markets and \$250/MWh in the Imbalance Energy market. One of the ISO's criteria in assigning priorities to different Ancillary Service Market Redesign elements was to implement as soon as possible those modifications to market structures that would enable the ISO to conclude that the structural flaws identified by the MSC and the Commission were remedied to a sufficient extent that the \$250 price caps could be raised to substantially higher levels. In consultation with the MSC, the ISO has concluded that the implementation of the first five elements described in Section III(B), above (the rational buyer modification to the auction, revised pricing for uninstructed deviations, the use of Replacement Reserve to minimize out-of-market purchases, the automation of BEEP instructions, and separate pricing of upward and downward regulation), together with the

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<sup>28</sup> October 28 Order, 85 FERC at 61,461.

<sup>29</sup> *California Independent System Operator*, 86 FERC ¶ 61,059, slip op. at 7.

implementation of those portions of Amendment No. 13 addressing Ancillary Service issues and the elimination of perverse incentives created by the structure of RMR Contracts and the dispatch of RMR Generation, meets this threshold. The ISO intends to retain the \$250 price caps until these conditions are satisfied. The ISO intends to review progress toward satisfying these conditions in May. If the conditions are not satisfied at that time, the ISO will periodically review progress on the implementation of the Ancillary Service redesign elements and the reform of the RMR contracts to determine whether workably competitive conditions, which would support the raising of the price caps, exist.

The ISO has also developed a Market Design Safety Net policy that will guide its exercise of its price cap authority after the price caps are raised from their present levels. The process to be followed under this policy, which was conceptually approved by the ISO's Governing Board at its February meeting, is described in Attachment P, and provides in summary as follows:

- The ISO will observe the performance of Ancillary Service markets and the Imbalance Energy markets to identify price patterns indicative of market failure and supply conditions indicative of insufficiency. The Safety Net policy includes a non-exclusive list of examples of patterns and conditions that could lead to a conclusion that intervention to mitigate market failures is appropriate. The observation of high prices for Ancillary Service is not, in itself, always an indication that markets are not functioning well.
- Where the ISO's observation leads to a determination that intervention is appropriate because serious evidence of a major market failure presents the risk of serious harm to the market in the absence of mitigation, the ISO would announce the imposition of lower caps in one or more markets, taking into account interactions among markets. Whenever it determines that such action is necessary, the ISO would report its observations, analysis and findings to the ISO's Governing Board.

The Safety Net policy will be reevaluated by the ISO Governing Board at its May 1999 meeting. This reevaluation will take into account the status of the Ancillary Service redesign elements described in this filing as well as the efforts to address issues related to the Reliability Must-Run Contracts.

## **V. ANCILLARY SERVICE BID EVALUATION ISSUES**

In its October 30, 1997 Order, the Commission directed the ISO to report on the ISO's Ancillary Services bid evaluation practices, taking into account data from

the first year of ISO operations.<sup>30</sup> This directive was in direct response to intervenor concerns that a proposed two-part bid evaluation approach for Ancillary Service bids would be inconsistent with overall cost minimization in the Ancillary Service markets. As noted above, the ISO abandoned this two-part bid evaluation approach prior to commencing operations.<sup>31</sup>

Although the specific circumstances addressed in the October 30 Order are no longer at issue, the ISO has nonetheless engaged in a review of its Ancillary Service bid evaluation practices with a goal of achieving further cost minimization. The stakeholder process that preceded the instant filing examined all aspects of the ISO's Ancillary Service markets, including the manner in which the ISO evaluates bids submitted in those markets. One of the primary revisions to the market design proposed in this filing would give the ISO greater flexibility to accept bids for higher quality Ancillary Services to substitute for lower quality Ancillary Services when doing so would reduce the ISO's total costs of procuring Ancillary Services (the "rational buyer" proposal). The ISO will continue to consider bid evaluation issues, including possible refinements of the rational buyer approach, as part of its efforts to evaluate the remaining Ancillary Service redesign elements.

## **VI. SUFFICIENCY OF REGULATION BIDS**

In prior submissions to the Commission the ISO committed to address issues related to the sufficiency of Regulation bids as part of its integrated efforts to evaluate the design of the Ancillary Service markets. The Commission's blanket authorization of market-based rates for Ancillary Services has eliminated what now appears to have been the primary factor in the Regulation bid insufficiencies that were present in the early period of ISO operation. In November 1998, the ISO Governing Board acted in response to this blanket authorization and other developments which were anticipated to support Regulation bid sufficiency by lowering the REPA calculation "C" factor to zero, effectively eliminating REPA payments.

Recent market surveillance data indicates that Regulation bid sufficiency is not currently an issue in the Ancillary Service markets. The ISO will notify the Commission of any further bid sufficiency issues that require ISO action or the attention of the Commission.

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<sup>30</sup> *Pacific Gas and Electric Co., et al.*, 81 FERC ¶ 61,122 at 61,494.

<sup>31</sup> The Commission recently accepted an amendment to the ISO Tariff which, among other items, eliminated from the Tariff a number of superfluous references to "proxy prices" related to this abandoned two-part bid evaluation approach. *California Independent System Operator Corp.*, 86 FERC ¶ 61,122 (1999).

## **VII. EFFECTIVE DATES**

As explained above, those elements of the ISO's Ancillary Service Market Redesign proposal that are to be implemented in the first phase and which require revisions to the ISO's Tariff and Protocols also depend upon the development and installation of software modifications, some of which are extensive. Because the software to implement these revisions is not yet ready, the ISO requests that each of these revisions, shown on Attachments E through L, become effective on the later of May 1, 1999, or seven days after the ISO posts notice on the ISO Home Page that the software (or, in the case of the changes relating to the generator communications project, hardware) is available for the particular revision and the revision will become effective.<sup>32</sup> At present, in light of the work necessary to implement the software changes, the ISO expects that it will be in a position to begin implementing components of the Ancillary Service Market Redesign on a phase basis beginning in June 1999.

With respect to the revisions described in Attachments M and N, which are not dependent on software changes, the ISO proposes an effective date of May 1, 1999.

## **VIII. NOTICE AND SERVICE OF DOCUMENTS**

Communications regarding this filing should be addressed to the following individuals, whose names should be placed on the official service list established by the Secretary with respect to this submittal:

N. Beth Emery	Edward Berlin
Vice President and General Counsel	Kenneth G. Jaffe
Roger E. Smith*	Michael E. Ward*
Regulatory Counsel	Sean A. Atkins
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<sup>32</sup> The ISO notes that some of the revised tariff sheets included in Attachment A contain changes that implement more than one element of the Ancillary Service Market Redesign. At this point, the order in which different components of the redesign will be implemented is not certain. Should the implementation of different components of this filing create a situation in which some, but not all of the changes reflected in a tariff sheet are in effect, the ISO will make a compliance filing with interim tariff sheets reflecting only those changes that are in effect. When the remaining changes reflected in the affected tariff sheet take effect, the ISO will make a further compliance filing to replace the interim tariff sheet with the corresponding sheet as contained in Attachment A.

The Honorable David P. Boergers  
March 1, 1999  
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The ISO has served copies of this letter, and all attachments, on the Public Utilities Commission of the State of California, the California Energy Commission, the California Electricity Oversight Board, and on all parties with effective Scheduling Coordinator Service Agreements under the ISO Tariff. In addition, the ISO is posting this transmittal letter and all attachments on the ISO's Home Page.

#### **IX. SUPPORTING DOCUMENTS**

The documents supporting this filing, in addition to this transmittal letter, are listed in the attached table. In addition, a notice of this filing, suitable for publication in the Federal Register, is attached and is also provided in electronic format.

An additional copy of this filing is enclosed to be marked with your filing stamp and returned to our messenger. If there are any questions concerning this filing, please contact the undersigned.

Respectfully submitted,

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N. Beth Emery  
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Roger E. Smith, Regulatory Counsel  
The California Independent  
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