UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

AES Redondo Beach, LLC	)	Docket Nos. ER98-2843-006
	)	ER98-2843-007
AES Huntington Beach, LLC	)	Docket Nos. ER98-2844-006
	)	ER98-2844-007
AES Alamitos, LLC	)	Docket Nos. ER98-2883-006
	)	ER98-2883-007
Long Beach Generation, LLC	)	Docket Nos. ER98-2972-007
	)	ER98-2972-008
El Segundo Power, LLC	)	Docket Nos. ER98-2971-007
	)	ER98-2971-008
Ocean Vista Power Generation, LLC	)	
Mountain Vista Power Generation, LLC	)	Docket Nos. ER98-2977-005
Alta Power Generation, LLC	)	ER98-2977-006
Oeste Power Generation, LLC	)	
Ormond Beach Power Generation, LLC	)	
William Energy Services Company	)	Docket Nos. ER98-3106-003
	)	ER98-3106-004
Duke Energy Oakland, LLC	)	Docket Nos. ER98-3416-005
	)	ER98-3416-006
Duke Energy Morro Bay, LLC	)	Docket Nos. ER98-3417-005
	)	ER98-3417-006
Duke Energy Moss Landing, LLC	)	Docket Nos. ER98-3418-005
	)	ER98-3418-006
Southern California Edison Company	)	Docket No. EL98-62-005

COMMENTS OF
THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION
ON REPORTS REGARDING ANCILLARY SERVICES MARKET REDESIGN
AND RELATED ISSUES

Pursuant to the Commission's March 25, 1999, Notice of Filing and Notice of Extension of Time in the above-captioned dockets, the California Independent System Operator Corporation (ISO) respectfully submits these comments on the "Report on Redesign of Markets for Ancillary Services and Real-time Energy",

dated March 25, 1999, prepared by the Market Surveillance Committee of the ISO (MSC), and the "Second Report on Market Issues in the California Power Exchange Energy Markets", dated March 9, 1999, prepared by the Market Monitoring Committee of the California Power Exchange (MMC). In these Comments, after summarizing and providing some general comments on the two Committees' reports, the ISO responds briefly to specific issues raised in the reports.

I. Executive Summary

Both the MSC and the MMC support most elements of the Ancillary Service Market Redesign proposal filed by the ISO on March 1, 1999 in Docket No. ER99-1971-000. The MSC notes that most of the measures it recommended in its 1998 report to improve the competitiveness of Ancillary Service markets have been implemented or are being implemented. In some cases, the MSC suggests modifications to the manner in which individual elements of the Ancillary Service Market Redesign proposal would be implemented:

- In particular, both the MSC and the MMC support the ISO's proposed rational buyer protocol to increase the ISO's flexibility in meeting its Ancillary Service requirements. The MSC, however, worries that the manner in which Market Participant accounts for Ancillary Services will be settled under the rational buyer proposal could create an incentive for Scheduling Coordinators to self-provide Ancillary Services. As the ISO explains below, however, this concern is based on a mistaken premise. The ISO's proposal treats Scheduling Coordinators fairly, regardless of whether they purchase or self-provide Ancillary Services. The MSC's suggested solution, moreover, is impractical and could have undesirable incentive effects of its own.

- Both the MSC and the MMC express concerns that the ISO's proposal to allocate the costs of Replacement Reserves procured to cover anticipated differences between scheduled and actual Demand and scheduled and actual generation to Market Participants that are responsible for those differences could increase prices in the PX's forward energy markets to Market Participants. The ISO explains below its belief that these concerns are overstated. The proposal discourages *both* buyers *and* sellers from foregoing participation in the forward energy markets. It should thereby make those markets both deeper and more efficient while, at the same time, achieving the ISO's objective of reducing or eliminating the occasions upon which it must scramble to obtain resources to meet unexpected real-time energy demands.

- The MSC's concern that the separate procurement of upward and downward Regulation capacity creates risks associated with dividing in two an already thin Regulation market is valid. The ISO explains below, however, that this feature of its Regulation procurement (which has been in effect since September 1998) is counterbalanced by the ISO's ability through this approach to reduce its total demand for Regulation, as well as other measures.

The MSC and MMC both express preliminary support for the proposed settlement of disputes regarding RMR contracts. Both believe that further reforms are required to mitigate fully the potential for those contracts to disrupt markets. The ISO concurs that further reforms to its RMR procurement process are desirable and notes that the proposed settlement will not preclude the ISO from proposing further improvements in the future.

The ISO concurs with the MSC's analysis of the continued need for price cap authority in its Ancillary Services and real-time Imbalance Energy markets and of the desirability of raising the existing $250 caps substantially when specified market reforms are implemented and shown to be effective. The ISO

believes the MSC's analysis is consistent with the proposal it presented in its March 1 Ancillary Services Market Redesign filing.

II. Summaries of the Reports and General ISO Comments

A. Summary of the MSC Report

The MSC's March 25,1999 Report reviews: (1) the ISO's proposal for redesigning the Ancillary Services markets, filed on March 1, 1999 in Docket No. ER99-1971-000;[1] (2) the impact of the current the Reliability-Must-Run (RMR) contracts on the operation of the PX and ISO markets as well as elements of the recently-filed settlement proposal for new RMR contracts; and (3) the issues associated with raising the ISO's "damage control" price caps on bids accepted in its ancillary services and real-time energy markets. The MSC's principal conclusions on these topics are as follows:

- **Ancillary Services Redesign**: The MSC finds that most of the measures suggested by the MSC in its August 1998 report[2] as important measures to improve the performance of the ISO Ancillary Service markets, have either been implemented, or are in the process of implementation. The Commission over the last nine months has eliminated cost-based rates for individual generators and has confirmed the ISO's authority to impose a damage control cap on ancillary service capacity prices. The MSC considers the Rational Buyer protocol and other changes proposed in the ISO's March 1, 1999 market redesign filing necessary for properly functioning Ancillary Service markets, and recommends that the Commission approve them, in some cases with modifications. The main changes recommended pertain to settlement procedure for rational buyer procurement, allocation of replacement reserve

[1] Capitalized terms that are used in these Comments without definition are used with the meanings given in the Master Definitions Supplement, Appendix A to the ISO Tariff.

[2] On August 19, 1998, the ISO filed the MSC's *Preliminary Report On the Operation of the Ancillary Services Markets of the California Independent System Operator Corporation (ISO)* in Docket Nos. ER98-2843-000, *et al.* (*1998 MSC Report*).

costs, and separate pricing of upward and downward regulation. These recommendations and the ISO's responses to them are presented in more detail below in Section III.

- **RMR Contracts**: The MSC has expressed only preliminary views on the proposed settlement respecting the RMR contracts, since at the time the MSC Report was issued, the RMR Settlement had not yet been filed. The MSC considers the proposed settlement an important first step in the reformation of the contracts. The MSC maintains, however, that full mitigation of certain perverse incentives created by the current RMR contracts also requires a second step, namely reversing the bid/call sequence and bidding RMR units as "must-run," a step that will not take effect under the proposed settlement until December 1, 1999, at the earliest. Accordingly, it is the MSC's view that until this second step has been effectuated, it cannot be confident that the ISO's markets will be workably competitive.

The ISO agrees that "pre-dispatch" and "netting out" of the minimum RMR generation needed for local reliability are necessary elements for proper functioning of the ISO's markets combined with the long-term RMR contracts. The issue has been addressed in the ISO Market Surveillance Unit's analysis of the RMR contracts, provided as attachment D to the MSC Report. The "pre-dispatch and net-out" feature has been a very contentious issue in the RMR settlement proceeding; under the proposed settlement, parties agreed to continue under the current dispatch protocol of dispatching RMR units after the close of the day ahead market. However, the ISO reserved the option of filing for "pre-dispatch and net-out" with FERC after October 1, 1999. Taking the 60-day notice period in the Commission's regulations into account, the earliest an RMR pre-dispatch provision could be implemented under the settlement (if it is accepted) is December 1, 1999. The ISO does not, however, agree with one other finding of the MSC report regarding the RMR contracts, and provides its response below in Section III.

- **Price Caps**: The MSC recommends that the ISO's authority to impose "damage control" caps on prices in the Imbalance Energy and Ancillary Service markets be retained for the foreseeable future. It believes the current $250 caps should be increased to $750 as soon as the market redesign proposals included in the March 1 filing, and both steps in the RMR reform process, are implemented. The caps should then be increased to $2,500 as soon as a summer peak's experience shows that these changes are sufficient to ensure the market is workably competitive. The MSC intends to offer advice in the future indicating what observable markets conditions are indicative of workably competitive markets. Finally, it recommends that the ISO adopt polices designed to avoid lowering the caps -- once they have been raised -- except in the most compelling of circumstances.

The ISO agrees with MSC's recommendations concerning price caps. The ISO is also reviewing the specifics of its "Safety Net" mechanism to guard against any extreme price hikes in ISO markets.

B. Summary of the MMC Report

The MMC's March 9, 1999 Report confirms and expands the findings it reached in its August 1998 preliminary report concerning the Ancillary Service markets in relation to the PX energy markets.

- **High Prices and Market Power:** Based on empirical evidence, the MMC reports that during some hours there has been considerable potential for generators to exercise market power in the PX energy markets. At these and other times, some entities bid in a way that is consistent with an attempt to exercise market power, and prices were high at these times. The MMC also urges development of demand-side response to price changes as the most useful check on market power.

- **ISO Market Redesign:** The MMC report underlines the extreme importance of interactions between the PX's energy markets and the ISO's Ancillary Service markets, and endorses the rational buyer approach proposed as part of ISO's Ancillary Service Market Redesign. The MMC finds that, while supply-side development is essential to the long-term success of the Ancillary services markets, the ISO's demand for Ancillary Services also must be

rational and responsive to economic incentives, while staying within bounds of regulatory constraints and reliability objectives.

- **Replacement Reserve Procurement:** The MMC expresses a concern regarding the ISO's proposed approach to procurement of Replacement Reserves. The MMC concerns in this regard and the ISO's response to those concerns are described in Section III.

- **RMR Contract Specifications:** The MMC endorses the MSC's position regarding the optimal form of the RMR contracts.

- **Price Caps:** The MMC Report cautions that the ISO should exercise caution in lifting the price caps. It notes that the $250/MWh price cap applied by the ISO to its Imbalance Energy market has functioned indirectly as a cap on the PX forward energy markets. The MMC further points out that the ISO's proposal to charge the Replacement reserve capacity price to underscheduled demand effectively raises this indirect cap.

The ISO agrees with the MMC's analysis of the indirect impact of the cap on the ISO's market on the PX markets. As discussed in Section III below, however, the ISO does not agree that its Replacement reserve procurement proposal effectively doubles the price cap.

III. ISO's Response to Specific Issues Raised in MSC and MMC Reports

In this section, the ISO provides responses to the concerns raised by the MSC and the MMC regarding some aspects of ISO's Ancillary Services Market Redesign program and RMR contract reform. The ISO notes that both reports are in general, albeit not complete, agreement with the measures proposed by the ISO in its March 1 filing and with the approach to RMR contract reform reflected in the settlement filed on April 2, 1999 in Docket Nos. ER98-441-000 *et al.* Their concerns, which relate to the details of implementation, rather than the general thrust of Ancillary Service Market Redesign, are addressed below.

A. Rational Buyer Settlement Procedures

MSC Comment:

The MSC Report supports the "procurement" method proposed in the ISO's Rational Buyer proposal, but does not agree with the ISO's proposed "settlement" procedure for services procured through the Rational Buyer. The MSC states:

> The ISO's Rational Buyer settlement procedure tends to create a subsidy to self-providers of ancillary services, because the total amount the ISO pays to providers of ancillary services under this scheme will generally be less than the total amount collected from purchasers of ancillary services. As a result, self-providers of ancillary services will have diminished incentives to make adjustments that would cause the rational-buyer prices to satisfy the inequalities that higher-quality ancillary services sell for higher prices, which was one of the major goals of adopting a rational buyer protocol to begin with.

MSC Report at 20. Each of the MSC comments discussed in this section relates to the MSC's view of the settlement aspect of the Rational Buyer proposal, rather than the basic thrust of the proposal to give the ISO more flexibility in procuring Ancillary Service products.

ISO Response:

The basic premise of the MSC's comment is mistaken. Under the settlement procedure proposed by the ISO as part of Amendment No. 14 to the ISO Tariff, the payment to Ancillary Service suppliers is generally expected to be *greater* than the amount the ISO collects from the purchasers of Ancillary Services, not less. Payments will be greater than collections whenever the prices for higher quality services (i.e., services with more stringent technical

requirements, which can be substituted for services with more lenient requirements) are higher than the prices for lower quality services. This condition is particularly likely to exist when there are sufficient bids for all services.

When a lower quality service requirement is satisfied by a higher quality service, under the ISO's proposed settlement procedure, the supplier is paid the higher quality service price, but the purchaser is charged the lower quality service price. As a result, amounts paid to providers exceed amounts collected from purchasers. To keep the ISO revenue neutral, the ISO's proposal includes a provision to charge the remaining amount pro rata to all purchasers. Therefore, the MSC's premise is incorrect: the ISO will not generally pay out less than it takes in and the process proposed by the ISO accordingly does not provide any subsidy to self-providers of the lower quality services. On the contrary, it can encourage the self-providers to participate in the ISO markets since by doing so, they will be paid a price for selling their product to the ISO that exceeds the price they are charged as the purchaser of their own product from the ISO. For the highest quality service (Regulation), the self-providers would be indifferent, since they will be paid and charged the same price if they participate in the ISO market or if they self-provide their share of the Regulation requirement.

In fact, the MSC's proposed variable Ancillary Service requirements settlement method could create a subsidy from self-providers to other purchasers. It would require a self-provider of Regulation to self-provide or buy

more Regulation, to subsidize purchasers in the ISO market for Operating Reserve and Replacement Reserve services. Purchasers of those services would pay a lower price for a smaller quantity of the service, but at the expense of self-providers of Regulation. Under the MSC's suggested settlement modification, when the ISO increases the Regulation bids it accepts under the rational buyer approach to procurement, self-providers of Regulation would be required to self-provide more Regulation capacity, based on the amount of additional Regulation the ISO decides to procure to lower the cost of other Ancillary services. This would expose self-providers to substantial uncertainty and would require them to incur greater costs in order to lower the costs to purchasers of other Ancillary Services. This modification would create a major disincentive to self-provide Ancillary Services. The ISO presumes that the MSC does not intend to require Scheduling Coordinators that choose to self-provide Ancillary Services to subsidize other Scheduling Providers, but that would be an unintended consequence of its proposed revision. The ISO believes that its proposed settlement procedure provides fair and even-handed treatment to all Scheduling Coordinators, whether they self-provide or purchase Ancillary Services.

MSC Comment:

On page 20 of the MSC Report, the MSC expresses the view that ISO's proposed settlement procedure as part of the Rational Buyer protocol, "will result in lower costs for Regulation . . . than would occur if purchasers and self-providers of Ancillary Services faced obligations equal to the ISO's total

purchases of each Ancillary Service. We therefore expect that fewer generators will be willing to make the investments in the automatic generation control (AGC) technology necessary to provide Regulation . . . service."

ISO Response:

As stated above, the ISO's Rational Buyer settlement procedure neither discourages nor encourages self-provision of Regulation service. For the providers of Regulation service, any impact of the Rational Buyer protocol is not related to the settlement procedure, but rather dictated by the substitution mechanism inherent in the Rational Buyer procurement. For energy-limited resources (i.e., hydroelectric generators) that provide Regulation, the Rational Buyer substitution mechanism may not be perceived as an encouraging measure, because the resource may not remain energy neutral when used for purposes other than Regulation. But for other Regulation providers (i.e., thermal units with AGC), the Rational Buyer substitution mechanism encourages them to provide Regulation, since it could potentially increase their sales of the product as the ISO buys more Regulation to substitute for other reserve services. However, both effects are expected to be minor at best, since it is expected that the implementation of the Rational Buyer protocol will induce rational bidding, minimizing the amount of substitution that actually takes place under Rational Buyer-based procurement.

MSC Comment:

On pages 20-21, the MSC states:

> We do not believe it would be difficult to modify the ISO's protocol to eliminate the subsidies to self-providers of ancillary services. All that is required is to make all consumers of ancillary services purchase them in the same quantities that the ISO actually procures them, i.e., the ISO's Rational Buyer Quantities. Returning to our previous example, if the ISO's Rational Buyer purchased regulation at 5% of ISO load, then all demand would be obligated to purchase regulation in the amount of 5% of their load. Both self-providers and those who purchased regulation from the ISO would face the same 5% of load obligation. The same principle would apply to the other three ancillary services: both self-providers and purchasers of ancillary services would be obligated to purchase the ISO's Rational Buyer Quantities.

ISO Response:

As stated earlier, the ISO respectfully disagrees with MSC's conclusion that the ISO's proposed settlement procedure under the Rational Buyer proposal provides subsidies for self-providers. The ISO believes, moreover, that the modification proposed by the MSC is neither simple to implement nor consistent with the freedom that Market Participants have under the ISO Tariff and FERC policy to choose between self-providing Ancillary Services or purchasing them from the ISO. Under the ISO's proposal, the Rational Buyer procurement procedure is applied only to the residual (non-self-provided) quantities. The fact that the ISO procures more of a higher quality service to substitute for a lower quality service does not change the obligations of Scheduling Coordinators. The MSC's suggestion would, however, change the obligations of Scheduling Coordinators that have chosen to self-provide their obligations, based on the

outcome of the application of the Rational Buyer protocol. Implementing this suggestion in a manner consistent with the present flexibility of Scheduling Coordinators would require that provision be made to inform Scheduling Coordinators of the changes in ISO's requirements and give them the opportunity to make new decisions regarding whether to self-provide the new obligation or purchase it from the ISO. Implementation of the MSC's proposed procedure would thus involve an iterative bidding procedure that is incompatible within the existing timeline of ISO's day-ahead and hour-ahead markets.

In summary, the ISO does not share the MSC's concerns regarding the ISO's proposed Rational Buyer settlement method. The suppliers of Regulation are always paid for larger quantity and at a higher price than they would receive in a market without the Rational Buyer protocol, and they are always paid the market clearing price. There is no basis for a concern that they will lack incentives to offer Regulation service. Similarly, the subsidy to self-providers that is of concern to the MSC is not evident, while the subsidy from self-providers to other purchasers may become a real issue if the MSC's alternative recommendation were implemented.

It bears repeating that, apart from this single area of disagreement, the MSC supports the ISO's overall design of Rational Buyer protocol. Both the MSC and the ISO expect the Rational Buyer protocol to cease to exert any direct impact on day-to-day operation of the Ancillary Service markets soon after its implementation. Its only likely impact will come from the awareness of generation owners that the Rational Buyer mechanism is ready to act whenever

irrational bidding shows up in the market. In this fashion, the Rational Buyer protocol will have maximum benefits with minimum side effects.

B. Allocation of Replacement Reserve Costs

Both the MSC and the MMC Reports express concerns regarding the ISO's proposed allocation of Replacement Reserve costs. The ISO's proposal involves changing the ISO's requirements for Replacement Reserves to match partially or entirely the difference between the ISO's load forecast and scheduled loads, plus any ISO forecasts of overscheduled generation. A megawatt of Replacement Reserve capacity would be charged to each megawatt of underscheduled Demand and overscheduled generation, up to the ISO's total purchases of Replacement Reserves.

MSC Comment:

The MSC states that under the ISO's approach to allocating the costs of purchasing additional quantities of Replacement Reserves to cover energy requirements in the real-time market:

> [L]oads are punished for scheduling less than their demands in the real-time market, and generators are punished for underproducing energy relative to hour-ahead schedules. . . . A major way demand protects itself from the attempts of generators to set high prices in the PX and ISO energy markets during peak ISO load periods, is by shifting loads between these markets and routinely scheduling significantly less energy on an hour-ahead basis than its expects to consume in the real time market. Consequently, this scheme will increase the cost of such defensive actions by demand, thereby making higher PX and ISO energy prices more likely.

MSC Report at 17.

ISO Response:

The ISO disagrees that its proposed Replacement Reserve procurement and cost allocation method will significantly interfere with the ability of generation and demand to shift between the forward and real-time markets. While there is a charge to a buyer that shifts demand to real-time, there is a balancing and identical payment to a generation supplier that makes the same shift. Any net change in the incentives to participate in one market or another is based entirely on differences between buyers and sellers regarding expectations of the market-clearing price for energy.

The ISO expects that the policy will have a significant impact on the choices generators make between participating in either the formal markets, comprising the PX's forward scheduled energy markets and the ISO's real-time Imbalance Energy market, or the informal markets for either out-of-market dispatch or uninstructed and unscheduled generation. Indeed, a principal purpose of the proposed policy is to minimize the ISO's need to make out-of-market purchases, thereby minimizing the size of that informal market, if not eliminating it entirely, and eliminating an existing disincentive to the commitment of generation to forward markets for Energy and Ancillary Services.

A generator that chooses today to pursue either of the informal markets elects thereby to forego either (1) the expected Replacement Reserve market-clearing capacity price, plus the expected payments for dispatched real-time energy, or (2) the expected market-clearing prices in the PX's forward scheduled

energy markets. By reducing the opportunities for generators to receive out-of-market calls, the proposal increases the net incentive to move generation capacity into the formal markets, which will make both markets deeper and more efficient.

PX MMC Comment:

The MMC expresses a similar concern that the Replacement Reserve allocation policy may shift transactions from the PX energy markets to the ISO's real-time Imbalance Energy market. On page 70 of the MMC Report, the MMC states that the proposal responds to "underscheduling demand" or "underscheduling supply," and "could become something of a self-fulfilling prophecy, as the [generators'] anticipated ability to sell in the replacement reserves market could lead them to withhold more from the PX market, thereby increasing the gap [between scheduled and forecast loads] and the need for replacement reserves."

ISO Response:

The MMC concern is essentially the same as the concern, discussed immediately above, that the MSC expressed regarding the policy's impact on the ability of load to shift between forward scheduled energy and real-time markets for energy. As discussed above, the ISO disagrees, since the primary effect is to encourage generators to participate in either of these two markets, rather than in less-transparent and unreliable informal markets. Since the encouragement to generators to shift capacity from forward markets to the Replacement Reserve

auction is balanced by a disincentive to load to underschedule, there is no significant net impact on the volumes traded in the forward markets, relative to the volumes traded in the ISO's real-time Imbalance Energy market. Moreover, this concern ignores the effects of eliminating the existing incentive to withhold generation from the PX markets that is created by the opportunity for out-of-market calls, which will be reduced under the ISO's proposal. Taking all of these effects into account, there is as much reason to expect prices in the PX energy markets to be unaffected or to decline as a result of reduced opportunities for generators to withhold their output in anticipation of out-of-market calls and increased disincentives for unscheduled generation to participate in the Imbalance Energy market, as there is to expect those prices to increase due to disincentives for unscheduled demand to be served in that market.

PX MMC Comment:

The MMC states (on page 72 of the MMC Report) that the Replacement Reserve Cost Allocation proposal

> . . . raises the effective price cap in the PX market to the sum of the PX price cap plus the replacement-reserve cap. Currently each of these caps is $250/MWh so their sum is $500, and there are plans to raise each component as discussed. If past behavior is a guide, this is likely to lead IOUs to shift their structurally induced demand curves so that the choke point is higher than the current $250 ceiling, although a firm prediction is impossible. Such a shift could have an important effect on the PX market-clearing price.

ISO Response:

The ISO agrees that the *potential* amount of revenue for a generator selling into the Replacement Reserve market could total $500/MWh: $250 for capacity plus $250 for energy. This is not, however, a product of the proposed Replacement Reserve cost allocation policy. Since July 1998, generators have not been subject to a cost-based cap on sales of Replacement Reserve. From that time forward, suppliers could earn both capacity and energy prices totaling $500/MW by holding out their resources out of the forward energy market, and bidding into the Replacement Reserve markets. Yet, the forward energy prices remained substantially below $250/MWh. It is possible, of course, that the changed Replacement Reserve policy will increase the frequency and probability of high combined capacity and real-time energy prices, which drive up the opportunity costs faced by potential suppliers into the PX market. However, as discussed above, there is no obvious change in the market fundamentals: Nothing in the ISO proposal substantially increases the likelihood of combined high capacity and real-time energy prices, so that there is no substantial increase in the expected-real-time-earnings component of the opportunity costs of participating in the PX or other forward energy markets.

C. Separate Pricing of Upward and Downward Regulation

MSC Comment:

The MSC cautions against ISO's proposal to price upward and downward regulation separately, stating at page 17 of its Report:

> The MSC recommends that the ISO explore other options besides the separate procurement of upward and downward regulation for improving the efficiency of this market and reducing the demand for regulation. … The continued periodic bid insufficiencies and price spikes in the regulation market suggest that it is a thin market that is not workably competitive. Further segmenting an already thin market may only serve to enhance the opportunities generators have to set high prices in these two markets, with no gains in overall market efficiency.

ISO Response:

The MSC's concerns relate to the separate "procurement" of upward and downward Regulation. The ISO's proposal, however, pertains to separate *pricing* of upward and downward Regulation. The ISO has been carrying out the *procurement* of upward and downward Regulation separately since September 1998, but paying the higher of the two market clearing prices for both. This is the problem that ISO's proposal aims to fix. The ISO agrees that separate procurement of upward and downward Regulation in the face of thin markets can introduce gaming and inefficiencies. However, the ability to set separate requirements for upward and downward Regulation, enables the ISO to reduce its overall demand for Regulation. Reducing the demand for Regulation capacity will, all other things being equal, thicken the market, since the same quantity of supply will be competing to serve the reduced demand. Other measures (such as the ISO's ability to shift part of its procurement to the hour-ahead market) will enable the ISO to guard against, or at least minimize, the opportunity for exercise of market power potentially associated with separate procurement of upward and downward Regulation. As stated in ISO's long-term Ancillary Service Market Redesign plan, the ISO is also in the process of designing a load following type

of Ancillary Service to reduce further the burden on Regulation and to mitigate market power in the Regulation market.

D. RMR Contracts

MSC Comment:

The MSC supports the RMR contract reforms undertaken by the ISO in settlement discussions with other interested parties. It remains concerned, however, regarding some features of these contracts that may still provide the RMR unit owners with the ability to influence Ancillary Service prices, possibly causing under-procurement of Ancillary Services. The MSC report states (at page 32) that RMR generators can benefit from causing the ISO to over- or under-procure Ancillary Services:

> The ISO real time energy market can be used to both increment and decrement generation to maintain system balance, so that generators causing too much energy to be purchased in the day-ahead and hour-ahead markets in the wrong location face the risk that other units will be decremented in real time, which leads to lower real time energy prices. This cost to RMR capacity of causing the ISO to overprocure ancillary services does not exist. In addition, RMR capacity benefits from causing the ISO to under-procure ancillary services because of the increased likelihood of an RMR call for energy or ancillary services to meet real-time reliability needs. Both of these incentives cause RMR capacity to bid less aggressively (either by raising bid prices or by submitting less capacity at a given price) … in order to raise ancillary service prices or to be called to provide energy or ancillary services at its RMR contract rate.

ISO Response:

The amount of Ancillary Service capacity purchased by the ISO is based on Applicable Reliability Criteria, the ISO's forecast of total system loads, and the

type of scheduled generation resources (hydro, thermal, etc.). The ISO does not believe that RMR unit owners – or any other generator – has a significant opportunity to cause the ISO to over- or under-purchase Ancillary Services. Moreover, even assuming any generator did have such ability, the ISO does not believe that RMR contracts would provide any additional economic incentive for generators to exercise this power in order to be called under RMR contracts to provide Ancillary Services. Under the RMR settlement filed on April 2, 1999, RMR units will be called to provide Ancillary Services only in cases when bid insufficiency exists. Under such conditions, any (and every) generator has market power to set the market clearing price and can only be assured of maximizing revenues by bidding all available capacity into the market at the highest possible price (currently, the $250 price cap). Thus, the optimal bidding strategy for any RMR generator seeking to exercise this market power would be to bid all available supply in at the price cap, rather than to withhold capacity in hopes of creating bid insufficiency so it would have a chance of being called to provide Ancillary Services under its RMR contract.

E. High Prices and Market Power

PX MMC Comment:

The MMC report notes (at page 64) that "the NGOs' [new generation owners'] bid behavior was consistent with an **attempt** to exercise market power," by bidding significantly above marginal costs, and evaluates how *successful* the attempt to exercise market power was by estimating the net operating income of NGOs from sales in the PX market. The report estimates the net operating

income of NGOs from the PX market at about $100 million, and concludes from these calculations that NGOs "were not earning high net income in the PX market itself (MMC Report, Page 66)," and that these calculations "highlight the fact that so far the distributional effects of high prices [due to exercise of market power] have probably been moderate," (MMC Report, Page 68).

ISO Response:

In order to put these findings and conclusions in context, it is important to keep the following considerations in mind:

First, to the extent the NGOs' bidding behavior was successful in raising the PX market-clearing price, higher prices would be paid for *all* energy purchased through the PX, and not just the portion sold by NGOs. As noted in the MMC report, it is difficult to assess the actual impact of prices in the PX on end use consumers "due to the complex and somewhat ambiguous rules governing the Competitive Transition Charge," and the fact that IOUs are both buyers and sellers of energy through the PX. The MMC Report estimates the combined net energy purchases in the PX by the three IOUs at only about $300 million out of total PX sales of $4 billion in 1998, but goes on to note that "these figures conceal considerable variation among the three IOUs." (MMC Report, page 67). Thus, the distributional effects of higher prices in the PX due to the exercise of market power in 1998 may in fact be significant from the perspective of many individual participants.

Second, the primary reason that the net income earned by NGOs in the PX market (estimated at about $100 million in the MMC report) may not have been excessive in 1998 is that NGOs represented a relatively small share of the PX market in 1998. Based on the analysis of total energy in the PX day-ahead market provided in the MMC report, the NGOs' market share of the PX day-ahead market would be only about only 6% of total energy sales or about 8% by gross revenues.[3] As divestiture of generating assets proceeds and the CTC is eliminated, the market share of NGOs – and the effect of market power on prices paid by consumers – will increase dramatically. Thus, the ISO believes the most significant conclusion of the MMC report in this area is its statement that: "[I]t is important that the causes of high prices be analyzed and addressed as quickly and effectively as possible," since, "whatever the effect of high prices on end-users so far, in the future high average prices will be harmful to them." (MMC Report, page 68.)

F. ISO's Procurement Practices

MSC Comment:

In reviewing the status of the recommendations contained in its 1998 Report, the MSC noted, "The ISO continues to purchase regulation reserve significantly above the levels that occurred during the regulated regime." (Page

[3] Market share of 6% based on energy sales by NGOs of 6,034,503 MWh from July-December 1998 divided by total energy sales in the PX Day Ahead market of 100,383,000 MWh. Market share of 8% of total gross revenues based on gross revenues of $275 million, divided total gross revenues from Day Ahead PX market of $3,347 million (calculated based on zonal MCPs and quantities).

22.) It also pointed out the current method for settling accounts with generation dispatched in real time leaves room for gaming. (Page 23-25.)

ISO Response:

The ISO concurs with these assessments, and has implemented or is planning additional mitigation measures to address this issue.

First, to address the issue of uninstructed deviations by generators in real time, the ISO proposed and filed with the Commission on March 1, 1999 the effective price settlement method. Once implemented, this approach will effectively remove any incentive for generators to deviate from real time dispatch instruction and will mitigate the gaming opportunity identified in the 1998 MSC Report. This problem is also addressed by the proposed approach to the settlement of additional Replacement Reserve on the basis of deviations from schedules, discussed above.

Second, the proposal to purchase Replacement Reserve to cover the anticipated difference between scheduled Demand and generation and actual Demand and generation is also intended to reduce the amount of Regulation purchased for the purpose of supplying real time energy due to under-scheduled load. This change will ensure that there are adequate resources in the Imbalance Energy stack, thereby minimizing or eliminating the ISO's need to make out-of-market calls to maintain reliable operations. The latter practice harms the real-time energy market, and contributes to the need for Regulation to meet the short-term energy requirements associated with ramping and load-following. As discussed above, the ISO acknowledges that the MSC and MMC

believe that this approach to the problems of the real-time energy market suffers from certain shortcomings. For the reasons previously discussed, the ISO believes these concerns to be overstated and, in any event, outweighed by the anticipated benefits of this proposal. Thus, the ISO has, with this redesign element, addressed a critical problem with its procurement practices (the need for high levels of Regulation requirements to respond to evident dysfunction in the Imbalance Energy market) by increasing the thickness and efficiency of both the real-time market and the forward scheduled energy markets.

Third, the MSC identified load and generation uncertainty as a major cause of the ISO's high Regulation requirement. The ISO believes that a cause of equal or greater significance is the lack of a load-following Ancillary Service, which compels the ISO to use Regulation to perform some of the load-following function. This problem is most severe in downward load-following, i.e., when generation is reduced to match decreasing Demand. As stated above, the ISO may introduce a load-following service as part of its longer-term market redesign process to address this problem.

Lastly, the MSC noted that units supplying Spinning and Non-Spinning Reserve are sometimes skipped in the BEEP stack. This is due less to operational concerns than to the WSCC requirement calling upon the ISO to reserve the system Operating Reserves as much as possible for system contingencies. Compliance with this reliability-based requirement causes the ISO to skip contingency reserves in the BEEP stack when those reserves cannot be replaced in time if called upon for real-time energy. As part of its longer-term

market redesign process, the ISO will consider changes in its rules to clarify for Market Participants the likelihood of dispatch of energy from contingency reserve capacity.

CONCLUSION

The ISO concurs with most of the findings and conclusions expressed in the MSC and MMC Reports, which largely support the ISO's Ancillary Service Market Redesign Proposals and the need for continued authority for price caps in Ancillary Service and Imbalance Energy markets, based on a plan to raise the levels of the caps substantially as market improvements are introduced. The few areas of disagreement are explained above. Based on the Committees' findings and the ISO's Comments, the ISO respectfully urges the Commission to approve the Ancillary Service Market Redesign elements presented in Amendment No. 14 to the ISO Tariff and to approve the ISO's continued exercise of price cap authority in accordance with the proposal included in that filing.

Respectfully submitted,

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Dated: April 12, 1999

CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing document upon all parties on the official service list compiled by the Secretary in the above-captioned dockets, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Washington, D.C. this 12th day of April, 1999.

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Sean A. Atkins