

May 2, 2000

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. ER00-____-____
Amendment No. 29 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")¹ respectfully submits for filing an original and six copies of an amendment ("Amendment No. 29") to the ISO Tariff. Amendment No. 29 would modify the Tariff in several respects. The modifications include the following:

- Settlement of Scheduling Coordinators' obligations in the real-time Energy market on a ten-minute basis to improve efficiency and reduce incentives for large uninstructed deviations from schedules;
- Enabling Scheduling Coordinators to submit Adjustment Bids in conjunction with Energy trades between Scheduling Coordinators so that those trades may participate in the ISO's Congestion Management process.

¹ Capitalized terms not otherwise defined are used in the sense given in the Master Definitions Supplement, ISO Tariff Appendix A.

- Automation of Dispatch instructions;
- Changes to the Market Monitoring Protocol to permit the expansion of the Market Surveillance Committee to more than three members; and
- Changes to Scheduling Coordinator financial requirements.

Revised Tariff sheets reflecting the changes proposed herein are contained in Attachment A. Black-lined Tariff provisions showing the changes proposed in this filing are contained in Attachments B through F.

I. PROPOSED ISO TARIFF REVISIONS

A. Ten-Minute Markets

Amendment No. 29 includes a proposal to modify the current approach to the Dispatch of resources participating in the ISO's Imbalance Energy market and to the settlement of obligations in that market. Under the proposal, all resources supplying Imbalance Energy would be Dispatched over the interval utilized by the ISO's Balancing Energy and Ex Post Price ("BEEP") software – currently, ten minutes – and obligations in the Imbalance Energy market would be settled on the same basis. This approach, which is consistent with the original design of the Imbalance Energy market, is referred to as the "ten-minute market" proposal. It is intended to address inefficiencies and unintended operational consequences created by the current Imbalance Energy market rules, under which different resources are Dispatched over different intervals and the settlement of market obligations is not tied to the Dispatch period, leading to excessive Regulation requirements.

1. The Current Approach to Imbalance Energy Market Settlement

The ISO administers an Imbalance Energy market to enable Scheduling Coordinators to obtain the Energy required to serve Load in excess of the Load reflected in their final Hour-Ahead Market Schedules and, when their Loads are less than scheduled, to sell their surplus Energy. The Imbalance Energy market thus is designed to serve a Load-following function.² As explained in the appended declaration of Kellan Fluckiger, the ISO's Chief Operations Officer, which is included as Attachment G, a well-functioning Imbalance Energy market also enables the ISO to meet its obligation as Control Area operator to match Loads and Generation on a continuous and reliable basis.

² The Load-following service provided through the Imbalance Energy market is separate and distinct from Regulation service, which is intended to follow the moment-to-moment variations in system Load.

The original design of the ISO's Imbalance Energy market called for the ISO to issue Dispatch instructions to resources for each five-minute interval, based on the Energy bids it received in connection with Ancillary Service capacity and Supplemental Energy bids. Resources that produced unscheduled Energy in that interval would be paid the marginal incremental price (or Market Clearing Price), determined for each Dispatch interval (originally set for five minutes). In this way, Scheduling Coordinators would have the incentive to deliver the Energy instructed by the ISO in its Dispatch instructions in the specific Dispatch interval for which the ISO needs the Energy. Similarly, any Scheduling Coordinator would be free to sell excess Energy to the ISO and would receive a price reflecting the value of the Energy in the Dispatch interval in which it was delivered.

Problems with software development, however, made it impossible for the ISO to implement five-minute Dispatch and settlement for Imbalance Energy at the time of start-up. Instead, the ISO Tariff described an initial approach under which Dispatch instructions were issued every ten minutes to most resources and Imbalance Energy obligations were settled on an hourly basis. This was modified in Amendment No. 6 to the ISO Tariff, under which the settlement period for *Instructed* Imbalance Energy (i.e., real-time changes in output pursuant to Dispatch instructions from the ISO) was set to ten minutes while uninstructed deviations from Schedules would be paid hourly.³ Under this approach, which remains in effect, deviations from hourly schedules are settled at the Hourly Ex Post Price, which is the weighted average of the prices paid or charged to resources that are instructed during the hour's six ten-minute Dispatch intervals (called "BEEP Intervals" in reference to the ISO's BEEP software). Even though the ISO instructions are issued and paid on a ten-minute interval basis, payment of uninstructed deviations on an hourly basis in effect means that the Scheduling Coordinator can satisfy the ISO instructions at any time during the hour (e.g., an instruction issued by the ISO for the delivery of Energy (in accordance with a Scheduling Coordinator's bid) in the first or second ten-minute interval of an hour may be satisfied by the delivery of Energy anytime during the remainder of the hour. Thus, a Scheduling Coordinator has little or no incentive to deliver Instructed Imbalance Energy during the BEEP Interval for which the Energy was Dispatched by the ISO. Moreover, today Scheduling Coordinators are paid or

³ The ISO indicated in Amendment No. 6 that these provisions would be employed only until the originally intended sub-hour settlement system could be implemented. The relevant provisions accordingly were placed in temporary provisions of the ISO Tariff (Section 23) in recognition of the ISO's intention to develop and implement sub-hour settlement intervals. In the settlement approved by the Commission in Docket Nos. ER98-3760-000, *et al.*, the Commission approved the relocation of those provisions in regular Tariff sections for ease of reference by Market Participants. *California Independent System Operator Corporation*, 90 FERC ¶ 61,178 (2000). The shifting of these provisions does not, however, reduce the need to address problems created by the hourly settlement of Imbalance Energy obligations.

charged the BEEP Interval Ex Post Price based on the bid quantities (i.e., the bid quantities are deemed delivered) and then they are paid or charged for any uninstructed deviation at the Hourly Ex Post Price.⁴

2. Problems Created by the Current Approach

Inability to Rely on Imbalance Energy Market for Load Following.

The hourly settlement of uninstructed deviations results in Scheduling Coordinators having little or no incentive to deliver Energy in the BEEP (or ten-minute) Interval in which the ISO has a need for Imbalance Energy. As a consequence, the Imbalance Energy market fails to fulfill the Load-following function for which it was designed. The implementation of ten-minute settlement and Dispatch will create a more efficient Imbalance Energy market that will serve the Load-following function. This will enable the ISO to reduce substantially its requirements for Regulation, resulting in annual savings conservatively estimated at \$80 million to \$120 million.⁵ This would reduce the ISO's total Ancillary Service costs by 25 to 33 percent annually. In addition, a reduction in the ISO's requirements for Regulation should make a portion of the capacity that is currently bid as Regulation available to increase the supply in other Ancillary Service markets, with a concomitant reduction in prices.

Incentives to Generate on an Unscheduled Basis, Rather Than to Submit Bids. The use of a single hourly price for deviations from Schedules decreases the incentive for Scheduling Coordinators to submit bids in the ISO's Imbalance Energy market. A Scheduling Coordinator that expects to have excess Energy in real time can earn approximately the same payments for not bidding and generating without a Dispatch instruction (i.e., excess generation) that it would earn by submitting bids and responding to the ISO's Dispatch instructions. The ISO's Imbalance Energy market should encourage Market Participants to supply additional Energy in response to price signals that reflect the ISO's need for Energy *during the BEEP Interval when the Energy is supplied*. The present hourly settlement system for uninstructed deviations, however, allows the supply of Energy at the wrong times.

⁴ In Amendment No. 14, Docket No. ER99-1971, the ISO implemented an "effective price" proposal which lowered the incentive to engage in an uninstructed deviation and gain the monetary difference between the deemed delivered amount and the Hourly Ex Post Price. However, Amendment No. 14 only addressed resources that had been issued a Dispatch instruction by the ISO; it did not address those generators generating in the absence of an ISO Dispatch instruction. The current proposal addresses this additional circumstance by setting these uninstructed deviations on an interval, as opposed to an hourly average, basis.

⁵ The derivation of this savings estimate, as well as the other savings estimates discussed in the text, is shown in the white paper entitled *California ISO's 10-Minute Settlement Proposal: Background and Economics*, included as Exhibit 3 to Mr. Fluckiger's declaration.

“Stuck Prices.” During some hours, the phenomenon of Market Participants chasing inappropriate prices is exacerbated by the ISO’s experiencing a “stuck price.” This occurs when the ISO Dispatches a Supplemental Energy bid from resources outside the ISO Control Area. To conform to practices in other Control Areas, Supplemental Energy bids on inter-Control Area ties are pre-Dispatched, i.e., once accepted, they are not adjusted during the hour. If the ISO’s need for Imbalance Energy declines during the hour, making the import of Supplemental Energy no longer economical, the ISO often cannot issue a decremental Dispatch instruction to reduce the import. As a result, the price for incremental Energy remains “stuck” at the bid associated with the import, even though less costly resources would be sufficient to meet the ISO’s needs during the latter parts of the hour. This effect tends to inflate the hourly price for Imbalance Energy, encouraging more uninstructed generation, as Market Participants seek to receive the artificially high price. Based on an analysis of the hours (approximately 3 to 5 times per day) in which the stuck price phenomenon is observed, the ISO estimates that elimination of the stuck price effect could save approximately \$15 million per year.⁶

Poor Response to Instructions. Because of the lack of incentives for Market Participants to deliver Energy in the BEEP Interval for which the ISO has instructed its delivery, the ISO has experienced poor response to those instructions. The ISO often must call on bids representing two to seven times as much Energy as is required to follow a change in Load to obtain the necessary response. Calling upon more bids for the supply of Imbalance Energy increases the Market Clearing Price. The ISO estimates that this process increases Imbalance Energy prices by 30% to 40%. Based on a total Imbalance Energy cost of \$336 million in 1999, the ISO projects that improved response to the ISO’s Dispatch instructions could reduce Imbalance Energy costs by 20% to 25%, producing annual savings of between \$67 million and \$84 million.

3. Discussion of Ten-Minute Settlement Issue With Stakeholders

The ISO first raised concerns regarding large uninstructed deviations in the Imbalance Energy market as part of the stakeholder discussions in early 1999 regarding Ancillary Services redesign. In response to stakeholders, the ISO delayed the pursuit of options to reduce uninstructed deviations pending the evaluation of the effects of the items adopted in the Ancillary Services redesign effort. The ISO began discussions with stakeholders in August 1999 regarding a number of potential improvements in the design of the ISO’s markets. Once

⁶ In an effort to limit instances of the stuck price effect, ISO dispatchers sometimes take a conservative approach to calling on imports of Supplemental Energy, selecting them only when they believe that the Dispatch instruction will not be reversed during the hour.

again, the development of mechanisms to reduce uninstructed deviations from Schedules was identified as a critical objective. The implementation of ten-minute settlements for Imbalance Energy to conform the settlement interval to the Dispatch Interval, as originally intended, was identified as the most effective means of reducing uninstructed deviations, improving the efficiency of the Imbalance Energy market and enabling the ISO to reduce its over-reliance on Regulation. The ISO determined that a solution to the excessive uninstructed deviation problem should have the following characteristics:

- The solution must improve the efficiency of the Imbalance Energy market to provide the Load-following function it was originally intended to fulfill, thereby enabling the ISO to reduce Regulation requirements and eliminating inefficiencies, including (but not limited to) the “stuck price” problem;
- The solution must create incentives for Market Participants to submit bids in the Imbalance Energy market and to respond to the ISO’s Dispatch instructions within the Dispatch interval;
- The solution must create incentives for Market Participants to deliver Instructed Imbalance Energy in the specific BEEP Interval for which it is Dispatched;
- The solution must create incentives for Market Participants supplying Imbalance Energy on an uninstructed basis to do so in the BEEP Intervals when the ISO needs the additional Energy;
- The solution must establish an incentive for smooth transitions between hourly schedules; and
- The solution must mitigate existing disincentives to follow ISO instructions.

Following additional stakeholder discussions, the ISO Governing Board at its October 1999 meeting approved the development of the ten-minute market proposal, under which all resources supplying Imbalance Energy would be Dispatched on a ten-minute basis and obligations for Imbalance Energy would be settled on the same basis.

Over the following month, the ISO discussed the ten-minute market proposal further with stakeholders at the Market Issues Forum on November 3, 1999 and began drafting Tariff language to implement it. At its November 1999 meeting, the ISO Governing Board authorized the filing of Tariff revisions to implement ten-minute markets as early as possible during the Summer of 2000. The ISO continued to work on the details of how ten-minute markets would work and on refining the necessary Tariff revisions. The ISO also held four workshops

with stakeholders in February to explain how ten-minute markets would be implemented and to hear and address Market Participants' concerns.⁷

At its February 2000 meeting, the ISO Governing Board authorized the ISO to continue to proceed with the implementation of ten-minute markets, targeting August 1, 2000 for implementation, but asked ISO management to consider simplifications proposed by stakeholders and also whether it would be advisable to phase the implementation of ten-minute markets, as some stakeholders urged.

An additional stakeholder meeting was held on March 7, 2000, following the ISO's issuance of a white paper summarizing the background of the uninstructed deviation problem created by the hourly settlements system, the proposed solution and the expected benefits of ten-minute markets.⁸ The ISO also met on March 8, 2000 with stakeholders that had proposed alternative approaches to ten-minute markets to discuss the specifics of their proposals. At the ISO Governing Board meeting held on March 22, 2000, ISO management reported on the results of those discussions and presented its analysis of the alternatives. The Board authorized the ISO to proceed with ten-minute market implementation, as previously proposed.

4. The Proposed Approach to Ten-Minute Dispatch and Settlement

The ISO proposes to implement the original design of the Imbalance Energy market, under which the obligations of Scheduling Coordinators participating in the Imbalance Energy market would be settled over the same interval in which resources supplying Imbalance Energy are Dispatched. As a result, both Instructed Imbalance Energy and uninstructed deviations will be priced on the basis of the market clearing price during the BEEP Interval (currently ten minutes) during which the Energy is supplied or the deviation occurs. For each BEEP Interval, the ISO's BEEP software will compute two prices: a BEEP Interval Ex Post Price for incremental Energy, based on the highest bid for incremental Energy selected; and a BEEP Interval Ex Post Price for decremental Energy, based on the lowest bid for decremental Energy selected.⁹ Under the ISO's proposal, Instructed Imbalance Energy will continue

⁷ Principal concerns that were raised and the ISO's responses to those concerns are discussed below.

⁸ A copy of this white paper is included as Exhibit 3 to Mr. Fluckiger's declaration.

⁹ Based on experience to date, the ISO expects that, in most intervals, the ISO will issue only incremental instructions or decremental instructions (i.e., the ISO will be seeking only additional Energy to meet rising Demand or asking for output reductions to match declining Demand). In that event, there will be only one BEEP Interval Ex Post Price in each BEEP Interval of the hour.

to be settled on the appropriate (incremental or decremental) BEEP or ten-minute interval price.

Uninstructed Imbalance Energy will be settled based on the ISO's marginal cost of adjusting other resources (or marginal savings from such adjustments) to accommodate the deviation. Thus, an uninstructed decremental deviation (a failure to supply scheduled Energy or the appearance of unscheduled Load in a Scheduling Coordinator's portfolio) will pay the BEEP Interval Ex Post Price for incremental Energy and an uninstructed incremental deviation (the supply of additional Energy beyond the scheduled amount or the consumption of lower amounts of Energy below the scheduled amount) will be paid the BEEP Interval Ex Post Price for decremental Energy.¹⁰ Scheduling Coordinators will be charged or paid for Uninstructed Imbalance Energy on the basis of their net deviations (i.e., the net result of deviations in Generation output, Loads, imports and exports in a Scheduling Coordinator's portfolio) over Congestion regions during a BEEP interval. Congestion regions are system areas separated by real-time Inter-Zonal Congestion; they may vary in each BEEP Interval.

The adoption of ten-minute markets for Dispatch and settlement in the Imbalance Energy market will not affect the Schedules submitted by Scheduling Coordinators. Those Schedules will continue to be submitted on an hourly basis and scheduled amounts will be distributed evenly among the BEEP Intervals in each hour.

The proposed ten-minute market system also includes provisions to encourage Market Participants to make smooth transitions or smooth "ramps" between hourly Schedules. This is accomplished by providing for the ISO to issue implicit Dispatch or ramping instructions to Participating Generators and Participating Loads, applicable in the last BEEP Interval of an hour and the first BEEP Interval of the following hour, that would cause them to move smoothly between their Scheduled output levels in the two hours. The ramping Energy produced by a Participating Generator or Participating Generator as it moves from its Scheduled level in one hour to the Scheduled level in the next hour will match the ramping Energy it consumes in the process. As a result, no payment is necessary or appropriate with respect to this ramping Energy and a Participating Generator or Participating Load that follows the ramping instructions will not incur responsibility for uninstructed deviations from Schedules.¹¹

¹⁰ As noted above, the BEEP Interval Ex Post Prices for incremental and decremental Energy are expected to be the same in most intervals.

¹¹ The ramping Energy provisions are described in the example included as Exhibit 1 to Mr. Fluckiger's declaration.

The ten-minute market proposal also includes a mechanism for Market Participants to avoid the price risk associated with uninstructed deviations that might occur in subsequent BEEP Intervals as a result of following the ISO's Dispatch instructions. This risk arises from the fact that (1) ISO instructions end at the end of an hour and (2) the Energy used to ramp back to scheduling following an ISO instruction is currently settled as an uninstructed deviation. In addition, the risk is exacerbated by the interplay between the ten-minute market and the "no-pay" rule accepted by the Commission as part of Amendment No. 13 to the ISO Tariff.¹² Under the "no-pay" rule, a Scheduling Coordinator that commits to provide capacity to the ISO as Operating Reserves or Replacement Reserves to meet its obligation for such reserves and which generates Energy from the reserved capacity without an instruction from the ISO, may forfeit a portion of the payment to which it would otherwise be entitled for that capacity. If a Scheduling Coordinator's resource has increased its output in response to the ISO's Dispatch instruction in one hour, it may be unable to ramp down to its scheduled output level in the next hour quickly enough to avoid being considered an uninstructed deviation and being exposed to no-pay penalties. To eliminate this disincentive against following the ISO's Dispatch instructions, the ten-minute market proposal provides for the ISO to issue implicit instructions to the resource for the supply of "residual Energy," which is the Energy that the resource supplies when it moves, at the ramp rate reflected in its bid, from the output level to which it has been Dispatched in one hour to the scheduled output level in the following hour.¹³ No-pay penalties do not apply to residual Energy supplied by a resource.¹⁴

5. Stakeholder Concerns and ISO Responses

During the meetings and workshops the ISO held with Market Participants, a variety of concerns were expressed regarding the ten-minute market proposal. The principal concerns were described in materials presented to the ISO Governing Board (included in Attachment H) and are discussed by Mr. Fluckiger in his declaration:¹⁵

¹² See *California Independent System Operator Corp.*, 86 FERC ¶ 61,122, at 61,417-19 (1999).

¹³ The residual Energy provisions are described in the example included as Exhibit 2 to Mr. Fluckiger's declaration.

¹⁴ The ISO also proposes, in response to concerns expressed by stakeholders, to modify the no-pay rule, as applied to ten-minute markets, to incorporate a deadband, so that the production of Energy from capacity committed to the ISO as Operating Reserves or Replacement Reserves will not result in no-pay penalties if it does not exceed the deadband. The tolerance level for deviations will be established by the ISO in advance and published on the ISO Home Page to enable the ISO to reduce the size of the deadband as Market Participants gain experience with ten-minute markets.

¹⁵ Additional concerns and suggestions presented by stakeholders are described, together with the ISO's responses to each, in Attachment 2 to the March 14, 2000 memorandum for the

The Availability of Imports of Supplemental Energy. A number of Market Participants expressed concern that it would not be possible for mid-hour adjustments to imports of Energy from other Control Areas to be accommodated by the scheduling practices of other Control Areas, and that the ten-minute market proposal would accordingly reduce the supply of Supplemental Energy from external resources. The ISO carefully considered this concern, but concluded that while bid prices for imports of Supplemental Energy might rise, external resources would continue to supply real-time Energy. Mr. Fluckiger explains that the ISO reached this conclusion based on several factors. First, the ISO noted that external resources already supply a significant portion of the ISO's Ancillary Service requirements.¹⁶ For capacity to qualify for Ancillary Services, it must be dispatchable on a ten-minute basis. It was therefore clear that other Control Areas could accommodate the ten-minute Dispatch of resources participating in the ISO's markets. Second, the ISO noted, and explained to stakeholders, that an external resource could decline to follow a mid-hour Dispatch instruction for increased output if it was unable to arrange necessary transmission from its Control Area operator. An external resource, once its incremental bid is accepted, could similarly decline to follow a mid-hour decremental Dispatch instruction, but its excess Energy would be treated as an uninstructed deviation and it would receive the BEEP Interval Ex Post Price for decremental Energy. Owners of external resources could evaluate this risk and reflect it in their bid prices. Critically, however, an external resource that declined to follow a mid-hour decremental Dispatch instruction would no longer set the clearing price for subsequent BEEP Intervals in the hour, i.e., the stuck price phenomenon would be eliminated.

Although the ISO believes these concerns to be overstated, it nevertheless modified the ten-minute market proposal to address them. In particular, the ISO will temporarily permit Scheduling Coordinators to specify that if an import of Supplemental Energy is not pre-Dispatched in the first BEEP Interval of an hour, it should be withdrawn for the balance of the hour.¹⁷ This will

ISO Governing Board, included in Attachment H. In addition, Attachment 3 to the March 14, 2000 memorandum describes some of the differences and similarities between one of the stakeholders' proposals and the ISO's proposal.

¹⁶ The ISO initially decided that a 25 percent limit on the acquisition of Ancillary Services from external sources struck a reasonable balance between reliability concerns and the desirability of increasing the range of suppliers who could participate in the ISO's Spinning Reserve and Non-Spinning Reserve markets. The Commission accepted this limitation. See *AES Redondo Beach, L.L.C., et al.*, 87 FERC ¶ 61,208, at 61,819 (1999). Moreover, the Commission stated that it would not require the limitation to be filed, and that it saw "no need to restrict the ISO's ability to adjust the level of imports as its reliability concerns are met." *Id.* The ISO has subsequently raised the limitation from 25 percent to 50 percent.

¹⁷ For example, assume a Scheduling Coordinator has bid a 100 MW import of Supplemental Energy and it has indicated that it does not want the bid Dispatched after the pre-Dispatch period. If the bid is not called during the pre-Dispatch period, it will not be called for

give external resources that are unwilling to incorporate in their bids the economic risks associated with mid-hour Dispatch instructions a way to reduce that risk to the amount of Energy pre-Dispatched. The ISO expects that, after owners of external resources gain experience and become more comfortable with ten-minute markets, it will be able to eliminate this temporary modification.

Effect on Participation by Loads. Some stakeholders expressed concern that mid-hour Dispatch adjustments would expose Participating Loads to undue risks under the no-pay rule if they also supply Ancillary Services. Here, too, the ISO believed that these risks could be ameliorated through the use of appropriate bidding strategies. Nevertheless, to encourage participation by Loads in the ISO's Ancillary Service and Imbalance Energy markets, the ten-minute market proposal includes modifications to the no-pay rule for Participating Loads taking part in the ISO's Summer 2000 trial program for Load participation. The ISO approved this temporary change for the trial Summer 2000 Ancillary Service Load Program to accommodate Loads' difficulty in returning to their original Schedules in a short period of time after being Dispatched to reduce Load. When a Load is Dispatched to reduce Load in accordance with a bid, it will be subject to no-pay to the extent that it does not reduce Load. Under the no-pay provisions, that Load could also be subject to no-pay if it does not return to its original Load when it is directed to do so. This temporary accommodation would exempt Scheduling Coordinators from the no-pay provision related to their not returning to their scheduled Load for the hour of the original Dispatch and for two subsequent hours.¹⁸

Price Transparency. Some stakeholders expressed concern that ten-minute markets would increase their exposure to risks from Imbalance Energy prices that would only be determined after the fact. To address this concern, the ISO intends to develop and implement the capability to provide price information during the BEEP Interval and also to publish before each hour prices at which resources have been pre-Dispatched. The ISO will give a high priority to having this capability operational for the initial implementation of ten-minute markets on August 1 of this year.

Create Separate Markets for Hourly and Ten-Minute Energy. Some stakeholders proposed that the ISO create separate real-time markets for

the remainder of the hour. If the bid is pre-Dispatched at 40 MWs, the remaining 60 MWs would not be called for the remainder of the hour. The 40 MWs pre-Dispatched would, however, still be subject to further Dispatch instructions within the hour (i.e., subsequent decremental and incremental instructions).

¹⁸ The accommodation would be reflected in the Participating Load Agreements that the ISO would sign with Loads that participated in the trial program. Amendment No. 29 also includes a provision to confirm that Participating Loads, like Participating Generators, must schedule transactions through a certified Scheduling Coordinator.

resources that desire to supply Imbalance Energy on an hourly basis and those that can respond to ten-minute Dispatch instructions. The ISO believes that it is unnecessary to create additional hourly markets, because Generation and Load resources that can supply Energy only on an hourly basis (due to minimum run times or other operating characteristics) can be reflected in Schedules in the Day-Ahead and Hour-Ahead markets. Moreover, creating two real-time Energy markets would fragment the real-time market, creating inefficiencies and higher prices.

Alternative Approaches to Ten-Minute Markets. Some stakeholders presented alternative approaches to the operation of ten-minute markets, which were claimed to represent less complicated designs. Mr. Fluckiger explains that the ISO explored these alternatives thoroughly, in one case meeting with the proponents to discuss their proposal in detail. After a thorough review, the ISO concluded that the alternative approaches suggested by some stakeholders did not offer substantial advantages over the approach to ten-minute markets developed by the ISO.

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Black-lined Tariff sheets showing the modifications required to implement ten-minute markets are included as Attachment B. Materials provided to the ISO Governing Board describing the objectives, mechanics and benefits of ten-minute markets are included as Attachment H.

B. Adjustment Bids in Connection With Inter-Scheduling Coordinator Trades

Under Section 7.2.4 of the ISO Tariff, the ISO uses Adjustment Bids submitted by Scheduling Coordinators to manage Inter-Zonal Congestion. The Adjustment Bids determine which scheduled transactions are curtailed and the Usage Charges assessed to those that use congested interfaces. At the current time, the ISO does not accept Adjustment Bids in connection with inter-Scheduling Coordinator trades. As a result, Scheduling Coordinators engaging in inter-Scheduling Coordinator trades are effective "price takers" in the Congestion market. They must accept whatever Usage Charges are assessed for the scheduled transaction.

During the stakeholder process the ISO conducted in 1999 regarding potential enhancements to its market mechanisms, stakeholders expressed strong support for allowing inter-Scheduling Coordinator trades to participate in the Congestion Management auction by submitting Adjustment Bids. Development of the software necessary to support the submission of Adjustment Bids with inter-Scheduling Coordinator trades and filing of the necessary ISO Tariff revisions, however, were put on hold following the Commission's January

7, 2000 order in Docket No. ER00-555-000, which directed the ISO to undertake a comprehensive review of its Congestion Management processes.¹⁹

Further consultations with stakeholders at the Market Issues Forum held on March 8, 2000 indicated that there continues to be strong support for the implementation of this capability, regardless of the outcome of the Congestion Management review and redesign process. The ISO has determined that it is worthwhile to proceed. Enabling Scheduling Coordinators to submit Adjustment Bids in connection with inter-Scheduling Coordinator trades is likely to increase the number of Adjustment Bids the ISO receives, thereby increasing the depth of the Inter-Zonal Congestion Management market and reducing the cost of such Congestion. In 1999, the total cost of Inter-Zonal Congestion was approximately \$74 million. Even if the implementation of this capability only reduces Inter-Zonal Congestion costs by ten percent, the resulting savings would exceed \$7 million in one year. In contrast, the ISO expects to spend less than \$2 million to add this capability. The potential benefits of enabling the submission of Adjustment Bids with inter-Scheduling Coordinator trades seem likely therefore to exceed the costs by a substantial margin, even if further adjustments are required as a result of the Congestion Management review process.

Black-lined Tariff provisions showing the proposed revisions required to implement this feature are included as Attachment C. A memorandum prepared for the ISO Governing Board on this subject is included as Attachment I.

C. Automation of Dispatch Instructions

As part of the redesign of its Ancillary Service markets, the ISO determined to implement a system in which Dispatch instructions to resources participating in the ISO's Ancillary Service and Imbalance Energy markets would be issued electronically, rather than through telephone communications. The ISO advised the Commission of this component of the Ancillary Service market reform in Amendment No. 14 to the ISO Tariff. At the time, the ISO did not believe that tariff modifications would be necessary in connection with the implementation of automated Dispatch.²⁰

Upon further review of this question in anticipation of the implementation of automated Dispatch this summer,²¹ the ISO has determined that minor

¹⁹ *California Independent System Operator Corp.*, 90 FERC ¶ 61,006, at 61,013-14.

²⁰ The ISO Tariff already provides that all resources providing Regulation service to the ISO must be capable of receiving electronic Dispatch instructions. The proposed changes would extend that requirement to resources providing any Ancillary Service or Supplemental Energy bid.

²¹ The software system through which the ISO initially expected to implement automated Dispatch experienced implementation problems. The need to redesign the software caused the delay in the implementation of automated Dispatch.

revisions to the ISO Tariff would be appropriate to specify clearly that resources submitting bids to the ISO must be capable of receiving Dispatch instructions electronically. The ISO accordingly proposes to revise Sections 2.5.6.2 and 2.5.22.10 of the ISO Tariff, and related provisions of the Dispatch Protocol, to require Scheduling Coordinators generally to have the capability of receiving Dispatch instructions electronically. Other communications capabilities would remain in place for back-up. The ISO proposes to make the Tariff revisions described above effective on the later of the date of software implementation and June 1, 2000, when the automated Dispatch system is projected to become operational.

Black-lined Tariff sheets showing the proposed revisions relating to automated Dispatch are contained in Attachment D.

D. Expansion of the Market Surveillance Committee

At its February 2000 meeting, the ISO Governing Board voted to reappoint the current members of the Market Surveillance Committee. The Board also directed ISO management to begin a search process to identify candidates for an additional member of the Market Surveillance Committee. The Board determined that an additional member would expand the expertise available to the Market Surveillance Committee and improve the transition when membership of the committee changes over time.

Currently, Section 5.2.1 of the Market Monitoring Information Protocol fixed the size of the Market Surveillance Committee at three members. Consistent with the direction of the ISO Governing Board, the ISO proposes to modify that provision to provide for a Market Surveillance Committee consisting of three or more independent and recognized experts. A black-lined Tariff sheet showing the proposed change is contained in Attachment E.

E. Scheduling Coordinator Financial Requirements

Section 2.2.3.2 of the ISO Tariff currently requires each Scheduling Coordinator to post financial security to cover its estimated outstanding obligations to the ISO for purchases of Ancillary Services and Imbalance Energy and for the Grid Management Charge, unless the Scheduling Coordinator maintains an Approved Credit Rating. An Approved Credit Rating is defined in Appendix A of the ISO Tariff as the highest short-term rating from one of the four national credit rating agencies, provided that an agency of the federal government of the State of California will be deemed to have an Approved Credit Rating if its obligations are backed by the full faith and credit of the federal or state government, as applicable.

Market Participants asked the ISO to review its credit policy in October 1999. After discussing the issue at the Market Issues Forum held in November 1999, the issue was assigned to the Settlement Improvements Team for further discussions. A proposal was presented at the January 11, 2000 meeting of that group and the ISO solicited additional comments on alternative proposals from stakeholders. Generally, entities that are predominantly buyers in the ISO's markets supported relaxation of the ISO's credit standards to reduce their costs of participation, although some sellers shared this view. Other entities that are predominantly sellers in the ISO's markets opposed relaxation of the ISO's credit standards.

In considering whether a relaxation of its credit standards for Scheduling Coordinators was appropriate, the ISO took a number of factors into account, including the following:

- The ISO's credit standard was initially set very high in light of the lack of experience with the new market structure;
- No defaults have occurred since the ISO started operations;
- Generally, the default rates for entities with high credit ratings (but lower than those required for an Approved Credit Rating) are very low;
- The ISO determined that its credit standards are more stringent than those typically employed in bilateral trades and by other independent system operators;
- Relaxation of credit standards could reduce the costs of participation in the ISO's markets;
- The reduction in the ISO's payment calendar will reduce financial security costs, even without a change in the ISO's credit policy;
- Scheduling Coordinators selling into the ISO's markets do not know the identity of their ultimate counter-party and defaults would be borne pro rata by all sellers;
- An entity may experience a rapid downgrade in its credit rating, such that "borderline" credit ratings may provide only limited assurance; and
- Rating agencies indicated to the ISO that any change in its Approved Credit Rating definition, if applied to Scheduling Coordinators' obligation to pay Grid Management Charges, could affect the ISO's credit rating, which could increase its cost of borrowing.

Based on these considerations, the ISO management decided to propose to the ISO Governing Board a revision to the definition of Approved Credit Rating and its application. First, the current credit standard with respect to Scheduling Coordinators' obligations to the ISO for Grid Management Charges would remain unchanged. Scheduling Coordinators would continue to be required to maintain the highest approved short-term issuer credit rating to avoid having to post

financial security for Grid Management Charge obligations. With respect to market obligations, however, a Scheduling Coordinator could establish an Approved Credit Rating by showing that it had a short-term rating at the second-highest level (A2/P2) or better, or a long-term rating that is at least equivalent to a rating one level above the lowest investment grade rating (A3/A-). The ISO concluded that ratings at these levels would provide strong assurance as to an entity's overall creditworthiness. The basis for the ISO's conclusion is described in the memorandum presented to the ISO Board of Governors at its April meeting, where the proposal was approved. (Attachment J.) Black-lined Tariff sheets implementing the proposed change are contained in Attachment F.

II. EFFECTIVE DATE AND REQUEST FOR WAIVER

For the Tariff changes associated with the expansion of the Market Surveillance Committee and Scheduling Coordinator financial requirements, the ISO proposes an effective date of July 1, 2000, sixty days after the date of this filing. However, because the software modifications necessary to implement a number of the ISO Tariff revisions proposed in Amendment No. 29 are still in development, the ISO requests that the proposals related to (a) ten-minute markets and (b) Adjustment Bids on inter-Scheduling Coordinator trades each become effective on the later of July 1, 2000, or the date specified by the ISO in a notice posted on the ISO Home Page that the modified software is ready for use, which date will be ten days or more after the date of posting. Moreover, as described above, the ISO requests that the proposed Tariff revisions concerning automated Dispatch be made effective as of June 1, 2000, or the date specified in a notice posted by the ISO, whichever is later. Therefore, the ISO therefore requests waiver of the Commission's 60-day prior notice requirement, pursuant to Section 35.3 of the Commission's regulations, 18 C.F.R. § 35.3, in order to permit those Tariff revisions to become effective on that date.

III. 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:

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IV. SUPPORTING DOCUMENTS

The following documents, in addition to this letter, support this filing:

- Revised Tariff sheets (Attachment A);
- Black-lined Tariff sheets showing changes to implement ten-minute markets (Attachment B);
- Black-lined Tariff sheets showing changes to implement the submission of Adjustment Bids in connection with inter-Scheduling Coordinator trades (Attachment C);
- Black-lined Tariff sheets showing changes to implement automated Dispatch (Attachment D);
- Black-lined Tariff sheets showing changes to implement expanded membership on the Market Surveillance Committee (Attachment E);
- Black-lined Tariff sheets showing changes to implement the revised credit policy for Scheduling Coordinators (Attachment F);
- Declaration of Kellen Fluckiger concerning ten-minute markets (Attachment G);
- Materials provided to the ISO Governing Board with respect to ten-minute markets (Attachment H);
- Materials provided to the ISO Governing Board with respect to Adjustment Bids on inter-Scheduling Coordinator trades (Attachment I);
- Materials provided to the ISO Governing Board with respect to the revised credit policy (Attachment J); and
- A form of notice suitable for publication in the Federal Register (Attachment K), which is also provided in electronic form on the enclosed diskette.

The Honorable David P. Boergers
May 2, 2000
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An additional copy of this filing is enclosed to be date-stamped and returned to our messenger. If there are any questions concerning this filing, please contact the undersigned.

Respectfully submitted,

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