

# **ATTACHMENT A**

Two additional copies of the enclosed filing are also provided to be time-stamped and returned to our messenger. Please contact the undersigned with any questions. Thank you for your assistance in this matter.

Respectfully submitted,

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UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION

San Diego Gas & Electric Company v. Sellers )  
of Energy and Ancillary Services Into Markets )  
Operated by the California Independent )  
System Operator Corporation and the )  
California Power Exchange )

Docket Nos. EL00-95-000, ~~011~~ <sup>031</sup>

EL00-98-030  
033  
EL01-68-000  
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RT01-85-000  
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**Comments of the California Independent System Operator  
Corporation Concerning the Order on Rehearing of Monitoring and  
Mitigation Plan for the California Wholesale Electric Markets, Establishing  
West-Wide Mitigation, and Establishing Settlement Conference**

On June 19, 2001, the Commission issued, in the above-referenced dockets, its "Order On Rehearing Of Monitoring and Mitigation Plan For The California Wholesale Electric Markets, Establishing West-Wide Mitigation, And Establishing Settlement Conference."<sup>1</sup> The Commission specifically invited "comments and proposals concerning: (1) any developments, either beneficial or adverse, which have occurred in the Western region spot markets as a result of this order; (2) any difficulties with implementation of the mitigation plan detailed in the order, and the relevant solutions thereto; and, most importantly (3) any alternative mitigation approaches." June 19 Order, slip op. at 46. The Commission stated it wished to obtain comments for the purpose of revising the mitigation methodology for future periods, if necessary. Id. at 46. Comments and proposals are required to be submitted within 60 days of the date of issuance of the June 19 Order, and hence are due not later than August 20,

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<sup>1</sup> 95 FERC ¶61,418 (2001) ("June 19 Order").

2001. Accordingly, the California Independent System Operator Corporation ("ISO")<sup>2</sup> respectfully submits these comments.

## I. BACKGROUND

In its December 15, 2000, Order,<sup>3</sup> the Commission found that the market structures and rules for wholesale markets in California were seriously flawed and mandated various remedies to address these circumstances, including the establishment of a \$150/MW "soft cap" in the ISO's Ancillary Services and real-time Imbalance Energy markets and the ability of sellers to be paid their bid price (i.e., paid "as bid") above the \$150/MW soft cap. The December 15 Order also required the development of a longer term mitigation plan to replace the interim breakpoint methodology. On April 26, 2001, the Commission issued its "Order Establishing Prospective Mitigation and Monitoring Plan for the California Wholesale Electric Markets and Establishing an Investigation of Public Utility Rates in Wholesale Western Energy Markets" in the above-captioned dockets ("April 26 Order").<sup>4</sup> In the April 26 Order, the Commission reaffirmed its previous findings that there is a potential for the exercise of market power in the California wholesale markets under certain conditions and mandated that a replacement mitigation plan be put into place. The primary elements of the April 26 Order's

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<sup>2</sup> Capitalized terms not otherwise defined herein are used in the sense given in the Master Definitions Supplement, Appendix A to the ISO Tariff.

<sup>3</sup> *San Diego Gas & Electric Company v. Sellers of Energy and Ancillary Services Into Markets Operated by the California Independent System Operator and the California Power Exchange, et al.*, 93 FERC ¶61,294(2000) ("December 15 Order").

<sup>4</sup> 95 FERC ¶61,115 (2001).

mitigation plan included:

- a requirement for all sellers, including non-public utilities, that own or control Generation (with the exception of hydroelectric facilities) in California to offer all of their available Generation to the ISO's real time Energy market;
- a price mitigation mechanism for the ISO's real time Energy market during System Emergencies;
- provision for refund liability and conditions on public utility sellers' market-based rate authority to prevent anti-competitive bidding behavior; and
- increased coordination, control and reporting of outages.

In compliance with the April 26 Order, the ISO filed, on May 11, 2001, Tariff revisions that included 1) Proxy Price calculation, reporting and cost-justification provisions; 2) data requirements for the ISO's implementation of Generators' must-offer obligation; and 3) expanded outage coordination procedures ("May 11 Compliance Filing").<sup>5</sup>

On May 25, 2001, the Commission issued its "Order Providing Clarification And Preliminary Guidance On Implementation Of Mitigation And Monitoring Plan For The California Wholesale Electric Markets" wherein the Commission clarified:

- the treatment of Generators subject to the must-offer requirement that did not supply adequate heat and emissions data to the ISO;
- calculation of a natural gas proxy price;

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<sup>5</sup> The Commission issued a May 15, 2001 Notice of Filing in this proceeding directing parties to comment on the ISO's May 11 Compliance Filing of proposed Tariff revisions on or before May 22, 2001.

- price mitigation in the ISO's spot markets other than the real time Imbalance Energy market, including the Ancillary Services and Congestion Management markets; and
- creditworthiness requirements with respect to generation dispatched pursuant to the must-offer requirement.<sup>6</sup>

In its June 19 Order, in explicit recognition that the Western region is "a single market which is at once inextricably interrelated, yet characterized by important differences" the Commission prescribed price mitigation for wholesale spot markets throughout the Western Systems Coordinating Council ("WSCC").<sup>7</sup> In addition to extending the price mitigation scheme to the spot markets in California and the WSCC, the Commission also extended price mitigation to all hours of the day, that is, to non-reserve deficiency periods as well as reserve deficiency periods.<sup>8</sup> Among its other provisions, the June 19 Order:

- affirmed the requirement of the April 26 Order that all generators in California offer available generation for sale to the ISO's real time Energy market;
- modified the formula for determining the marginal cost-based "proxy price" for sales in the ISO's spot markets in reserve deficiency hours in California;

<sup>6</sup> 95 FERC ¶61,275 (2001) ("May 25 Order").

<sup>7</sup> June 19 Order, slip op. at 2. References to the WSCC are limited to that portion of the WSCC in the United States and the terms "spot markets" and "spot market sales" are defined to mean sales that are 24 hours or less and that are entered into the day of or day prior to delivery.

<sup>8</sup> The June 19 Order incorrectly refers to System Emergency conditions, "beginning with Stage 1" System Emergencies as being synonymous with "reserve deficiency hours, i.e., when reserves fall below 7 percent." The ISO's emergency procedures provide for flexibility in declaring a System Emergency, to permit the ISO to take into account changing forecasts and the dynamic behavior of both supply and demand. Accordingly, the ISO believes linking the price mitigation provided in the June 19 Order to a fixed threshold of system reserves is inappropriate. Therefore, the ISO proposes to implement the price mitigation scheme based upon the clearing prices that occur during ISO-declared System Emergencies.

- established a single market clearing price in the ISO's spot markets in reserve deficiency hours in California, during which time sellers in the ISO's spot markets will receive a mitigated hourly market clearing price;
- established a maximum market clearing price for spot market sales in all non-reserve deficiency hours that is eighty-five percent (85%) of the highest ISO hourly market clearing price established during the hours when the last Stage 1 System Emergency was in effect;
- allowed sellers other than marketers to justify bids or prices higher than the market clearing price, subject to review and refund;
- restricted marketers from bidding above the market clearing price; and
- requested comments and proposals on the West-wide mitigation plan, as discussed above.

On July 10, 2001 the ISO filed proposed revisions to the ISO Tariff in compliance with the Commission's directives set forth in the June 19 Order. This filing of comments and proposals is in further compliance with the June 19 Order.

## **II. SUMMARY OF COMMENTS**

As an initial comment, the ISO emphasizes that neither the ISO nor any other party has had a significant amount of experience with the West-wide mitigation plan set forth in the June 19 Order. The ISO implemented the mitigation plan on June 21 and is still working both to fine-tune implementation details and to analyze data and information on various aspects of the implementation to date. Two months is not sufficient time to fully understand the strengths and potential weaknesses of such a comprehensive mitigation plan.

Accordingly, the ISO caveats its comments and proposals offered herein by noting their preliminary nature and respectfully informing the Commission that the ISO may file additional comments and proposals as the ISO gains additional experience with and insight into any further needs for beneficial changes to the June 19 Order's mitigation plan.

With these caveats in mind, the ISO summarizes its comments as follows.

**1. *The mitigation plan established by the June 19 Order has had a substantial effect in controlling electricity prices in California and the West.***

Electricity prices in the ISO's spot markets and the resulting Energy costs to California ratepayers, as well as spot electricity prices at major trading hubs outside California, have been dramatically reduced after the June 19 Order took effect as compared to the previous months of 2001. The ISO's average real time Energy costs<sup>9</sup> declined from \$250/MWh for the period May 1-28 (prior to implementation of the April 26 Order) to \$118/MWh for the period May 29 – June 20 (the effective period of the April 26 Order), and to \$51/MWh for the period June 21 – July 31 under the June 19 Order. Average prices at major trading hubs outside California showed similar decreases. In addition, notwithstanding the difficulties in measuring the phenomenon known as “megawatt laundering” – one of the principal targets of West-wide mitigation – the ISO's initial assessment

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<sup>9</sup> The ISO's real time Energy costs are comprised of Energy purchased at the Market Clearing Price (“MCP”) in the Imbalance Energy market, Energy paid as-bid in real time at prices above the MCP (subject to cost justification), and Energy purchased in real time out-of-market (“OOM”) transactions.



of megawatt laundering reveals little evidence that megawatt laundering has occurred since June 21. The ISO therefore believes that the June 19 Order, and particularly the West-wide spot price mitigation, has been instrumental in limiting the potential for suppliers to exercise market power by foreclosing opportunities to earn exorbitant prices in spot market transactions. Section III below provides evidence and discussion of these several results of the June 19 Order.

***2. It is premature to consider weakening or altering the June 19 Order's mitigation plan.***

It appears likely that a number of factors besides the June 19 Order also have acted to mitigate supplier market power and thus have contributed to the observed lower Energy prices, including: (1) relatively low system loads, (2) enhanced in-state supplies due to new Generation coming on line and fewer outages of existing Generating Units, (3) substantial forward contracting by the State of California, resulting in reduced reliance on real time transactions to meet Load requirements, and (4) lower natural gas prices.

The ISO, at present, can not determine how much of the observed reduction in Energy prices can be attributed directly to the June 19 Order versus other factors, such as those listed above. In addition, the ISO cautions that the June 19 Order's West-wide mitigation provisions have not yet been tested by high loads throughout the western region as could result from severe weather conditions, such as a significant heat wave throughout the region.<sup>10</sup> In light of

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the foregoing, the ISO believes that the lower Energy prices experienced to date should not be taken to mean that the "Energy crisis" is over and that the mitigation provisions can or should be weakened.

The ISO also urges the Commission to resist arguments by other parties that certain aspects of the June 19 Order are unnecessary or excessively stringent and therefore should be altered or eliminated. For example, some Market Participants, including both power marketers (wholesale sellers) and Load serving entities (wholesale buyers), argue that they are harmed by the spot price mitigation of the June 19 Order because they have procured excess supplies that they now wish to sell in spot markets, where such Energy trades at a lower price than their original purchase price. The ISO counters this argument by noting that high-priced spot market transactions are exactly what the June 19 Order is designed to prevent. By limiting price mitigation to spot transactions, the June 19 Order creates strong incentives for parties holding excess supplies not to wait until the spot market time frame to sell such supplies, but to offer them for sale more than one day in advance and in blocks of hours greater than a single day. Indeed, opportunities to sell at excessively high prices in spot trades encourage megawatt laundering. The June 19 Order rightfully eliminates such opportunities.

Certain parties argue that the June 19 Order's price mitigation provisions

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<sup>10</sup> In fact, during the last ISO-declared System Emergencies on July 2 and 3, Energy prices were significantly above the average price for the June 21 – July 31 period.

are so severe as to remove incentives for investment in new Generation. ISO strongly disagrees with this assertion. During peak hours, the ISO Energy prices generally reflect the marginal cost of very old and inefficient thermal generation units. As such, these prices provide sufficient profit margin to attract investment in new generation. The ISO's Department of Market Analysis ("DMA") previously has provided the Commission with an analysis indicating that annual fixed cost revenue requirements for a new combined cycle generation unit range from \$70/KW/year to \$90/KW/year. This analysis also showed that estimated "competitive base line prices," which are approximately comparable to the "Marginal Proxy Clearing Prices" of the June 19 Order, provided annual revenues well in excess of this revenue range.<sup>11</sup> Moreover, the June 19 Order is a temporary measure needed to provide stability to the Energy markets in California and the West during this critical period only. The ISO believes that such market stability – as opposed to continued opportunities to earn exorbitant profits during the crisis – truly offers the best possible assurance that an investor in new Generation will be able to reap the rewards of workable markets over the life of the Generation project.

#### **West-wide mitigation based on California Energy prices**

Finally, the Commission has asked whether the June 19 Order's

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<sup>11</sup> See "Further Analysis of the Exercise and Cost Impacts of Market Power in California's Wholesale Energy Market," March, 2001. This study was attached to the ISO's "Comments on Staff's Recommendation on Prospective Market Monitoring and Mitigation for the California Wholesale Electric Power Market" filed in Docket No. EL00-95-12, March 22, 2001.

mitigation approach is appropriate given regional differences between California and other regions. Some parties argue that California spot prices are not the appropriate mechanism for setting West-wide price limits. The ISO responds by noting that California is both the largest electricity market and the largest importer of electricity in the West, and that California markets typically define the level of opportunity costs for suppliers selling throughout the region. As a result, prices at various locations in the region tend to follow California price movements, at all times of the year. The figure and discussion provided in Section III, especially Figures 1 and 2, below illustrate how price movements outside of California tend to follow the California market during all seasons and, in particular, to closely track the changes made to California market rules. Thus the ISO believes that California's markets do provide the appropriate price references for setting region-wide price limits.

**3. Commission monitoring and enforcement are essential to the success of the mitigation plan. Until the Commission establishes effective monitoring and enforcement provisions the ISO will continue to have compliance problems, particularly with regard to the must-offer obligation and the requirement for cost justification of bids that exceed the applicable proxy or market clearing price.**

The effectiveness of the must-offer obligation, and indeed, the ISO's ability to operate the transmission system reliably, depends critically on Scheduling Coordinators submitting bids for all available capacity and complying with ISO Dispatch Instructions issued pursuant to acceptance of either submitted bids or ISO inserted proxy bids. If Scheduling Coordinators refuse to submit bids

for all available capacity or to comply with ISO Dispatch Instructions, the must-offer obligation is not an effective tool in preventing physical or economic withholding in ISO spot markets.

The ISO Tariff provides that a bid submitted to the Real Time Market is a firm offer to supply Energy which can not be withdrawn after 45 minutes prior to the start of the operating hour.<sup>12</sup> Once the ISO accepts such a bid by issuing a Dispatch Instruction, the bid becomes a binding contract which requires the supplier to deliver the Energy that was offered. Under the terms of the April 26 and June 19 Orders, in-state non-hydroelectric generators are required to submit such bids to the ISO's Real Time Market for all available capacity. In cases where a Generator fails to comply with the requirement to submit real time Energy bids, the ISO inserts a bid based on the Generator's proxy price, a practice ratified by the Commission in its May 25 Order.

In two months of experience with the June 19 Order's comprehensive must-offer obligation the ISO has experienced significant non-compliance, in terms of Scheduling Coordinators failing to submit bids for available capacity and to comply with ISO Dispatch Instructions issued for both submitted and proxy bids. During the period May 1-28 the ISO experienced an average of 8.8 declined Dispatch Instructions per day. For the period May 29 – June 20 declined Dispatch Instructions increased to 45 per day, and for June 21 – July 31

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<sup>12</sup> ISO Tariff Dispatch Protocol Section 7.3.

to 125 per day.<sup>13</sup> Such non-compliance has severe, adverse reliability impacts as well as market impacts.

For the must-offer provisions of the June 19 Order to be fully effective in preventing physical and economic withholding of supply, the Commission needs to clarify to market participants that "must offer" means no less than "must be available to run and must comply with ISO Dispatch Instructions." Specifically, the ISO requests the Commission to clarify that:

- Available capacity is determined by the physical capability of a Generating Unit to operate (after allowing for bilateral contract commitments, ancillary service provision, and native load requirements). Available capacity is not a matter for the Generating Unit owner's discretion based on economic or other considerations.<sup>14</sup>
- Failure of a Generating Unit to submit real time Energy bids for all available capacity in all hours constitutes non-compliance with the June 19 Order.
- ISO-inserted proxy bids are indistinguishable from voluntarily submitted bids in terms of the ISO Tariff requirement to comply with Dispatch Instructions.

The extent of Market Participant non-compliance with the must-offer obligation and with ISO Dispatch Instructions is the subject of other filings and

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<sup>13</sup> Additional summary statistics on non-compliance with the must-offer obligation and ISO Dispatch Instructions are presented in Section III.D below.

<sup>14</sup> The ISO acknowledged in its July 10 Compliance Filing that there are periods when system conditions may allow long start-up time ("LST") Generating Units (i.e., Generating Units with multiple-hour start-up times) to go off-line, and in such instances such Generating Units should not be deemed non-compliant with the must-offer obligation. Through a Market Notice on July 20, 2001 the ISO implemented a "temporary waiver" procedure to allow such Generating Units voluntarily to shut down to avoid incurring minimum load fuel costs during periods when the ISO forecasts that such resources will not be needed. The ISO is working with Market Participants to refine this voluntary procedure to help accommodate economic concerns of LST Generating Units while safeguarding the effectiveness of the must-offer obligation. The ISO intends to update the Commission on this issue in the near future.

reports submitted by the ISO to the Commission and will not be detailed here. In addition, the ISO's Rehearing Request in response to the June 19 Order identified the need for formal reporting requirements to enable the Commission to monitor compliance with the must-offer obligation and the spot price mitigation provisions both within California and throughout the Western region.<sup>15</sup> The ISO continues to endorse the recommendations it has made to the Commission regarding requirements of Market Participants to report their spot transactions and their available capacity to the Commission. Based on the compliance problems that have arisen since implementation of the June 19 Order, the ISO urges the Commission to act expediently to implement these reporting requirements.

The ISO also has observed extensive non-compliance with the Commission's requirement for the submission of cost justification data by those Scheduling Coordinators eligible to bid and be paid above their respective Proxy Price or applicable Market Clearing Price. The effectiveness of the mitigation plan depends on the ability of the ISO and the Commission to review cost justification data to ensure that prices paid for Energy are just and reasonable. In both the April 26 and June 19 Orders, the Commission provided that bids above mitigated levels, if accepted by the ISO, were to be paid as-bid subject to refund if the cost justification was denied. The June 19 Order did not change the

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<sup>15</sup> ISO Motion for Clarification and Request for Rehearing, filed July 19, 2001 ("Rehearing Request for the June 19 Order"), at 33.

April 26 Order requirement that Scheduling Coordinators for Generators with bids in excess of the applicable mitigated price are to file, with both the ISO and the Commission, cost justification for each bid within seven days of the end of the relevant month. April 26 Order, slip op. at 16.

Submissions of cost justification data thus far, however, reveals a serious compliance problem. For the period in which the April 26 Order was in effect (May 29 – June 20) there were 5319 transactions, with a combined value of more than \$1.4 million in excess of market clearing prices, for which no cost justification data were submitted. In this period only one seller filed the required cost justification information, and that submission was deemed by the ISO as inadequate.

The ISO has previously proposed that the Commission alter the mechanics of paying above mitigated prices so that excess payments would be made *ex post* if the cost justification is approved by the Commission, as opposed to making refunds *ex post* if the cost justification is denied.<sup>16</sup> While the Commission weighs the merits of this proposal by the ISO, the ISO urges the Commission to clarify that Scheduling Coordinators and Generators failing to file with the ISO and the Commission the required cost justification data within seven

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<sup>16</sup> In its Rehearing Request for the June 19 Order, at 23, the ISO argued that Scheduling Coordinators whose bids require cost justification initially should be paid the applicable mitigated price (i.e., the Proxy Price or Market Clearing Price), with the possibility of receiving additional payment only if the respective cost justification is accepted by the Commission. The ISO still recommends this approach.



days of the end of relevant month shall forfeit any payment above the relevant mitigated price for hours in which higher bids were accepted by the ISO.

Lastly, the ISO lacks adequate information upon which to base comments on the effectiveness of the must-offer obligation, spot market price mitigation and cost justification procedures in West-wide markets outside of California. The ISO does note that, absent a standard reporting requirement as proposed in the ISO's Rehearing Request for the June 19 Order, there are severe impediments to the Commission's monitoring of compliance with the June 19 Order outside, as well as within, California. For example, while the June 19 Order requires suppliers to post levels of available generation on the Western Systems Power Pool bulletin board shows the quantity of Generation being offered, but does not provide a means to track the total available capacity for the WSCC area nor to verify whether all such capacity is being offered. The ISO urges the Commission to act promptly to rectify the lack of reporting requirements throughout the WSCC-areas.

***4. The Commission should refrain from drawing final conclusions or making drastic changes to the mitigation plan until all parties have further experience with its operation.***

As discussed above, the dramatic reductions in prices throughout the Western region provide compelling evidence that the mitigation plan is achieving the Commission's objectives of mitigating market power and providing stability to Western markets in this Energy crisis period. At the same time, a number of

other, influential conditions, as discussed above, have been quite favorable thus far, and it remains to be seen how the mitigation provisions will function when conditions become less favorable. Therefore, while the mitigation plan has not yet been in place long enough to support final conclusions on its efficacy, it is clear that market mitigation in the Western region continues to be needed. Similarly, within the ISO Control Area, the hourly dynamic changes continue to require the ISO to have adequate tools to: (1) increase Energy supply or decrease Load (i.e., accept and Dispatch Incremental Energy ("INC") bids) using all available capacity in real time, and (2) decrease Energy supply or increase Load (i.e., accept and Dispatch Decremental Energy ("DEC") bids) using all available capacity in real time.

The ISO notes that the Commission has already set specific dates at which the ISO shall submit further evaluation of market performance under the June 19 Order. In particular, the ISO is to provide a report to the Commission on September 14 of this year, and a study on March 26, 2002. The ISO recommends that until the ISO and other parties have had additional experience operating under the June 19 Order and filed the required future reports, and the Commission has reviewed market performance over a greater variety of system conditions, the Commission limits any changes to the current mitigation plan to the imposition of monitoring and enforcement provisions and the granting of the requests and clarifications requested by the ISO in this and its previous filings.

### **III. DISCUSSION**

#### **A. Impacts of the June 19 Order on California Market Performance**

Concurrent with the implementation of the June 19 Order, spot market electricity prices throughout the west declined and stabilized at significantly lower levels than in previous months. (Table 1 and Figure 1). It is difficult to quantify how much of this decline is attributable to the June 19 Order as opposed to other factors such as lower-than-expected loads, a significant reduction in generator outages, the addition of new generation, significant forward contracting by the State, reduced volumes being procured in the ISO Real Time Market, and the decline in natural gas prices. On the other hand, the ISO believes that the West-wide mitigation plan specifically has been effective in foreclosing opportunities for suppliers to earn exorbitant prices in real time, as demonstrated by the common downward trend of prices both inside and outside of California.

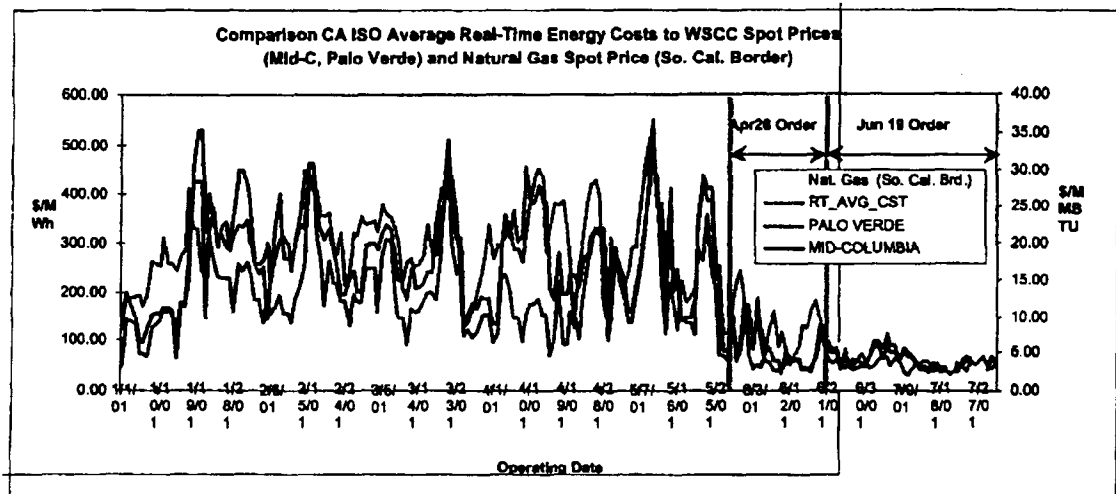
Table 1 summarizes average real time Energy costs in the ISO markets (including Energy procured at the Market Clearing Price ("MCP"), paid as-bid above the MCP, and procured through real time out-of-market transactions), for the periods May 1-28 (directly preceding implementation of the April 26 Order), May 29 – June 20 (while the April 26 Order was in effect), and June 21 – July 31 (following implementation of the June 19 Order). Similar trends in decreasing Energy prices occurred for the Mid-Columbia and Palo Verde spot electricity prices, and for the natural gas spot price at the Southern California Border.

Figure 1 shows daily averages of these prices for the period of January 1 to July 31, 2001.

**Table 1. Average Wholesale Electricity and Natural Gas Prices Before and After Implementation of April 26 and June 19 Orders**

Average Prices	May 1 – 28	May 29 – June 20 (April 26 Order)	June 21 – July 31 (June 19 Order)
ISO Real-time Energy Cost	250.36 \$/MWh	118.06 \$/MWh	51.31 \$/MWh
Mid-Columbia Spot	273.39 \$/MWh	78.26 \$/MWh	58.92 \$/MWh
Palo Verde Spot	255.82 \$/MWh	90.37 \$/MWh	65.32 \$/MWh
Natural Gas Spot	12.32 \$/MMBtu	8.17 \$/MMBtu	5.01 \$/MMBtu

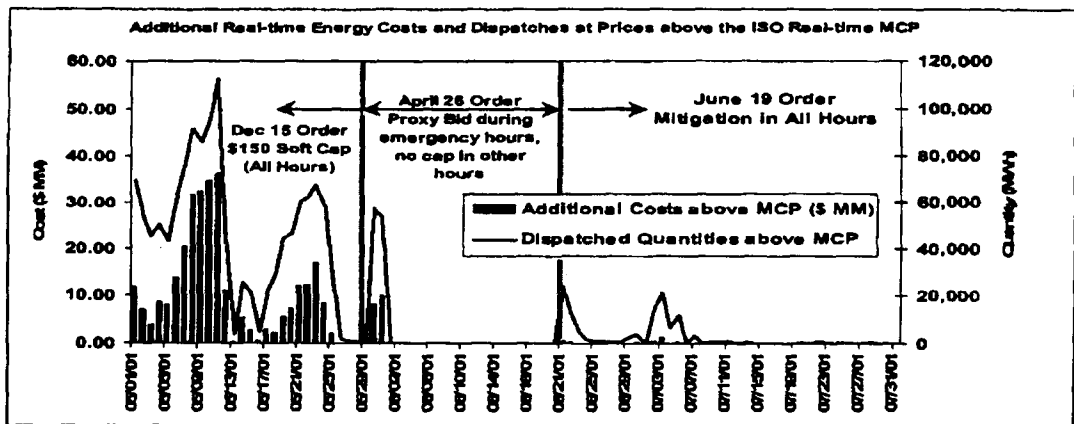
**Figure 1. Comparison of Regional Spot Energy and Natural Gas Prices**



Another important trend is the decline in the volume and cost of the ISO's real time as-bid Energy purchases above the MCP. Figure 2 shows Energy quantities dispatched and the associated costs that are above the applicable price limit for the period May 1 – July 31, 2001. The reduction in these costs

immediately following implementation of the April 26 Order on May 29 appears dramatic. It is important to note however that under the April 26 Order there was no price mitigation for non-Emergency hours, and that Emergencies occurred only on May 30 and 31 during this period. For the remaining hours of the May 29 – June 20 period there was no price mitigation in effect, so the provisions for limiting above-MCP costs were not applicable. For the period June 21 – July 31, following implementation of the June 19 Order, the ISO believes that the various factors noted above that acted to restrain system loads and expand supplies have helped the ISO meet system needs without resorting to the above-MCP bids.

**Figure 2. Quantities Dispatched and Costs Above the Real Time MCP**



A dramatic illustration of the price decline resulting from the June 19 Order is seen in comparing actual ISO real time costs for incremental Energy (including both out-of-market purchases and incremental Imbalance Energy

dispatches) with competitive benchmark prices based on system marginal cost.<sup>17</sup>

Figure 3 shows this comparison for all months of 2001 and, for June, details the comparative costs pre- and post implementation of the June 19 Order.

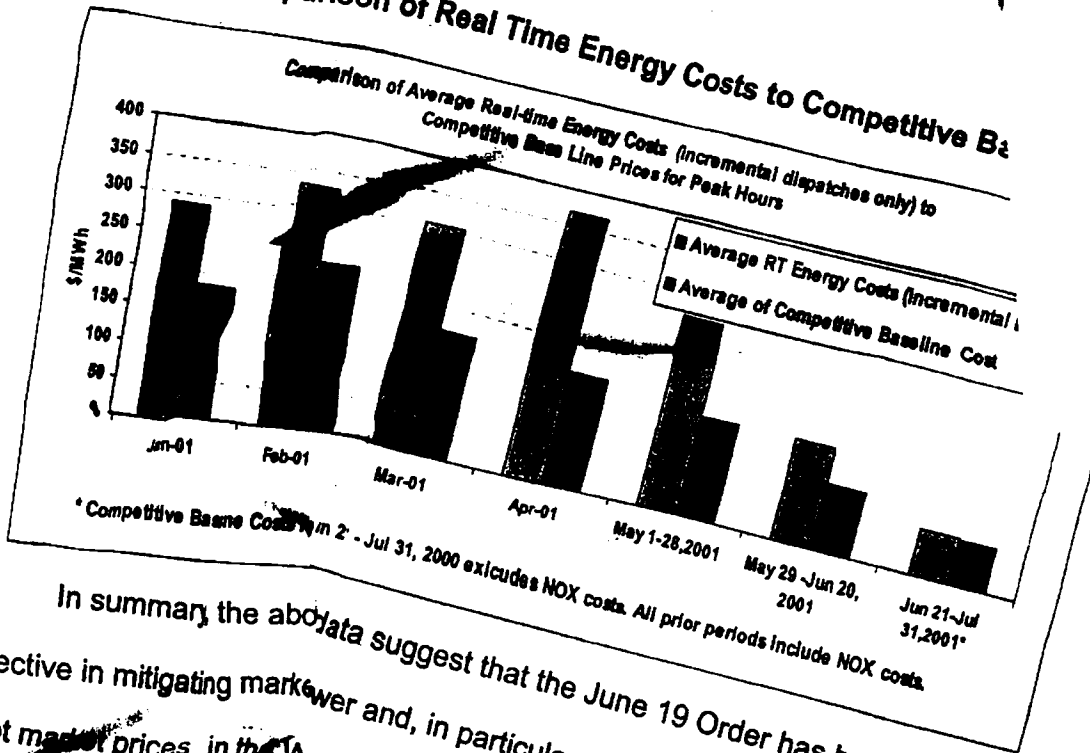
Strikingly, the price mark-up (i.e., the percent by which average price exceeds the competitive baseline) appears to have dropped from over 30 percent to nearly zero.

It is important to note that this trend in reduced prices does not mean that all suppliers are bidding at or close to their actual costs. As the ISO has reported in its regular monitoring reports to the Commission, the ISO still receives substantial quantities of Energy bids above suppliers' costs of generation. Thus far such bids have not had a great impact on real time Energy costs, because lower-than-expected Load and adequate supplies have enabled the ISO to meet system requirements without having to pay these high-priced bids.

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<sup>17</sup> Competitive baseline costs are estimated using filed heat rate information for in-state gas fired units and regional daily gas spot prices (i.e., Southern California Average Border Price for units in SP15 and PG&E City Gate for units in NP15). This analysis assumes generation capacity not reported as on scheduled or forced outage was available to the market, regardless of whether the unit actually scheduled or bid in the market.

**Figure 3. Comparison of Real Time Energy Costs to Competitive Baseline**



In summary, the above data suggest that the June 19 Order has been effective in mitigating market power and, in particular, has created more uniform spot market prices in the Western region. However, the impact of the June 19 Order is confounded with a number of other factors, which also have mitigated market power. The remainder of this section briefly describes certain other influential factors that act to reduce energy prices.

**Reduction in Natural Gas Prices**

Figure 1 compares real-time market electricity prices to spot market natural gas prices for the Southern California Border. The decline in electricity prices is correlated with the decline in natural gas prices, and both prices stabilized at significantly lower levels currently with implementation of the June 19 Order. The decline in electricity prices in California can be attributed

to a number of factors other than the June 19 Order, including slackening prices in national gas markets, increased supplies, lower-than-expected demand from gas-fired generation facilities due to lower demand for electricity, increased competition in the supply of gas transmission capacity in southern California, and recent actions that the Commission has taken in investigating potential non-competitive practices in the southern California gas market. While it is difficult to quantify individual impacts, the over-all impact of reduced gas costs in California is related to the following factors:

- Nation-wide natural gas prices have fallen since March, 2001, and have stabilized in the low \$3/MMBtu range since mid-June. Much of this price decrease is due to an increase in gas supply (the natural gas rig count has increased from less than 700 to over 1000 in the last 12 months).
- For Summer 2001 there potentially is an additional 350 MMcf/day of increased supply, both from new supply and the conversion of formerly cushion gas inventory to working gas inventory. This is an approximately five percent increase in usable daily gas supply for California.
- On May 30, 2001 El Paso Natural Gas ended its contract to sell approximately 400,000 MMBtu of pipeline capacity into southern California to its affiliate, El Paso Merchant Energy. El Paso subsequently re-leased this pipeline capacity to 30 different companies. This greatly increased gas supply competition at the Southern California Border and has resulted in price reductions.
- The Commission has intensified investigation of potential price manipulation in the gas market, and has expanded its oversight into ongoing practices in the California market. In particular, the Commission's July 25 Order<sup>18</sup> requiring market participants to report all natural gas transactions in California largely has eliminated opportunities for market manipulation by gas sellers.

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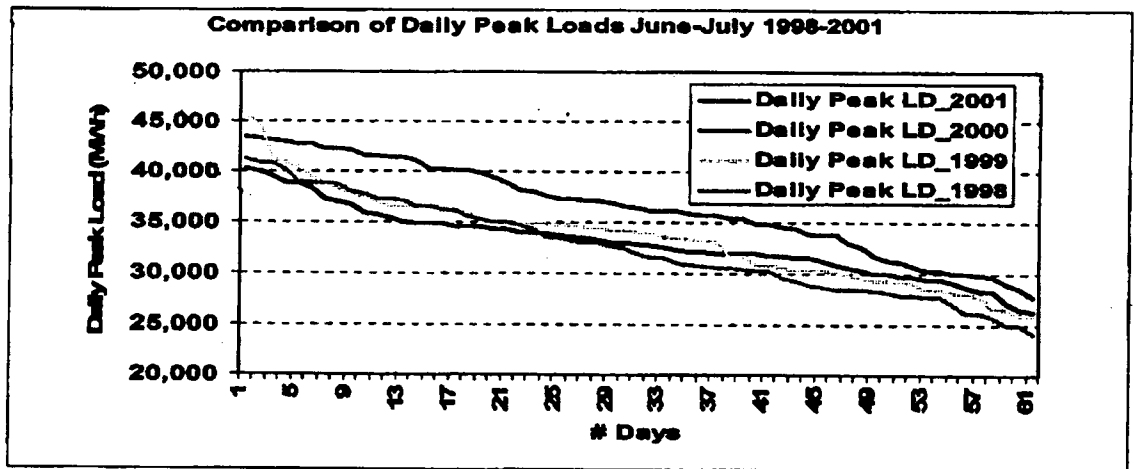
<sup>18</sup> Order Imposing Reporting Requirement on Natural Gas Sales to California Market, RM01-9-000, May 25, 2001.



### Reduced Peak Loads Compared to Previous Summers

Energy conservation and reduced economic activity in California has contributed to the significant decline in electricity demand as compared to previous peak Loads for June and July. Figure 4 compares daily peak Loads during June and July for the years 1998 through 2001, and shows that 2001 had the fewest peak Loads above 35,000 MWh. During this two-month period in 2001, there were only two days when the peak Load exceeded 40,000 MWh (as compared to 18 days in 2000) and only 12 days when peak Load exceeded 35,000 MWh (as compared to 39 days in 2000).

Figure 4. Comparison of Dally Peak Loads June-July 1998-2001



Voluntary conservation undoubtedly played a role in reducing system loads. Table 2 provides a summary of the estimated impact of Energy

conservation, as calculated and reported by the California Energy Commission, in reducing monthly peak demand. These estimates indicate that peak demand during the months of June and July was reduced by 14.1 percent and 10.7 percent, respectively. The observed conservation is most likely attributable to public awareness of the crisis and public appeals by the state, rather than consumer economic response to high prices, because retail Energy rates for most consumers do not yet fully reflect hourly wholesale costs.

**Table 2. Estimated Reduction in 2001 Monthly Peak Demand<sup>19</sup>**

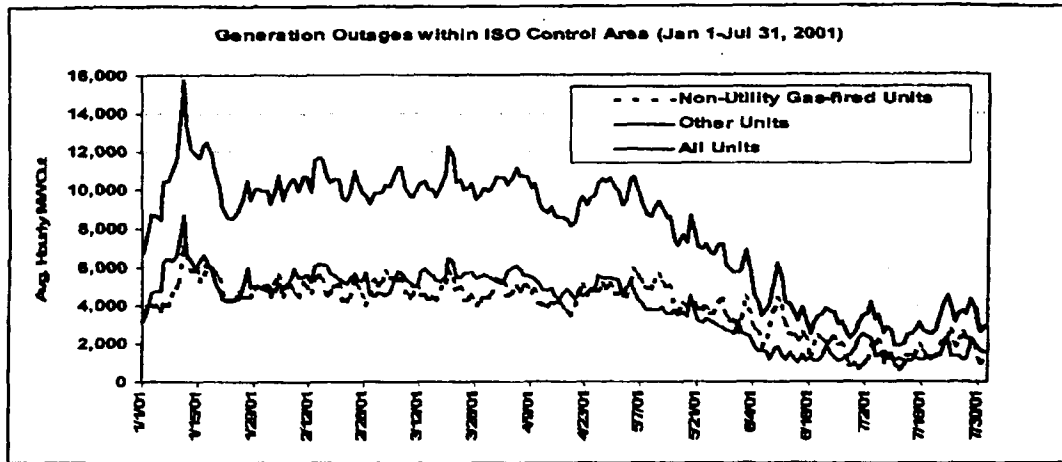
	Jan	Feb	Mar	Apr	May	Jun	Jul
Expected Peak Demand (MW)	33,743	32,195	32,233	31,888	34,657	39,637	41,599
Observed Reduction (MW)	-2,091	-2,578	-2,967	-2,866	-3,595	-5,570	-4,455
Percent Reduction	-6.2%	-8.0%	-9.2%	-9.0%	-10.4%	-14.1%	-10.7%

### **Reduced Generation Outages and New Generation On Line**

A significant reduction in Generating Unit outages also may have contributed to the decline in Energy prices. Figure 5 shows the average daily Generation capacity off-line on scheduled or forced outages in the ISO Control Area from January 1 through July 31, 2001.

<sup>19</sup> This information was obtained from the California Energy Commission's web site, at [http://www.energy.ca.gov/electricity/peak\\_demand\\_reduction.htm](http://www.energy.ca.gov/electricity/peak_demand_reduction.htm).

**Figure 5. Generation Outages**



The addition of several new power plants also increased California's electricity supply in June and July, 2001 (Table 3).

**Table 3. Recent New Generation in California**

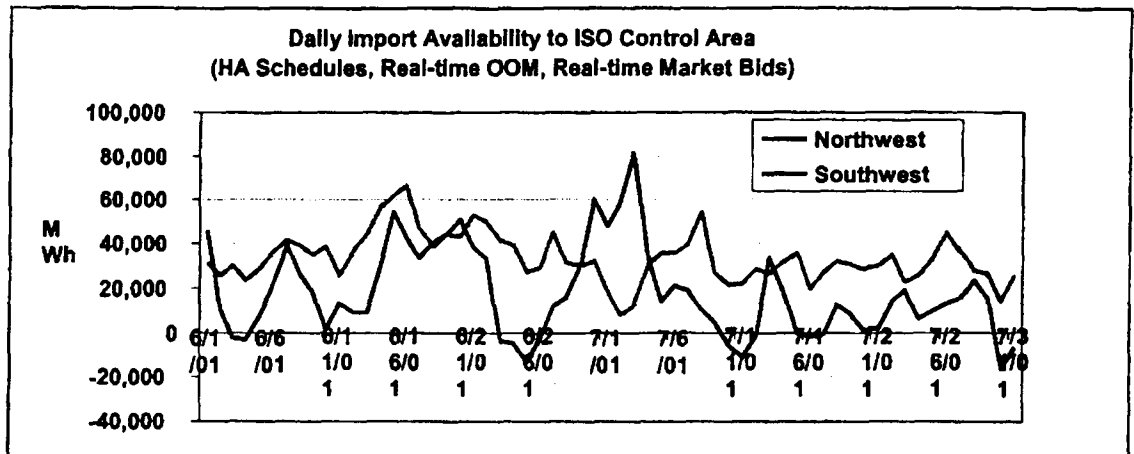
Facility	Owner	Type	Date on-line	Capacity (MW)
Sunrise Power	Sunrise Power Company	Simple Cycle	27-Jun-01	337.8
Sutter Power	Calpine Construction Finance Co., L.P.	Combined Cycle	2-Jul-01	546
Los Medanos Energy Center	Los Medanos Energy Center, LLC	Combined Cycle	9-Jul-01	560
Larkspur	Wildflower Energy LLP	Simple Cycle	16-Jul-01	94.4
Indigo	Wildflower Energy LLP	Simple Cycle	26-Jul-01	144.9
<b>Total New Capacity</b>				<b>1,683.1</b>

**Import Supplies**

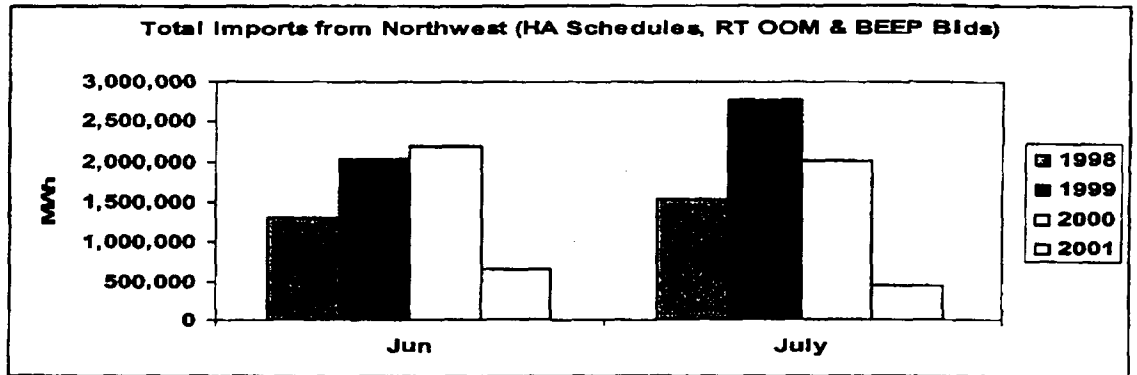
No discernable change in daily import supplies has been observed following implementation of the June 19 Order. (Figure 6). In particular, there is

no evidence to support a concern raised by some parties that import supplies would drop off in response to the June 19 Order's requirement that marketers bidding into the ISO's spot markets be paid only as price-takers. Import availability from the Northwest continues to be low relative to previous years and highly variable. (Figure 7). The significant decline in Northwest imports as compared to previous years primarily is due to severely sub-normal hydrological conditions. Southwest import availability, while more stable, also is somewhat lower than previous years. (Figure 8).

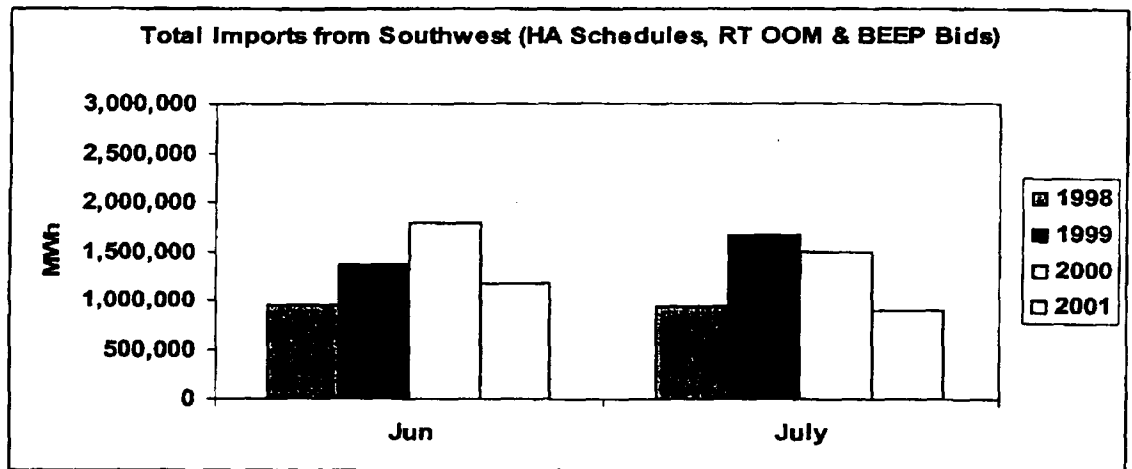
**Figure 6. Daily Import Supplies**



**Figure 7. Monthly Total Imports from Northwest**



**Figure 8. Monthly Total Imports from Southwest**

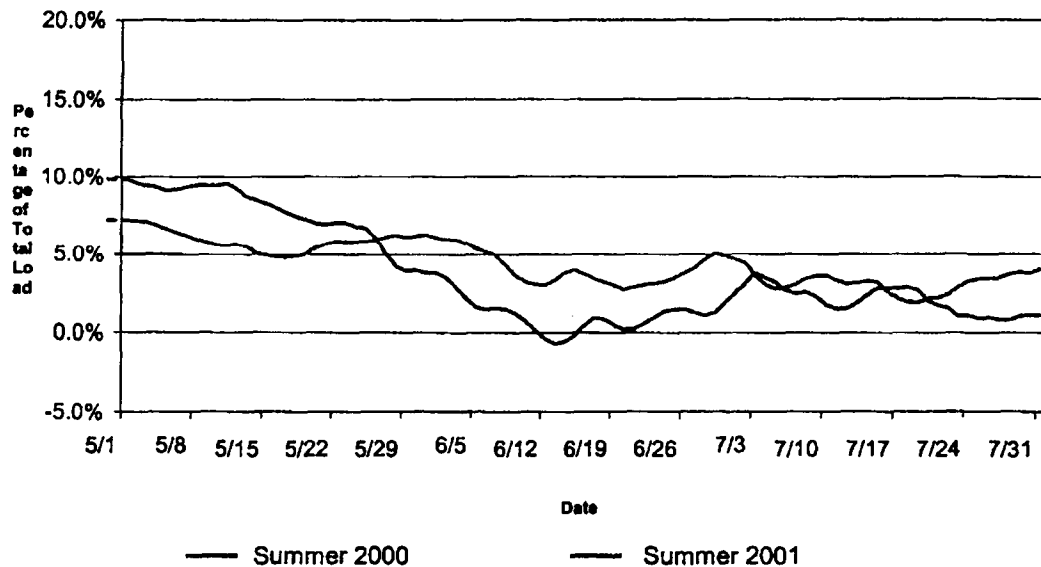


**Reduced Volumes Served Through the ISO Real Time Market**

The California electricity markets relied heavily on real time purchases during summer 2000 to meet actual load, through both the ISO Imbalance Energy market and out-of-market calls. During several hours in June, 2000 as

much as 21 percent of the total ISO Control Area Load was served by these real time purchases. Figure 9 shows the percentage of Load that was not scheduled into the ISO forward markets and instead was procured in real time (i.e., total system Load minus final hour-ahead schedules). One major reason for this observed reduction in ISO real time purchases has been the significant forward contracting by the State. The desirable result of the State's efforts has been to reduce the opportunities for suppliers to hold out for high real time prices, which in turn has reduced the exposure of California Energy consumers to spot market price volatility.

**Figure 9. Percent of System Load Served in Real Time, 2001 versus 2000**



## **B. Evidence of Megawatt Laundering**

A major objective of the June 19 Order is to prevent "megawatt laundering."<sup>20</sup> The ISO believes that the June 19 Order provides a proper solution by eliminating both the incentives and opportunities for suppliers to withhold supply with the intention of reaping exorbitant prices in real time. The ISO's experience to date suggests that the combination of West-wide real time price mitigation for all spot transactions with the must-offer obligation for all available capacity appears to have stopped megawatt laundering.<sup>21</sup>

There are two essential measures of megawatt laundering: forward export schedules and real time Energy imports. For a supplier to profit from megawatt laundering, the supplier first must schedule Energy for export, then sell that Energy back to California at a higher price than the export price. Quantities of export and import Energy are shown in Figure 10 for the period May 1 through July 31, specifically separated by the period prior to the April 26 Order (May 1 –

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<sup>20</sup> Megawatt laundering occurs when Generation within California is forward scheduled as an export out of California but then resold back into California in the real time spot markets as an unmitigated OOM import transaction. OOM prices are significantly higher than forward scheduled Energy prices.

<sup>21</sup> The ISO notes that certain parties have expressed concern with West-wide mitigation because either (1) they have forward contracted for excess supplies that they now wish to resell in real time at prices above mitigated levels, or (2) they are concerned that as buyers they will be unable to obtain adequate supplies on the spot markets because sellers will be unwilling to sell at mitigated spot prices. In response the ISO points out that these complaints are based on the desire to continue practices which the June 19 Order specifically is crafted to eliminate, and that both of these "problems" can be mitigated simply by engaging in the business practice the Commission persistently has encouraged: forward contracting. That is, under the must-offer obligation and spot market price mitigation provisions of the June 19 Order, sellers with excess supply and buyers concerned about inadequate supply now have strong economic incentives to negotiate forward contracts at mutually acceptable prices, without any constraint from mitigated spot market prices.

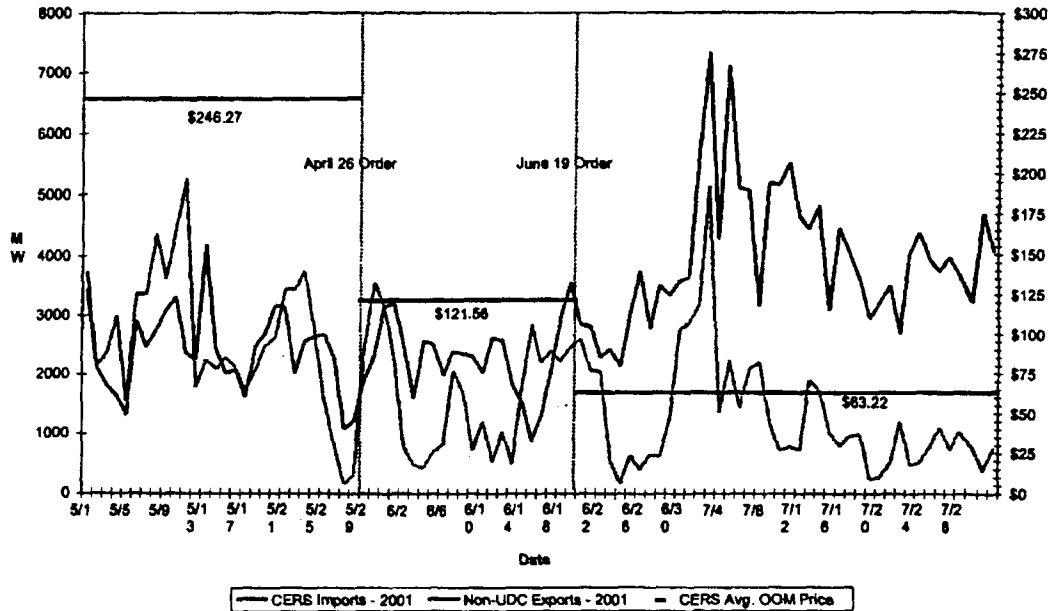
28), the period when the April 26 Order was in effect (May 29 – June 20), and the period following implementation of the June 19 Order (June 21 – July 31).

An initial observation of these data is that the volume of gross exports has increased since implementation of the June 19 Order. Figure 10 shows scheduled exports by non-UDC suppliers, as daily total MW based on final hour-ahead schedules for peak hours. While there is no conclusive explanation for this increase, it should not automatically be interpreted as an indication of megawatt laundering absent coincident purchases of imported energy at high OOM prices. Figure 10 shows that volumes of OOM imports were generally lower during the last period of the graph than in the first two periods, with the exception of the brief heat wave at the beginning of July. Significantly, the average price of these OOM imports was \$63.22 per MWh, dramatically below the average OOM prices of the previous periods.

The ISO provisionally finds, therefore, in light of the absence of extremely high OOM prices associated with megawatt laundering, the increased level of non-UDC exports during the third period was due to the lower-than-expected Loads and the adequacy of in-state supplies, rather than megawatt laundering. In conclusion, the ISO finds that the phenomenon of megawatt laundering has been reduced dramatically and that such reduction is likely due to the June 19 Order.



**Figure 10. Trends in Non-UDC Exports and Real Time OOM Purchases**

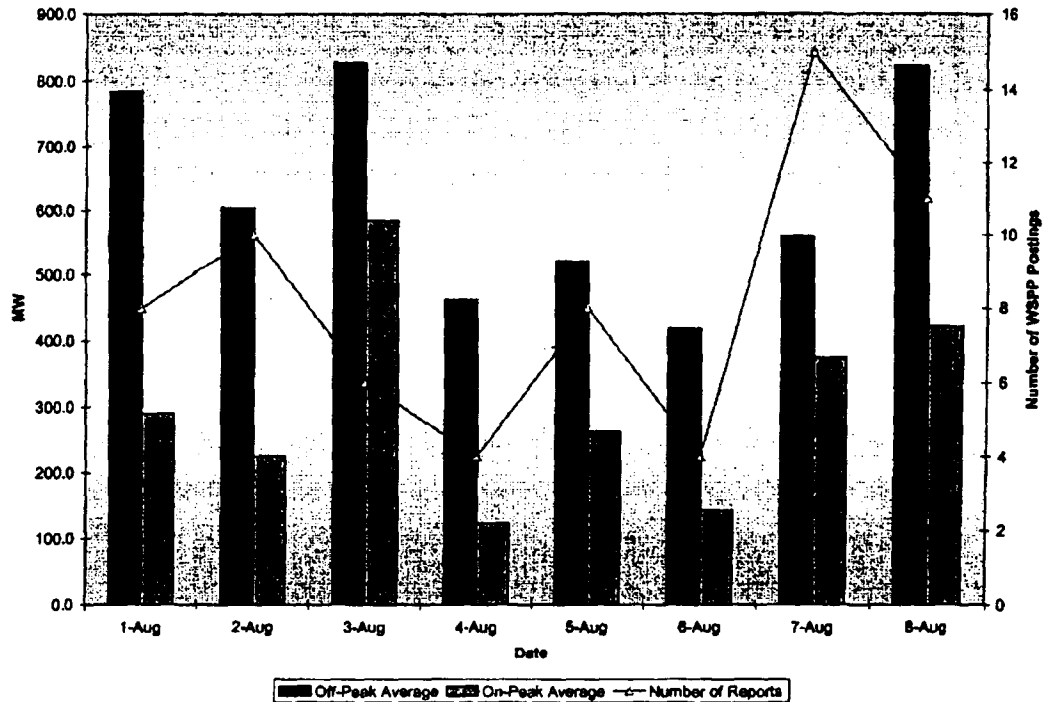


**C. Impacts Outside of California**

The June 19 Order requires suppliers to post the next day's available generating capacity on the Western Systems Power Pool bulletin board. Only 14 members out of the more than 200 marketers, public systems and investor owned utilities that comprise the Western Systems Coordinating Council (WSCC) currently do post their available capacity on the WSPP bulletin board. Of these 14 active postings, the majority post 0 MW available. Figure 11 summarizes the WSPP postings for the first eight days of August. As shown, for trade day August 6, 2001, there were four utilities that posted non-zero entries, for a combined off-peak availability of 419 MW (average over off-peak hours)

and on-peak availability of 143 MW (average over peak hours).

**Figure 11. WSPP Postings of Available Energy, August 1-8, 2001 – average hourly quantiles of offered energy, peak and off-peak hours**



These numbers suggest that very little Energy is being offered through the WSPP bulletin board in compliance with the must-offer obligation. Of course, the ISO has no way of knowing how much generation actually is available because there is no requirement for generators to report to the ISO, or to the Commission, the amount of capacity they have under their control and how that capacity is being offered to meet Load in the Western region.

Another complication with evaluation of West-wide impacts is the unavailability of Load data from other Control Areas. Such data are posted by

the WSCC, but only with a six-month lag, and the lack of this data prevents analysis of how changes in Western spot market prices may reflect actual Load levels.

#### **D. Use of California Prices as the Basis for West-wide Mitigation**

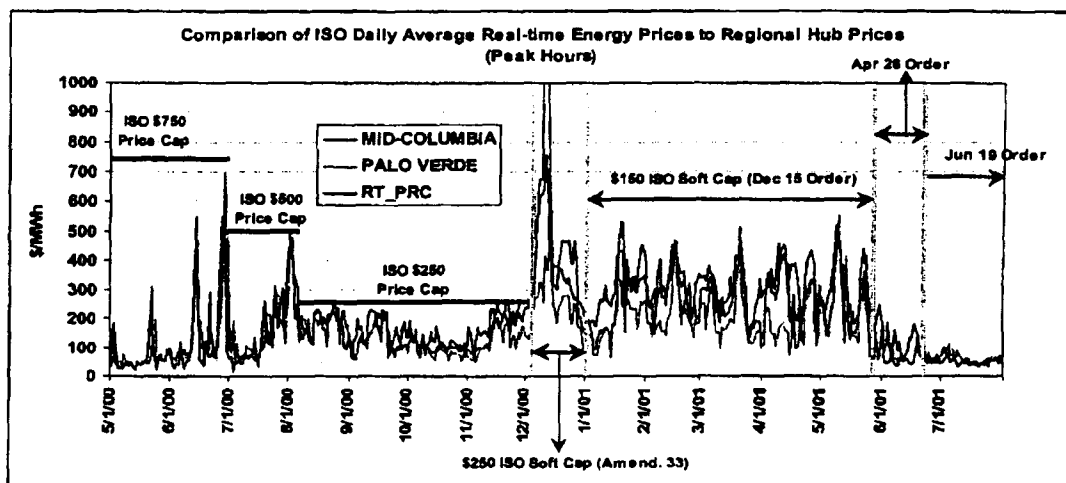
In this section the ISO offers data in support of an earlier assertion that electricity prices throughout the West tend to track both California prices and changes to California market rules. Figure 12 shows the daily average ISO real time prices and the spot market prices at Mid-Columbia and Palo Verde for the period May 1, 2000 through July 31, 2001. Figure 12 demarcates several significant changes to the ISO markets: price cap levels of \$750, \$500 and \$250, the brief period of the \$250 soft cap, the period of the \$150 soft cap under the Commission's December 15, 2000 Order, and the periods of the April 26 and June 19 Orders.

The following observations obtain from Figure 12:

- For the period of May 1 – November 31, 2000, regional hub prices tracked California's real time Energy prices. During this period the ISO's price cap served as a WSCC-wide price limit, as evidenced by the fact that during price-spike periods, the regional hub prices outside California tended to rise to the applicable price cap in place at the ISO and not to exceed it.
- During the fixed soft cap period of December 8, 2000 through May 28, 2001, regional hub prices tended to be less correlated both with each other and with California real time prices. This price divergence likely is attributable to two factors: (1) lack of price transparency in the California market, since most transactions were "as-bid" and above the soft cap, and (2) a very large divergence between Southern California gas prices and gas prices in the rest of the WSCC.

- For the period May 29 – July 31, 2001, greater price transparency in the California market and a convergence in Southern and Northern California gas prices resulted in a closer correlation in regional prices, similar to the period preceding Dec. 8, 2000.
- West-wide tracking of California prices is robust throughout the year, i.e., there is no evidence of a seasonal effect by which price in the rest of the Western region diverge from California prices.

**Figure 12. Correlation Between ISO Real Time and WSCC Hub Prices, for the period May 1, 2000 – July 31, 2001**



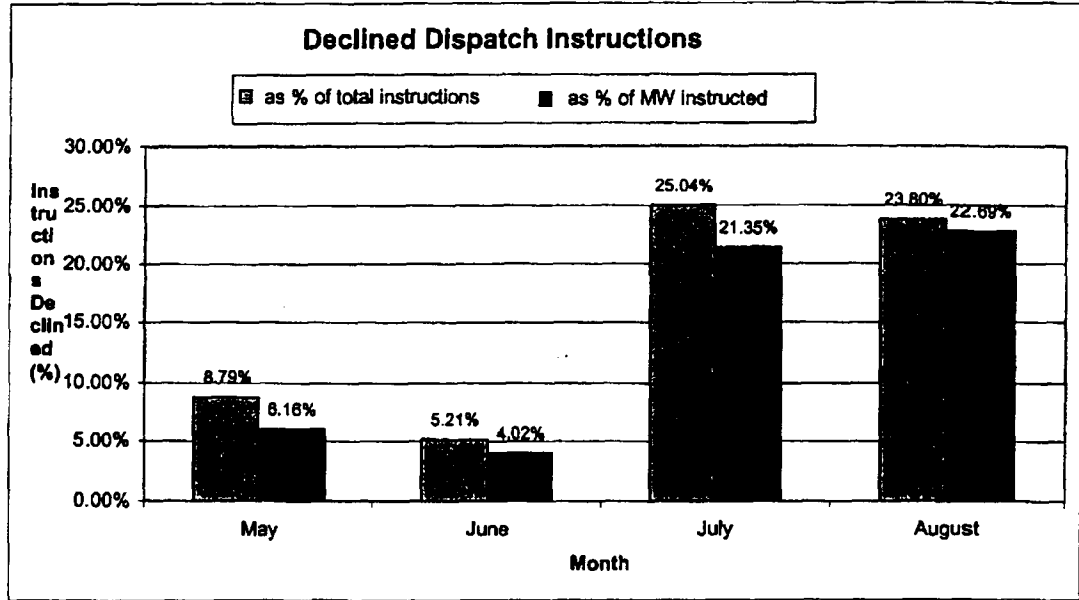
## E. Compliance Issues

Market Participant compliance with the June 19 Order is a major problem for the ISO. The comments and suggestions offered in this Section complement the comments on compliance in Section II above, and provide additional information on two non-complying behaviors that are particularly problematic for ISO operations: (1) failure of Generating Units to submit bids for all available capacity, and (2) failure of Scheduling Coordinators to comply with ISO Dispatch

Instructions. The ISO has already provided and will continue to provide detailed confidential reports to the Commission regarding these two, and related Market Participant compliance behaviors. Herein the ISO offers more general information and summary statistics documenting these two compliance problems.

Figure 13 shows the total number of times Scheduling Coordinators failed to comply with ISO Dispatch Instructions during the period of May 1 through August 8, 2001. The first of the two bars for each month shows the number of declined Dispatch Instructions as a percentage of the total number of Dispatch Instructions issued; the second bar shows the percentage of instructed MW associated with these declined Dispatch Instructions.

**Figure 13. Declined ISO Dispatch Instructions**



Fundamental to the reliable operation of the ISO Controlled Grid is the ability of the ISO to rely upon prompt delivery of the full amount of Energy ordered by the ISO through a Dispatch Instruction. Given the failure of some Scheduling Coordinators to comply with Dispatch Instructions, the ISO regularly must issue a number of Dispatch Instructions for a larger volume of Energy than in reality is needed to compensate for the percentage of Dispatch Instructions that the ISO, based upon experience, expects will not be followed. Such over-compensation may create its own problem of over-Generation depending upon the specific amount of Energy that is delivered in response to the Dispatch

Instructions. At times, given the unpredictable level of compliance with Dispatch Instructions, the ISO is forced to reverse and cancel Dispatch Instructions to maintain grid balance and reliability. Clearly the problem of failure to follow ISO Dispatch Instructions seriously compromises the ISO's ability to adequately control frequency and Area Control Error.

Figure 14 shows daily totals of the MW volume of bids declined, from July 2 through August 8, 2001. The larger, upper segment of each bar represents proxy bids inserted by the ISO in instances where the Scheduling Coordinator failed to submit bids for all available capacity in compliance with the must-offer obligation. For Generating Units under a Participating Generator Agreement ("PGA") with the ISO, the ISO knows how much capacity is available through the combination of data reported in the relevant PGA, the outage and capacity de-rate information each Generating Unit is required to file with the ISO Outage Coordination Program, and the amount of capacity that is scheduled at the close of the Hour-Ahead Market to provide either Energy or Ancillary Services.

**Figure 14. Non-compliance with Must-Offer Obligation and ISO Dispatch Instructions**

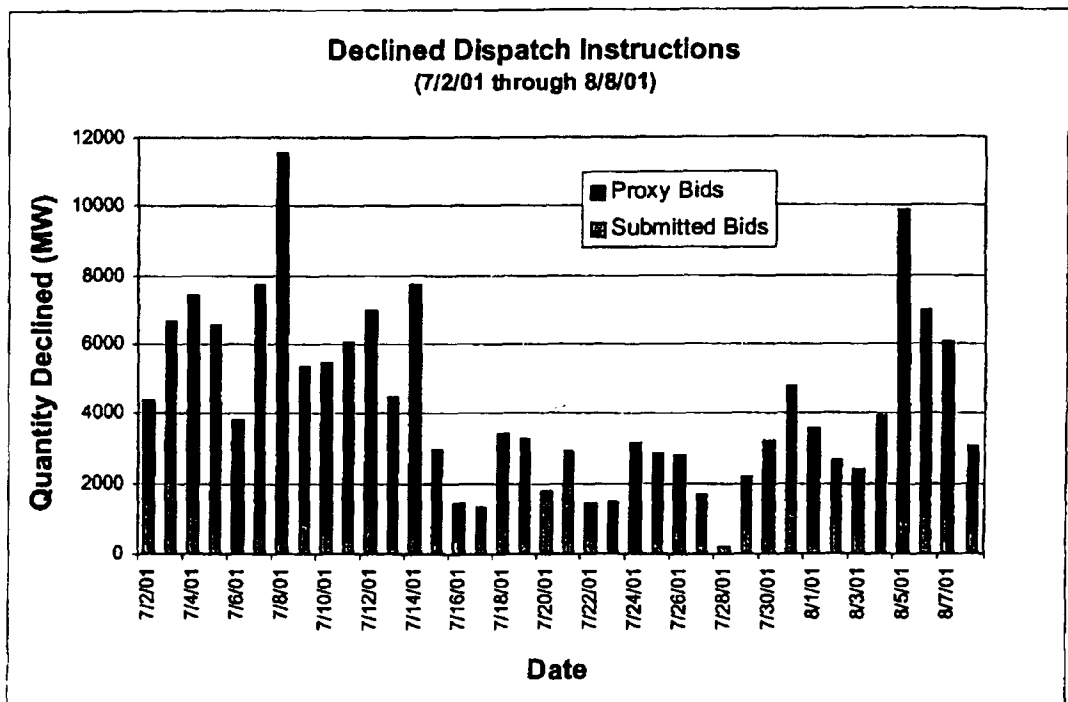


Figure 14 clearly indicates that significant quantities of available capacity is not being bid into the ISO spot markets by Scheduling Coordinators. While the ISO does submit proxy bids for known available capacity for those Generating Units under PGAs (with some exceptions, as discussed below at "implementation issues"), the failure of the Scheduling Coordinator to submit available capacity bids pursuant to the must-offer obligation is a violation of the June 19 Order. The failure to submit available capacity bids has the effect of transferring to the ISO the bidding obligation that the Commission has placed on Scheduling Coordinators. Failure to bid forces the ISO to insert proxy bids, when



possible, to help ensure that all available capacity is bid into and made available to the ISO's Real Time Market through the ISO's Balancing Energy and Ex Post Pricing ("BEEP") software program which is used by the ISO to Dispatch. Figure 14 also demonstrates that the volume of declined Dispatch Instructions often is very large. As discussed above, the unreliability of the response to ISO Dispatch Instructions creates the problem of over-Dispatching in an effort to compensate for potential under-Generation events.

The ISO Tariff at Dispatch Protocol Section 7.3 provides that a Supplemental Energy bid submitted to the ISO is a binding offer to supply Energy which can not be withdrawn after 45 minutes prior to the start of the Settlement Period. The failure of Scheduling Coordinators to comply with ISO Dispatch Instructions issued in response to Supplemental Energy bids is a violation of the ISO Tariff. Further, Scheduling Coordinators have an obligation to comply with ISO Dispatch Instructions regardless of whether those Dispatch Instructions are issued as a result of Supplemental Energy bids submitted by Scheduling Coordinators or proxy bids inserted into the BEEP stack by the ISO pursuant to the June 19 Order. The ISO urges the Commission promptly to clarify that all such proxy bids inserted by the ISO carry the same performance obligations as bids actually submitted by Scheduling Coordinators, and that Dispatch Instructions for either form of bids may not be declined.

## **F. Other Issues**

In this section the ISO describes certain other issues and implementation concerns related to the June 19 Order.

- **The ISO is not able to monitor compliance with the must-offer obligation for all generation units to which it applies, because it is not possible in all cases for the ISO to determine the quantity of available capacity.**

As discussed above, the ISO knows that some Generating Units subject to the must-offer obligation are not submitting bids in all hours for all available capacity. Figure 14 illustrates the magnitude of proxy bids the ISO inserts on a daily basis for Generating Units that do not fully bid available capacity. However, proxy bids are only a partial solution to the problem. While the Commission specifically ordered a range of generating units in the State to comply with the must-offer obligation, many such units are not under PGAs with the ISO. Such units, such as publicly-owned (or municipal) utilities and Qualifying Facilities with "behind-the-meter Load" either are not parties to a PGA with the ISO or otherwise do not have ISO telemetry and metering equipment that permits the ISO to track and "see" the amounts of Energy such units are producing. The ISO's lack of "visibility" of these generating units means the ISO can not determine their respective available capacity and therefore cannot insert proxy bids for any of these units that may fail to submit Supplemental Energy bids on their own in compliance with the must-offer obligation. The result is that the ISO has no mechanism to enforce compliance nor to ensure the ISO reaps the

intended benefits of the must-offer obligation as is related to these types of generating units. The ISO requests that the Commission promptly initiate appropriate steps to monitor and enforce all generating units' compliance with the must-offer compliance. As discussed herein and in previous ISO filings, the ISO suggests that the Commission impose a requirement on all generating units subject to the must-offer obligation to file regular reports to the Commission detailing how all of their available capacity has been provided or offered to the market on an hourly basis.

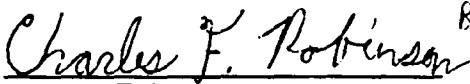
**\* The Non-Emergency Clearing Price Limit remains unchanged for long periods of time.**

The ISO notes that the Non-Emergency Clearing Price Limit ("NECPL"), i.e., the limit on market clearing prices during non-System Emergencies, can be reset only when there is a Stage One System Emergency of at least an hour's duration. As a result, the NECPL may remain unchanged for months at a time even though the price of natural gas, a primary factor in determining the NECPL, may change substantially over that same time period.

#### IV. CONCLUSION

The ISO thanks the Commission for the opportunity to comment and requests that the Commission accept for consideration the comments presented above.

Respectfully submitted,

 <sup>BEM</sup>


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Dated: August 20, 2001

**CERTIFICATE OF SERVICE**

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Washington, D.C., this 21<sup>st</sup> day of August, 2001.



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