UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

San Diego Gas & Electric Company	)	
	)	Docket No. EL00-95-012
v.	)	
Sellers of Energy and Ancillary Services Into Markets Operated by the California Independent System Operator and the California Power Exchange	)	

PROPOSED MARKET STABILIZATION PLAN OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION PROVIDED IN RESPONSE TO LETTER ORDER OF MARCH 30, 2001

As the Commission is well aware, this is a critical period for the California wholesale electric markets. As demonstrated by the mounting evidence already in the record in this proceeding, competition among suppliers of electricity in the California markets has been insufficient to restrain prices due to the lack of a fully competitive market, and suppliers continue to be able to exercise market power and extract unjust and unreasonable prices for needed energy. The consequences to all consumers in California, and to the economies of the Western United States have been devastating, and are likely to grow worse without the implementation of effective and comprehensive remedies.

Among the many factors contributing to the ability of suppliers to exercise market power in California is the extremely limited supply available to serve the demand for

electricity in California.[1] Attached to this filing is an analysis recently completed by the CAISO which projects unprecedented supply deficiencies in California for this summer and beyond.

The supply-demand imbalance in California is such that virtually all suppliers are pivotal and can therefore strongly influence (if not set) the price of electricity. Under these circumstances, the Commission must impose strong market-power mitigation measures if it is to uphold its obligation to ensure just and reasonable electric rates. The plain fact is, prices in California are "just unreasonable", and the Commission must take action before this summer to ensure that California is able to operate under an environment of "managed competition", whereby the Commission can, with appropriate oversight of the market, ensure just and reasonable prices and stable and reliable operation of the grid.

The supply deficiencies in California and the tight supply situation throughout the Western United States have also placed a tremendous burden on the CAISO in fulfilling its role as the entity which ensures, in real-time, that there is sufficient energy to satisfy the largely inelastic demand for electricity in California. Although the State of California has made great progress in ensuring that much of the demand for electricity is covered through long-term contracts and other forward bilateral arrangements, the recent demise of the California Power Exchange ("PX") Day-Ahead and Hour-Ahead markets

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[1] See *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 ¶ 61,121 (2000), *reh'g pending* at 61,349 ("The Commission finds in this order that the electric market structure and market rules for wholesale sales of electric energy in California are seriously flawed and that these structures and rules, *in conjunction with an imbalance of supply and demand in California*, have caused, and continue to have the potential to cause, unjust and unreasonable rates for short-term energy . . . under certain conditions.") (emphasis added); *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), *reh'g pending* at 61,984

has meant that any demand not covered though such forward arrangements must be satisfied in the CAISO's real-time imbalance energy market or through "out-of-market" procurement of energy by the CAISO on behalf of load-serving entities in California. This situation has placed even more pressure on CAISO operations staff in real-time, resulting in increased costs and introducing added complexity to the maintenance of reliability.

The CAISO has been engaged in an effort to develop a comprehensive Market Stabilization Market Stabilization Plan ("Market Stabilization Plan") for the California wholesale electric markets that would address these conditions.

I. THE MARCH 30 LETTER ORDER

On March 30, 2001, the Director of the Commission's Office of Markets, Tariffs and Rates, issued a letter order in the above-captioned proceeding to counsel for the California Independent System Operator Corporation ("CAISO"). The letter order notes that, in the CAISO's March 22, 2001 comments on the Commission Staff's Recommendation on Prospective Market Monitoring and Mitigation for the California Wholesale Electric Market ("Staff Proposal"), the CAISO indicated its intention to file in April its Market Stabilization Market Stabilization Plan in response to the Commission Staff's recommendation. The letter order states that such a counter-proposal should be filed by no later than April 6, 2001 "[I]n order to allow the Commission sufficient time to consider any such alternative proposal" before making a determination as to the permanent market mitigation measures for California. The CAISO now submits its proposed Market Stabilization Market Stabilization Plan in compliance with that

directive.[2] The CAISO believes that the reforms to the California wholesale electric markets and CAISO operations proposed in the Market Stabilization Market Stabilization Plan are absolutely critical to ensure that, in the near-term – especially over the coming summer, consumers in California are able to obtain reliable electric service at just and reasonable rates. Failure to authorize implementation of these reforms could imperil the CAISO's ability to maintain the reliability of the California electric transmission system and expose the consumers and businesses in California to sustained excessive prices for wholesale electricity. The consequences for the economy of California and, indeed, the Nation could be severe.

The CAISO is not submitting the proposed revisions to its jurisdictional Tariff that would implement the Market Stabilization Market Stabilization Plan at this time. Consistent with the March 30, 2001 letter order, the CAISO recognizes that the issue of the appropriate market power mitigation measures to implement in California this summer is currently before the Commission in this proceeding and that the Commission has a pressing need to understand fully the CAISO's Market Stabilization Market Stabilization Plan before the Commission can act on the market power mitigation issue. The following detailed description of the CAISO's Market Stabilization Market Stabilization Plan, together with the reports, analyses, and comments already filed by the CAISO in this proceeding, should make it clear that only the comprehensive measures proposed in the Market Stabilization Market Stabilization Plan will be sufficient to address the current crisis in the California wholesale electric markets,

[2] The March 30, 2001 letter order also requires responses by April 6, 2001 to various questions relating to two reports that accompanied the CAISO's March 22, 2001 Comments on Staff's Proposal. The CAISO's Department of Market Analysis ("DMA") has prepared responses to these questions which are being provided to the Commission today in a separate filing.

including the pervasive exercise of market power. The CAISO is preparing the Tariff revisions necessary to implement the Market Stabilization Market Stabilization Plan for filing consistent with the Commission's direction or the outcome of this proceeding.

In crafting this Market Stabilization Market Stabilization Plan the CAISO has endeavored, to the greatest extent possible, to build upon measures which have been approved by this Commission for use in other parts of the country to address similar, though less severe, market problems. Our Market Stabilization Market Stabilization Plan does not employ an arbitrary maximum price cap such as those that were imposed in the California market last year. Rather, this Market Stabilization Market Stabilization Plan seeks to utilize more refined measures to control the exercise of market power, while producing outcomes that closely track those that would occur in a truly competitive wholesale power market.

II. OVERVIEW OF THE MARKET STABILIZATION PLAN

The Market Stabilization Market Stabilization Plan is designed to address the current problems in the California wholesale markets and to accomplish the following goals:

- *The prevention of further unjust and unreasonable wholesale prices in the California spot electricity markets*. To achieve this, the market power of suppliers must be mitigated, and the CAISO must have the authority to make the most efficient use of available resources.

- *The provision of greater stability for CAISO operations*. To achieve this, the volume of real-time transactions to meet system load and ensure reliability must be reduced, by providing the CAISO with the ability to commit and dispatch resources on a forward basis.

In order to achieve these goals, the Market Stabilization Market Stabilization Plan contains the following major elements:

- The institution of a new Availability Payment that would ensure full recovery of costs by all Participating Generators in exchange for an explicit obligation on the part of all Participating Generators (and any other resource that elects to receive the Availability Payment) to satisfy the demand for electricity in California;

- The implementation of Resource-Specific Cost-Based Bid Caps ("RCBCs") and a must-bid requirement for such resources, and

- The creation of forward CAISO markets for energy through which the CAISO would optimize the procurement of energy to satisfy the forecasted level of CAISO demand, the procurement of ancillary services to satisfy reliability requirements, and the management of congestion.

The CAISO recognizes that the Market Stabilization Plan would produce major changes in the current California market structure. For the reasons described below, however, these changes are necessary in order to alleviate the current intolerable conditions in California. Moreover, the Market Stabilization Plan builds upon various market power mitigation tools and market structures that the Commission has proposed for California or approved in other restructured electric markets. Central elements of the Market Stabilization Plan, such as the resource-specific price mitigation and the must-bid requirement, are consistent with elements of the Staff Proposal but expand upon that proposal because of the need for market power mitigation during all periods and operating conditions (and not just during periods of extreme supply deficiencies such as Stage 3 System Emergencies). Other measures, such as the optimization of energy schedules and the elimination of the requirement that Scheduling Coordinators submit "balanced schedules" of supply and demand to the CAISO, are consistent with structural reforms that the Commission has identified as advantageous to the California markets.[3]

[3] See *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

The proposals in the Market Stabilization Market Stabilization Plan are also consistent with the market operations of other independent system operators in New England, New York and the PJM region. The Commission has approved mechanisms whereby these Eastern independent system operators provide capacity payments to resources within their control areas and in return those resources are obligated to bid their capacity into the independent system operator's Day-Ahead energy market to serve control area load. While these mechanisms and market structures are not identical to those proposed in the CAISO's Market Stabilization Market Stabilization Plan, the CAISO believes that the principles underlying its proposal are essentially the same as those underlying the installed capacity or "ICAP" requirements in PJM, New England, and New York.

Overall, there are three principal reasons why the CAISO believes that the package of measures that comprise this Market Stabilization Market Stabilization Plan is both absolutely necessary to mitigate the anticipated impacts of market power during the coming summer peak period, and completely reasonable in light of the circumstances and the provisions other independent system operators and control areas have for protecting the native load in their areas. First, there is no doubt that market power has been exercised in all hours and under various conditions. Therefore, if mitigation were limited to a narrow set of transactions or circumstances, there would still be ample opportunities and incentives for resources to withhold supply from

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FERC ¶ 61,121 (2000), *reh'g pending* at 61,365 (expressing concern that some of the underscheduling problems "may be the result of the existence of many individual scheduling coordinators that are required to submit balanced schedules to the CAISO" and directing the CAISO and PX to "pursue establishing an integrated day ahead market in which all demand and supply bids are addressed in one venue"); *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), *reh'g pending* at 62,017.

California until the pressure of real-time operation forces the CAISO to purchase large quantities of power at exorbitant prices. The only alternative the CAISO sees to the measures proposed in this Market Stabilization Plan are either to be forced into regular System Emergencies, which might necessitate the curtailment of exports in real-time on a regular basis, thereby increasing the volatility of real-time operation and threatening system reliability. California would also continue to suffer the impacts of outrageously high power costs. Absent a regional approach to the tight supply conditions throughout the western region, California must have stronger ability to direct native resources to serve native load.

Second, California is unique among independent system operators and among its neighboring control areas regarding the ability of its in-control-area resources to operate and to export freely irrespective of control-area needs. While this capability may well be a desirable feature of mature, integrated regional markets, the present discrepancies between the operating practices of California and its neighbors make the State extraordinarily vulnerable. If the Commission wishes to see competitive electricity markets develop and thrive in the West within the next few years it must give us the tools needed for this summer to navigate between the Scylla and Charybdis of extensive rolling blackouts and devastating power costs. Unlike Odysseus, the capacity indigenous to California easily and often finds its way home and returns as high-priced MWs purchased out-of-market. Therefore, it is critical that the Commission permit the CAISO to call on resources to serve in-control area load, subject to adequate compensation.

The CAISO does not intend by the proposed measures to place any financial burden on California's suppliers. The CAISO has carefully developed a compensation package which, although mitigated to a resource-specific cost basis, provides for recovery of all costs including capital recovery and a fair return on investment. It is true that the CAISO does propose to limit the opportunity of suppliers to continue to earn the exorbitant market-power-driven prices that have plagued California over the past year, but the CAISO does not believe that such earnings can reasonably be viewed as fair returns on investment nor necessary incentives for new investment. Nor can they be viewed as legitimate scarcity rents in a market structure where buyers have very limited ability to curtail demand in response to prices and adjacent, interconnected control areas and regional markets operate under different rules. Suppliers who participate in the modified market structure proposed herein will be fairly compensated this summer, and will help ensure the survival of public willingness to advance workable market competition in the power industry.

III. BACKGROUND

The Commission is well aware of the history and circumstances that have led to the current market crisis and resulting unjust and unreasonable energy prices in California. The CAISO described this background most recently in its March 22, 2001 comments on the Staff Proposal ("March 22 Comments"), which the CAISO incorporates herein by reference. The following discussion highlights certain aspects of that background that are most directly relevant to the measures proposed in the CAISO's Market Stabilization Market Stabilization Plan.

The potential for the exercise of market power and the need for mitigation of market power in California's wholesale electric markets has been present ever since the deregulation of those markets in the late 1990's. Indeed, in its October 31, 1997 order authorizing the CAISO and PX to commence operations, the Commission recognized the need for market mitigation measures in order to protect against the exercise of market power by market participants.[4] From 1998 through the end of 2000, the primary market power mitigation measure in place for the CAISO's energy and ancillary services markets was a purchase price cap.

During the summer of 2000, California wholesale electricity markets experienced price spikes of a magnitude never before seen in the State. Analyses prepared by the CAISO's Department of Market Analysis ("DMA") and the CAISO's independent Market Surveillance Committee ("MSC") have traced these price spikes to a number of causes, foremost among them the combination of very tight supply and demand conditions, which along with the limited ability of consumers to reduce consumption in response to rising prices, created absolute supply shortages, as well as the opportunity for the

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[4] *See Pacific Gas and Electric Co., et al.,* 81 FERC ¶ 61,122 (1997). Speaking specifically to the mitigation of market prices through bid caps, the Commission stated:

> We find that, if there is evidence that the Companies [Pacific Gas and Electric, Southern California Edison, and San Diego Gas & Electric – at that time the primary owners of generation in the State] have been exercising market power, bid caps may be an appropriate response. We direct the CAISO and PX each to file *pro forma* bid caps with the Commission under FPA section 205 as soon as practicable. The bid caps would then be available to apply to any of the Companies upon a finding by the CAISO or PX of anticompetitive bidding.

Id. at 61,546.

exercise of market power during many hours, which further inflated wholesale prices well above levels that would have resulted under competitive market conditions.[5]

Responding to the events of the summer of 2000, the Commission instituted a Staff investigation of the California wholesale electric markets. A number of parties also submitted various complaints pursuant to Section 206 of the Federal Power Act related to the summer 2000 price spikes and the performance of the California wholesale electric markets.

On November 1, 2000, the Commission Staff completed its investigation and prepared a comprehensive report, which attributed the price spikes to a number of factors, including increased power production costs, increased demand due to unusually high temperatures, scarcity of generation resources throughout the West, increased outages, and the potential for sellers to exercise market in the California wholesale electric markets.[6] On the same date, the Commission issued an order in this proceeding concluding that the market rules for wholesale sales of electricity in California were "seriously flawed," and along with imbalances between supply and demand, had caused, and had the potential to continue to cause, unjust and

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[5] The CAISO has provided the Commission with numerous analyses of the California wholesale electric markets which were prepared by the DMA and the MSC and which provide evidence, *inter alia,* of the pervasive ability of suppliers to exercise market power. A table of all such analyses filed in this docket and related proceedings is provided as Attachment A to this filing.

[6] *Staff Report to the Federal Energy Regulatory Commission on Western Markets and the Causes of the Summer 2000 Price Abnormalities*. Docket Nos. EL00-95, *et al.* (November 1, 2000). The Commission staff concluded that the data "indicate some attempted exercise of market power . . . and some actual market power effects" but concluded that the data available at that time was insufficient to make determinations regarding the actual exercise of market power by individual sellers. Staff Report at 1-4.

unreasonable rates for short-term energy sales under certain conditions.[7] In order to remedy these "dysfunctions" in California's wholesale bulk power markets and to ensure just and reasonable rates by public utility sellers in California, the Commission proposed a number of remedies in the November 1 Order.

On December 15, 2000, the Commission issued an order in this proceeding, largely adopting the proposals set forth in the November 1 Order, including the imposition of a $150 break point or "soft cap" in the CAISO and PX markets with Commission review of all bids submitted above the cap based on data to be provided by jurisdictional suppliers of energy.[8] The basis for the Commission's mandate that such changes be implemented was a reaffirmation of its earlier findings "that unjust and unreasonable rates were charged and could continue to be charged" under a variety of conditions in the California wholesale electric markets.[9] In connection with the removal of the requirement that California "investor-owned utilities" buy and sell energy into the PX spot markets, the December 15 Order directed that the PX's wholesale tariff be terminated effective May 1, 2001. The Commission also directed its Staff to develop a proposed marketing monitoring and mitigation plan which could be implemented by May 1, 2001.

On January 31, 2001, the PX provided public notice that, due to its inability to implement the $150 soft cap, it was suspending the operation of its Day-Ahead and

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[7] *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 ¶ 61,121 (2000), *reh'g pending* (the "November 1 Order").

[8] *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), *reh'g pending*. ("December 15 Order")

[9] *Id.*, at 61,999.

Hour-Ahead energy markets on a going-forward basis. With the demise of the PX markets, there is no longer a transparent Day-Ahead and Hour-Ahead wholesale market for electricity in California. [10] As noted above, this has resulted in a situation where all of the demand for electricity in California that is not satisfied through forward contracts or bilateral transactions must be met through the CAISO's Real Time Markets.

The various remedies implemented by the CAISO in compliance with the December 15 Order have not been effective in restraining the ability of suppliers to exercise market power and have not resulted in just and reasonable wholesale electric prices. On March 1, 2001, the CAISO and the California Electricity Oversight Board ("EOB") filed a joint motion in this proceeding requesting that the Commission issue a notice to participants in the CAISO's markets that wholesale sales made pursuant to bids above the $150 breakpoint would continue to be subject to review beyond the 60-day period prescribed in the December 15 Order and urging that the Commission institute a hearing regarding the justness and reasonableness of sales by public utility sellers in the PX and CAISO markets since December 8, 2000 (the date on which the CAISO began implementing a soft cap in its Imbalance energy market).[11] Such actions are justified by the evidence, including a report prepared by the DMA,[12] which demonstrates that numerous sellers were able to establish prices in December and

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[10] On March 13, 2001, the PX notified the Commission that it had filed for bankruptcy protection under Chapter 11.

[11] The CAISO and EOB also requested that the Commission require generators to provide the CAISO and California state officials with the cost support data provided to the Commission by suppliers who have bid above the soft cap. This request is still standing.

[12]. *See Report on Real Time Supply Costs Above Single Price Auction Threshold: December 8, 2000 – January 31, 2001*, attached to the March 1, 2001 motion.

January at levels substantially above just and reasonable levels based on an analysis of supply costs, prevailing market conditions, and revenues earned over the last year as a result of uncompetitive conditions and outcomes in California's marketplace.

On March 9, 2001, the Commission issued an order in this proceeding, finding that certain transactions in the CAISO and PX markets during the month of January, 2001 had not been shown to be just and reasonable, based on the weekly "above-cap" transaction reports submitted to the Commission pursuant to the December 15 Order.[13] Focussing only on those prices that exceeded a "rate screen" or "proxy market clearing price" of $273/MWh during Stage 3 System Emergencies, the Commission concluded that potential refunds in the amount of approximately $69 million would be appropriate unless the public utility sellers implicated could provide cost or other justification for the prices charged during these Stage 3 Emergencies.[14]

While the current market power mitigation measures have proven to be inadequate, the Commission's Staff has been engaged in a process to develop a replacement market monitoring and mitigation plan. The CAISO has been an active participant in this process. While the CAISO greatly appreciates the Staff's efforts in this regard and strongly agrees with Staff's conclusions that additional market power mitigation measures are needed in the California wholesale electric markets, the CAISO believes that current circumstances call for stronger measures than Staff has proposed.

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[13] *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.*, 94 FERC ¶ 61,245 (2001).

[14] On March 16, 2001, the Commission issued a notice that it had established a similar "proxy clearing price" for February transactions of $430/MWh and that refunds totaling approximately $55 million would be justified based on accepted bids that exceeded this level during Stage 3 Emergencies in February unless public utility sellers could justify these prices in accordance with the procedures set forth in the March 9 Order.

The CAISO's position on Staff's Proposal is set forth in detail in its March 22, 2001 Comments on that proposal ("March 22 Comments"). In general the CAISO believes that two critical assumptions underlying the limited nature of the Staff Proposal are unsupported: (1) that only five percent of the load will be exposed to the spot price and (2) that the exercise of significant market power is most likely limited to Stage 3 conditions. Despite the State of California's significant progress in ensuring that demand is covered by long-term energy-supply contracts, significant portions of California's load are likely to remain subject to prices in the spot market. Therefore, exposing such load to unjust and unreasonable prices in all but a limited number of hours will continue to magnify the financial harm wrought on consumers in California by unreasonable price levels.

The CAISO submitted with its March 22 Comments two reports prepared by the DMA which reinforce and expand upon the conclusions reached in prior analyses that rampant market power is being exercised in California under *all* conditions, and not just during Stage 3 Emergencies.[15] Therefore, although the CAISO strongly supports the Staff Proposal's call for resource-specific real-time price mitigation measures, limiting such measures to Stage 3 Emergency conditions would not mitigate all or even most of the unjust and unreasonable prices being experienced in the California markets.

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[15] The first of these reports, *Further Analyses of the Exercise and Cost Impacts of Market Power in California's Wholesale Energy Market*, compares energy prices to the variable cost of the marginal unit in each hour to meet demand, and concludes that prices have exceeded the competitive market benchmark in the California wholesale markets in all hours and under a variety of system conditions. The second report, *Empirical Evidence of Strategic Bidding in California CAISO Real Time Market,* examines bidding strategies by suppliers and concludes that both physical and economic withholding of resources plagued the California market during most hours from May through November of 2000, and that during this period, suppliers earned excess profits of more than $1.19 billion over competitive benchmark prices in the CAISO's Real Time Market.

The CAISO also explained in its March 22 Comments that the Staff Proposal fails to address the possibility that suppliers might engage in "megawatt laundering" – the ability of suppliers to schedule exports of in-state power in the Day-Ahead time frame and then re-import it for sale in the Real Time Market or through “out-of-market” transactions at a substantial mark-up, thereby circumventing resource-specific market power mitigation measures that would otherwise be applicable to such in-state suppliers.

Lastly, the CAISO explained in its March 22 Comments that a more comprehensive market power mitigation and stabilization plan was necessary in order to address the current disparity between the supply of electricity and projected demand in California. Recently, the CAISO completed a report that provides a detailed analysis of historical and forecasted near-term peak electricity supply and demand levels for the CAISO Control Area.[16] This report concludes that the CAISO Control Area is likely to experience significant supply deficiencies during summer 2001, forecasting a peak demand resource deficiency ranging from 600 MW to nearly 3,700 MW. The CAISO will have to rely on imports and demand reduction efforts to make up the difference,[17] which will be challenging, especially in light of declining imports over recent years. Given this forecast, the CAISO believes that Stage 3 System Emergencies and even rolling blackouts are likely to occur this summer. Absent sufficient resources, there is no basis

[16] See *CAISO 2001 Summer Assessment*, which is provided as Attachment B to this filing.

[17] The CAISO’s March 22 Comments also include an assessment of the state of demand reduction efforts in California. Comments at pp. 22-26. Overall, although there has been substantial progress, the California electric markets are unlikely to include fully price responsive demand in the foreseeable future.

for assuming that competitive forces will be able to restrain prices to just and reasonable levels.

With the peak summer period fast approaching, the outlook for the California electricity markets is particularly troubling. As all of the evidence in this proceeding has demonstrated, suppliers continue to have the ability to exercise market power and impose unjust and unreasonable prices, even during periods of non-scarcity. These unjust and unreasonable prices will only be magnified by the supply deficiencies projected for the CAISO Control Area during the peak summer months of 2001. Moreover, with the demise of the PX, there no longer exist Day-Ahead energy markets to provide market participants with an alternative between forward contracting and real-time energy procurement. Faced with this untenable situation, the CAISO has determined that, in order to maintain the reliability of the CAISO Controlled Grid, to ensure continued service to California end-use customers, and to preserve some semblance of just and reasonable electricity prices, substantial modifications to it's the California wholesale electric markets and its operational practices are required. Accordingly, the CAISO proposes the following Market Stabilization Market Stabilization Plan.

IV. DESCRIPTION OF THE MARKET STABILIZATION PLAN

The CAISO is addressing two primary needs in the design of its Market Stabilization Market Stabilization Plan for summer 2001:

- *The prevention of further unjust and unreasonable wholesale prices in the California spot electricity markets*. This will control the costs of electricity for California consumers. Due to persistent and severe capacity shortages in California and throughout the western region, multiple suppliers in the California markets are pivotal and thus able to exercise market power to inflate prices beyond just and reasonable levels even during hours of moderate system load.

To achieve even a modest degree of cost control this summer, the market power of suppliers must be mitigated, and the CAISO must have the ability to make the most efficient use of available resources to meet system load.

- *The provision of greater stability for CAISO operations*. The CAISO's Real Time Market, which was originally intended to provide no more than 5 percent of system load on an hourly basis, now regularly has to provide anywhere from 10 to 30 percent of system load. Because system reliability is such an unforgiving requirement in real-time operations, the need to handle such volumes puts intense pressure on the CAISO and enhances suppliers' ability to exercise market power. To improve operational stability, the volume of real-time transactions must be reduced, ideally to less than 5 percent of system load, by providing the CAISO with greater ability to commit and dispatch resources on a Day-Ahead basis to serve control area load.

To address these needs, the CAISO's Market Stabilization Market Stabilization Plan contains the following elements:

(1) *Market power mitigation*: The Market Stabilization Plan provides a compensatory payment structure for "Participating Resources," *i.e*., all resources that have signed a Participating Generator Agreement ("PGA") with the CAISO as well as any non-Participating Generators that are willing to commit capacity to the CAISO's control as described below. Though the payment structure reflects the use of cost-based bid caps, resources will be paid market clearing prices rather than being paid as-bid. This payment structure is designed to ensure that Participating Resources can be fully compensated for their fixed and variable costs in exchange in return for allowing the CAISO to commit and dispatch these resources and to require them to offer their full capacity to serve control area needs. The proposed payment package has three components: Resource-Specific Cost-Based Bid Caps for all resources that are eligible to set the market clearing price for Energy, side payments to cover start-up and no-load costs for resources that are committed by the CAISO, and an annual availability payment that provides for the recovery of a Participating Resource's going-forward fixed

costs (*i.e.*, their Annual Fixed Revenue Requirement or "AFRR," which includes both fixed operating costs and capital recovery). Under this Market Stabilization Plan all Participating Generators would be required by the CAISO Tariff to accept the proposed payment package as compensation for their availability as described below.[18]

(2) *The creation of forward CAISO markets for energy*: The CAISO proposes to operate the new forward markets (Day-Ahead and Hour-Ahead) to commit resources and procure energy to cover the portion of the CAISO's forecasted load that is not covered by forward bilateral contract schedules or the commitment by load-serving entities of generation that they own. These forward CAISO markets would manage congestion in a manner consistent with the CAISO's existing zonal structure, as well as procure energy and ancillary service capacity to meet the forecast system imbalance and provide required reserves. In addition, export schedules submitted in the forward markets would face potential curtailment if necessary for the CAISO to procure adequate forward energy to meet the forecasted real-time shortfall.[19] The RCBCs of Participating Resources would produce zonal cost-based market-clearing prices ("MCPs") in each of the CAISO's forward markets. Resources outside of the control area that bid into these markets would be dispatched and paid the MCP set by the Participating Resources whenever that MCP is above their own bid price.

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[18] Although the market power mitigation elements of the Market Stabilization Plan are closely linked to the market design elements of the Market Stabilization Plan, the primary discussion of market power mitigation can be found in Section IV.C below.

[19] The description of the Market Stabilization Market Stabilization Plan in the CAISO's March 22 Comments in this proceeding suggested that the CAISO would exercise its existing authority under Section 5.6.1 of the CAISO Tariff to curtail exports through a Day-Ahead declaration of a System Emergency. In fact, the final Market Stabilization Market Stabilization Plan includes a proposed expansion of the CAISO's authority to allow us to curtail export schedules when a real-time shortfall of supply is anticipated but without a formal declaration of System Emergency. The CAISO recognizes that this proposal imposes additional risks on in-state resources, and therefore proposes to compensate these

A. Operational Objectives

The two primary goals of the Market Stabilization Plan – cost control (*i.e.*, ensuring just and reasonable prices) and operational stability – can be translated into specific operational objectives that guide the design of the market power mitigation and forward energy market elements of the Market Stabilization Plan. These objectives are as follows:

(1) Procure energy in the Day-Ahead and Hour-Ahead markets to serve "Unmatched Demand."[20] The target would be to have at least 90% of forecasted system load scheduled by the close of the Day-Ahead market and 95 percent by the close of the Hour-Ahead market. This will reduce the energy volume of the Real Time Market to 5 percent or less of total demand, consistent with the original design of the CAISO's Real Time Market.

(2) Ensure commitment of generating resources in the Day-Ahead and Hour-Ahead markets to secure sufficient supply to meet the forecasted load and ancillary service requirements, while producing resource schedules that are feasible with respect to both transmission constraints and resource operating constraints. This will enable the CAISO to make optimal use of available resources by considering resource performance characteristics over a longer time horizon than the individual Trading Hour.

(3) Procure ancillary services – Regulation, Spinning and Non-Spinning Reserves – as required to cover the forecasted load, while allowing Scheduling Coordinators to self-provide ancillary services if they prefer. Under the Market Stabilization Market Stabilization Plan, Replacement Reserves would no longer be necessary since the CAISO would have the ability to dispatch any remaining capacity of Participating Resources in real-time by virtue of the availability requirement, and therefore this service and the associated costs would be eliminated.

(4) Perform congestion management so that hourly schedules are feasible with respect to network constraints. Congestion management initially would employ the same zonal network structure used by the CAISO today.

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resources through a new availability payment structure. The CAISO believes that this modification will provide greater order and predictability to both forward market and real-time operations.

[20] For purposes of this discussion, the term "Unmatched Demand" is used to mean the shortfall between the CAISO's forecasted control area load and the total resource schedules submitted by Scheduling Coordinators.

(5) Minimize the total energy and ancillary service procurement cost over the whole time horizon considering startup, shutdown, no-load, energy and ancillary service costs.

(6) Apply resource-specific cost-based Energy Bid caps to Participating Resources and use these bids to establish clearing prices in the CAISO markets.

(7) Provide availability payments to Participating Resources to enable the full recovery of fixed costs in return for those resources' standing availability to serve CAISO control area load.

Objectives (1) through (5) will be accomplished by means of a new Transmission-Constrained Unit Commitment Economic Dispatch ("UCED") program that will become the core software behind the CAISO's forward markets. To ensure operability prior to the start of summer, the CAISO will obtain and implement an established UCED program, and will minimize changes to the CAISO's existing scheduling and settlement software and procedures. For example, to simplify implementation of the UCED program and honor all Existing Transmission Contracts ("ETCs")[21] and the Day-Ahead scheduling priority of existing holders of Firm Transmission Rights ("FTRs"), the CAISO initially will employ the same zonal network model that is used today.

[21] As the CAISO noted in its recently filed comments on the Commission's *Order Removing Obstacles To Increased Electric Generation and Natural Gas Supply in the Western United States*, the CAISO is currently considering a number of options to increase the amount of transmission capacity available to the market in the forward markets. One of the options under consideration, and one that is within the sole jurisdiction of the Commission, is the elimination of congestion caused by the CAISO's requirement to honor, and reserve transmission capacity associated with, Existing Contracts under the CAISO Tariff and previous Commission orders. As noted in the CAISO's comments, Existing Contracts often contain scheduling timelines that are different from the CAISO's Day-Ahead and Hour-Ahead scheduling timelines. In order to honor these Existing Contracts, transmission capacity is reserved in the CAISO's Day-Ahead and Hour-Ahead scheduling processes but often is not used by existing rights-holders. These Existing Contract reservations cause paper or so-called "phantom" congestion. While the CAISO can use in real-time any transmission capacity that has not been scheduled by existing rights-holders in the Hour-Ahead scheduling process, the reserved and unused transmission capacity is not available for use by Market Participants in the CAISO's transmission markets (*i.e.*, the Day-Ahead and Hour-Ahead scheduling processes).

B. Overview of the Forward Market Design

Under the Market Stabilization Market Stabilization Plan, the CAISO proposes two fundamental changes to the current California market design are that: (1) in the forward markets the CAISO will commit resources and procure energy to meet Unmatched Demand, in addition to performing congestion management and procuring ancillary services, and (2) the CAISO will have extensive commitment and dispatch control of Participating Resources at mitigated prices, in return for which the CAISO will institute an availability payment that will permit these resources to recover fully their fixed and variable costs. This subsection provides an overview of the first of these elements.

Unmatched Demand is defined as the difference between the CAISO's forecasted load for the control area and the energy scheduled in the Day-Ahead and Hour-Ahead markets by Scheduling Coordinators and self-provided by governmental entities. The CAISO procurement of energy to serve Unmatched Demand will be accomplished by creating an CAISO portfolio through which the CAISO will procure energy on behalf of Unmatched Demand through energy trades with Scheduling Coordinators that schedule the Participating Resources. To the extent that Participating Resources are not committed (*i.e.*, scheduled) by Scheduling Coordinators in the Day-Ahead market and the CAISO requires such resources to satisfy the Unmatched Demand, the CAISO will commit and Schedule those resources.

The CAISO will perform forward energy and ancillary service procurement by means of a UCED program. The CAISO's "Market Separation Rule"[22] will be relaxed to optimally dispatch available resources and manage congestion. Therefore, at the end of the Day-Ahead scheduling process, while total system load and generation will be balanced, the individual schedules of Scheduling Coordinators may not be balanced. Thus the CAISO will essentially serve as a central energy pool. The process will continue to honor any appropriate scheduling priorities of FTR Holders and ETC rightsholders, and will accommodate the need to maintain required operating levels of RMR resources needed for local reliability and must-take generation. In addition, the CAISO is considering how this Market Stabilization Plan might accommodate the scheduling of physical bilateral contracts, as is done in some Eastern independent system operators.

The Day-Ahead Energy settlement, by zone, will charge Scheduling Coordinators at the Day-Ahead zonal MCP for any Unmatched Demand in their final Day-Ahead schedules, and will pay Scheduling Coordinators this price for any surplus supply in their final Day-Ahead schedules. The Hour-Ahead settlement will operate the same way with respect to the Hour-Ahead market. Accordingly, the Day-Ahead and Hour-Ahead settlement processes will settle financially for a substantial portion of the energy procured by the CAISO in these markets. However, to the extent that Scheduling Coordinators collectively schedule less total demand than the CAISO's targets for the Day-Ahead and Hour-Ahead markets (90 percent and 95 percent, respectively, of

[22] The Market Separation Rule is the existing rule in the CAISO Tariff which requires Scheduling Coordinators to submit balanced schedules and which prohibits the CAISO from involuntarily arranging trades between Scheduling Coordinators.

forecasted control area load) there will be some "Residual Load" that the CAISO will satisfy as part of its forward energy procurement. The "residual" energy costs of serving this total Residual Load will not be allocated to Scheduling Coordinators in the forward market settlements. It must instead be carried forward to real-time and allocated to real-time imbalances (*i.e.*, metered deviations from Hour-Ahead final schedules).[23]

The marginal cost of transmission among zones will be reflected in the differences between the corresponding zonal MCPs. Therefore, since forward market settlements are calculated for each Scheduling Coordinator on a zonal basis, the net charge or payment to each Scheduling Coordinator will include the cost of moving Energy across congested interfaces. The proposed settlement is in many respects no different from the existing forward market settlement for transmission, except that due to the relaxation of the Market Separation Rule and the possibility of unbalanced schedules, the present "Usage Charges" for congested transmission will now be implicit in the energy imbalance charges, *i.e.*, contained within the Day-Ahead and Hour-Ahead energy charges or payments at the appropriate zonal MCPs. The settlement process will still be able to extract the "Usage Charge" revenues from these forward energy payments and charges, however, and such revenues will continue to be paid to Transmission Owners and FTR Holders as is done today.

The Real Time Market will remain an incremental market for Imbalance Energy, *i.e.*, deviations from the final Hour-Ahead energy schedules. The residual quantity of

[23] Unmatched Demand for an individual Scheduling Coordinator is the total Demand minus the total generation in that Scheduling Coordinator's final schedule. Thus (total Unmatched Demand for the system) equals (CAISO Forecasted Load – total Scheduling Coordinator resource schedules) equals (the sum of individual Scheduling Coordinator Unmatched Demands plus Residual Load). As noted above, individual Scheduling Coordinator Unmatched Demands are settled according to the forward settlement, whereas Energy procured to meet the Residual Demand is settled with real-time deviations.

energy that the CAISO procures in the Day-Ahead and Hour-Ahead markets will be sold back to Scheduling Coordinator as deviations in the Real Time Market. In this way, the CAISO will be effectively buying Imbalance Energy for the Scheduling Coordinators, but in the forward markets. This process is similar to the current procurement of Replacement Reserves, but under the Market Stabilization Plan the associated capacity will actually be scheduled as energy resulting in feasible Hour-Ahead energy schedules. As a result, it will no longer be necessary for the CAISO to purchase Replacement Reserve capacity as it does today, and procurement of this ancillary service will be discontinued.

C. Market Power Mitigation

Since, under the CAISO's proposal, energy trades will be priced at the forward zonal MCP, there must be a market power mitigation plan in place to limit the ability of Market Participants to exercise market power (*i.e.*, to drive the zonal MCP beyond reasonable levels based on the costs to suppliers). In the proposed Plan, all Participating Generators (and other resources that agree to meet the proposed availability obligations) will be required to have standing bids for all of their available capacity[24] in the day-ahead and hour-ahead energy markets subject to resource-specific cost-based bid caps. In return, these "Participating Resources" will receive annual availability payments that are designed to permit full recovery of fixed costs. The availability payment will be paid in monthly installments, tied to availability and

[24] The actual quantity of available capacity in any given hour will take into account Reliability Must Run ("RMR") requirements and must-take generation, and will accommodate ancillary service self-provision and the capabilities of energy-limited resources. Regarding ancillary service self-provision, the ISO would limit the total amount to the actual ancillary service requirements for each hour to prevent over-provision.

performance standards, and will take into account expected earnings the resource will receive from zonal MCPs above their energy costs and any capacity payments they may already receive under RMR contracts.[25] The availability payment will be designed to permit each Participating Resource to recover at least 100 percent of its AFRR, less any adjustments for availability and performance. Efficient Participating Resources may recover more than 100 percent of AFRR to the extent they are able to earn market revenues in excess of their variable costs.

The CAISO believes that its proposal is similar to that employed in the Eastern independent system operators. The PJM Interconnection, the New York ISO and ISO New England each provide capacity payments to resources within their control areas and in return those resources are obligated to bid their capacity into the relevant entities day-ahead energy market to serve control area load. While in some instances these entities operate installed capability or "ICAP" markets to determine the level of capacity payments to the resources within their control area, the CAISO's proposal, which provides the opportunity for complete cost recovery, is nonetheless similar in structure.[26]

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[25] Under the Plan's proposed market structure, it is quite possible that there will be no need to continue the current form of RMR Contracts beyond the current term of such agreements, most of which would currently expire at the end of 2001.

[26] See *New York Independent System Operator, Inc.*, 90 FERC ¶ 61,319 (accepting the New York ISO's ICAP market design filing, which requires installed capacity suppliers to commit to either bid into the Day-Ahead market, or supply load within the New York Control Area through Day-Ahead bilateral transactions); *PJM Interconnection, LLC*, 84 FERC ¶ 61,224 (1998) (explaining that PJM's pool spot energy market has access to sufficient supply to satisfy unscheduled loads and to meet operating reserve requirements, regardless of the amount of capacity sellers have bid in the day-ahead market, because the public utility members of the pool are required to make the full capacity of their Capacity Resources available to the spot market to the extent not already committed to meet pool loads through self-schedules, and that while members may use Capacity Resources to engage in export transactions, any such sales are subject to PJM's right to recapture the output during contingencies to meet PJM loads); *NSTAR Services Company v. New England Power Pool*, 92 FERC ¶ 61,065 (2000) (noting that "all generators in New England are required to make their capacity available to the New England market,

The RCBCs that apply to Participating Resources will be defined by a piecewise step function (up to 10 horizontal linear segments) that approximates each resource's cost curve and includes fuel costs, emission costs, variable operating and maintenance costs ("O&M") and an adder. The fuel costs will be based on the resource's individual heat-rate curve and a fuel price that may vary daily and by region and will be indexed to forward and spot fuel market prices. Emission costs will be based on the resource's individual emissions curve and an emissions price that may vary daily and by region. The CAISO will determine both the gas price and the emissions price based on published price data. The adder will be a percentage multiplier on the order of 10 percent, and is intended to cover any revenue shortfalls due to modeling inaccuracy and to provide participation incentives. To allow implementation by this summer, the CAISO will need to avoid adding a complicated new validation step to its scheduling software, and therefore the CAISO will simply use the RCBCs as standing Energy bids for the available capacity of Participating Resources.

The CAISO fully recognizes the magnitude of its proposal with respect to the implementation of this feature. It is with great reluctance that the CAISO urges the adoption of standing cost-based bids for all Participating Resources. However, extraordinary circumstances call for extraordinary measures. Moreover, the CAISO believes that such measures are consistent with the authority the Commission has previously granted to the New York ISO. Faced with circumstances in the New York ISO's market that lead to clearly inefficient and uneconomic outcomes, the Commission

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either by bidding into the ISO's market or through bilateral arrangements" and affirming that the New England ISO has "the authority to recall energy exports from New England generators in emergencies if necessary to meet New England load").

granted the NY ISO's request to implement certain "temporary extraordinary procedures."[27] The authority granted to the NY ISO would permit it to re-determine the prices in its day-ahead energy market if, in the NY ISO's determination, the initial prices were not consistent with economic outcomes. It is worth noting that adoption of the CAISO's proposed RCBC mechanism will *not* require any ex post determination of prices. Faced with prices that are clearly not economic in almost all hours of the day, the CAISO believes that imposition of its proposed RCBCs is a necessary measure to ensure efficient market outcomes. While the CAISO favors market-based wholesale pricing where markets are competitive, that plainly is not the case in California. In these circumstances, constraining bids to costs is both necessary and appropriate. [28]

Finally, the CAISO will compensate Participating Resources that it commits in the forward markets for applicable start-up and no-load costs, based on appropriate resource-specific cost data.

In general, load may bid into the day-ahead and hour-ahead Energy markets as a price-taker, *i.e.*, without an energy bid. Only dispatchable loads with a Participating Load Agreement (PLA) will be allowed to submit Energy bids to curtail load. The CAISO recognizes the general concern that a cost-based energy market will not elicit sufficient demand responsiveness, and the CAISO agrees that demand responsiveness is an essential element for controlling energy costs and avoiding blackouts. The CAISO notes, however, that California is a net importer and under this Plan the CAISO will still

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[27] See *New York Independent System Operator, Inc.*, et al., 88 FERC ¶ 61,228 (1999) (initially approving the New York ISO's implementation of "temporary extraordinary procedures"); *New York Independent System Operator, Inc.*, et al., 90 FERC ¶ 61,320 (2000) (extending the New York ISO's authority to impose "temporary extraordinary procedures" until May 16, 2000); *New York Independent System Operator, Inc.*, et al., 92 FERC ¶ 62,051 (2000) (extending the New York ISO's authority to impose "temporary extraordinary procedures" until October 31, 2000).

be purchasing significant imports at unmitigated prices. The CAISO believes that the threat of rotating outages and the high costs associated with purchases of imported energy will provide strong incentives to participate in many of the demand programs being implemented this summer. As discussed in the CAISO's March 22 Comments in this proceeding, the CAISO and various state agencies have developed several demand responsiveness programs for this summer. The CAISO does not believe this Plan will detract from the success of these programs

Import suppliers that are willing to commit capacity to the CAISO's control for unit commitment and dispatch to serve control-area load will be treated as Participating Resources*, i.e*., they will be offered an availability payment equivalent to resources within the ISO Controlled Grid, and the capacity so contracted to the CAISO will be available in the CAISO forward markets at an agreed-upon standing bid price. Import suppliers that do not want to be Participating Resources may freely bid in the day-ahead and hour-ahead energy markets, but if they are selected and their bids exceed the highest available mitigated bid they will be paid as-bid and will not be able to set the zonal MCP.

The CAISO will satisfy Residual Load (*i.e.,* the shortfall between the CAISO's forecasted load and the total load scheduled by all Scheduling Coordinators, as described above, and excluding unscheduled interruptible load) by purchasing energy from Participating Resources until the Residual Load is satisfied or the CAISO has utilized the highest available incremental energy bid from Participating Resources based on the RCBC. This procedure will ensure that the CAISO gets as close as

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[28] *Farmers Union Cent. Exch., Inc. v. FERC,* 734 F.2d 1486, 1502 (D.C. Cir.), *cert. denied sub nom., Williams Pipe Line Co. v. Farmers Union Cent. Exch., Inc.,* 469 U.S. 1034 (1984).

possible to meeting the 90 percent and 95 percent of forecasted system load targets for the day-ahead and hour-ahead markets, respectively, at mitigated RCBC prices. Non-Participating import suppliers who bid into these markets at prices below the highest available mitigated price may be selected in this procurement, will receive the zonal MCP and may even set the zonal MCP if there are unselected higher mitigated bids available.

Exports may be freely bid by Scheduling Coordinators in the day-ahead and hour-ahead Energy markets. However, when the CAISO is faced with the alternative of failing to meet the forward-market energy procurement targets and thus having to curtail firm Residual Load in the CAISO's control area, versus reducing the volume of export schedules, the CAISO will curtail all export schedules not associated with ETCs or wheeling transactions.[29]

The CAISO will also use standing energy bids for Participating Resources in the ancillary service and real-time Imbalance Energy markets and as "Adjustment Bids" in the forward congestion management markets. Under the CAISO's proposal, the current distinction between Adjustment Bids for congestion and energy bids would no longer be meaningful.

D. Day-Ahead Energy Market

The CAISO proposes to change its day-ahead market so as to replace the current congestion management function, applied to a Scheduling Coordinator's

[29] The ISO believes that this measure is analogous to the authority granted by the Commission to other independent system operators. For example, under the PJM Interconnection's "Maximum Generation Emergency" procedure., if PJM determines that there is not sufficient generation bid into its day-ahead energy market to service control-area load, PJM can curtail exports from its control area. See PJM Interconnection, LLC, FERC Electric Tariff, Fourth Revised Volume No. 1, Attachment K, Appendix 1, § 1.11.3A (March 1, 2001).

balanced schedule under the Market Separation Rule with a Transmission Constrained Unit Commitment Economic Dispatch. The UCED software will minimize energy and ancillary service procurement costs over a rolling multi-day time horizon; however, only the results for the 24 hours of the next Trading Day will be used to produce final day-ahead schedules that will be communicated to the market. The purpose of having a multi-day time horizon in the UCED software is to ensure optimal use of available resources that may have performance constraints (start-up times, ramping constraints, no-load costs, etc.) or possible energy limitations (*e.g*., hydro availability and emissions limits) that would lead to more efficient results only if a resource is committed for more than a day. The remaining hourly schedules for subsequent days of the optimization horizon would not be published since they will be re-optimized in the following days.

No changes are proposed for the timeline of the day-ahead market other than elimination of the present congestion iteration. Scheduling Coordinators will submit preferred day-ahead schedules by 10:00 a.m. the day before the operating day and the CAISO will publish final schedules and prices at 1:00 p.m. The final schedules published will include the amount of exports curtailed, by inter-tie, if it is necessary to do so to avoid having to involuntarily curtail control-area load (*i.e.,* the Residual Load referred to above).

E. Transmission-Constrained Unit Commitment Economic Dispatch

The CAISO's UCED will use the energy bids to balance supply and demand, eliminate congestion, and minimize energy costs. For the time being, the UCED will use the existing lossless network model with the radial zonal configuration and will

produce optimal Energy schedules and zonal MCPs for each hour.[30] Only flexible resources (*i.e.,* resources that are on and not constrained due to ramping, or minimum up time constraints) may set the zonal MCP. Resources that can only operate at specific output levels with no adjustment range, *e.g.,* most combustion turbines, are by definition inflexible and thus may never set the zonal MCP. Therefore in any given time period, inflexible resources may be extra-marginal and incur a higher cost of operation than the zonal MCP for that period. The UCED will calculate the revenue shortfall for each such resource, and the CAISO will compensate the resources for this and applicable start-up and no-load costs through side payments recovered through an uplift charge payable by the demand served, as is typically done in UCED applications.

F. Hour-Ahead Energy Market

The hour-ahead energy market will be a market for schedule deviations from the final day-ahead energy schedules. However, since congestion costs will be implicit in the forward energy markets, final day-ahead schedules will not be frozen as they are today, but will be re-optimized as needed to satisfy both the energy and congestion needs of the hour-ahead market. To avoid excessive schedule volatility due to hour-ahead re-optimization, the day-ahead final schedules, which include RMR and FTR schedules, will be given higher scheduling priority than hour-ahead preferred schedules. As today, there will be no FTR scheduling priority for schedules in the hour-ahead market.

[30] The ISO hopes to move to a more refined network model with a looped configuration in the future, as time and resources permit.

G. Ancillary Services Markets

The CAISO proposes to procure ancillary service capacity optimally along with energy through the UCED program. The CAISO scheduling software will accept and validate ancillary service bids as it does today; but only for non-Participating Resources. The UCED will use a $0/MW bid for ancillary service capacity from Participating Resources, and will optimize the energy output and available ancillary service capacity of these resources based on their standing RCBC Energy bids. The UCED will implicitly price ancillary service capacity from these resources at the relevant opportunity cost of reserving capacity for ancillary services instead of scheduling that capacity as Energy, *i.e.*, the difference between the zonal MCP for energy and the individual resource's RCBC, thus capturing the foregone above-cost revenue for that ancillary service capacity. Non-Participating Resources (*e.g.,* import suppliers) may bid ancillary service capacity as they do today, and may be selected if their bids are below the imputed ancillary service capacity costs of some available Participating Resources.

The functionality of the CAISO's existing ancillary service procurement will be used to calculate ancillary service requirements, provide for ancillary service self-provision and ancillary service buybacks, and calculate the ancillary service demand for input to the UCED. The UCED will then include these demands as reserve constraints for Regulation, Spinning Reserve, and Non-Spinning Reserve. As noted above, the Replacement Reserve service will no longer be needed since the associated capacity will already be scheduled to provide Energy in the final hour-ahead Energy schedules. The UCED will take advantage of substitutability among ancillary service to reduce

overall cost along the lines of today's Rational Buyer (*e.g.*, Spinning Reserve bids may substitute for Non-Spinning Reserve).

Ancillary service suppliers will be paid the relevant ancillary service MCP. The total ancillary service procurement cost (from both day-ahead and hour-ahead markets) will be charged to the metered demand that is not covered by ancillary service self-provision, as is done today. The ancillary service MCPs will be mitigated by the demand side bid on the Residual Load as discussed above in connection with energy procurement, up to the point where all Residual Load is scheduled off. In other words, if available capacity from Participating Resources and from bids below the RCBC of the highest-cost Participating Resource are not adequate to meet both ancillary service requirements and Residual Load energy requirements, the CAISO will meet its ancillary service requirements first.

H. Real-Time Market

No changes are proposed for the Imbalance Energy market other than the use of standing cost-based energy bids (both incremental and decremental) for Participating Resources for all available capacity. These bids will be the same bids used for these resources in the day-ahead and hour-ahead markets. The same bids will also be used to dispatch energy from Operating Reserve capacity under emergency conditions. The energy bid for Operating Reserves will be the portion of the standing bid starting from the operating point specified in the final hour-ahead energy schedule. The remaining resources that can participate in the real-time market (*e.g.*, non-Participating import suppliers) may bid with no restriction other than any damage-control price cap the Commission may apply to the CAISO markets. However, resources selected at a price

higher than the highest mitigated bid will be paid as-bid; thus the ex post MCP will be mitigated. This approach is analogous to the current soft-cap mechanism, except for the fact that the applicable mitigated price will vary by hour depending on the highest mitigated bid available, thus approximating a competitive-market outcome.

V. OTHER MEASURES WHICH WILL BE NEEDED

Although the CAISO believes its Market Stabilization Plan addresses the primary problems facing the California wholesale markets in the short-term, it is important to recognize that action will also be needed on a number of related matters.

A. Outage Coordination

One element of the Staff Proposal that the CAISO supports and that is not explicitly a part of its Market Stabilization Plan concerns the need to coordinate outages of generators in California. The Commission Staff conclude that the CAISO currently lacks sufficient authority to approve planned outage schedules of Participating Generators and calls for strengthened CAISO authority with regard to planned outages, and close monitoring of unplanned outages by the CAISO. Proposal at 22. The Staff Proposal also envisions a regime whereby the CAISO would immediately report any questionable outages to the Commission.

The CAISO supports the conclusion that California generator outages should be more closely coordinated and that questionable outages be reported and investigated. As noted in the CAISO's March 22 Comments, the CAISO has been working with both State officials and stakeholders on this issue. In particular, the State is considering legislation that would implement the coordination of outages of all generating units in California, including those of non-FERC jurisdictional entities. Moreover, the State is

considering adoption of generating unit maintenance standards that would ensure that units are maintained in a manner that increases their availability. Such broader coordination and standards would enhance Staff's recommendation by ensuring that, to the extent feasible, planned outages of all generating resources in California are coordinated and units are maintained in a reliable manner. Consistent with both the Staff Proposal and the State's efforts, the CAISO anticipates submission of a Tariff filing in the near future to implement a broader coordination of generator planned outages in California.[31]

B. Congestion Management

As explained above, the CAISO's Market Stabilization Plan will include significant near-term modifications to the ISO's methodology for managing congestion. Under the Plan, the CAISO would utilize standing cost-based bids as well as submitted bids in the proposed forward markets to manage congestion in a manner consistent with the CAISO's current congestion management network model, including the three existing congestion management zones, as well as to procure energy and capacity to meet system imbalance requirements and to provide required reserves. The need to work within the CAISO's existing zonal structure at least in the near-term is due to software restrictions and implementation concerns. In order to operate the proposed forward energy markets and transmission-constrained unit commitment economic dispatch, the CAISO is having to adapt existing software developed for another transmission system.

[31] The ISO notes that the need for additional outage coordination relates only to long-term outage planning in the normal course of operations. The ISO already has the authority under its Tariff to direct postponement of scheduled outages when necessary to prevent threatened, imminent, and existing System Emergencies. The ISO intends to address this emergency authority in its forthcoming answer to a complaint filed in Docket No. EL01-57-000.

The CAISO would be unable to develop a different network model than its existing model (*i.e.*, one that incorporates additional congestion zones or a more granular approach to transmission pricing) *and* incorporate that model into the new software in time for implementation this summer.

The CAISO acknowledges the need to develop longer-term modifications to the CAISO's congestion management system pursuant to prior Commission orders. As stated in the CAISO's March 30, 2001 Status Report and Request for Additional Time to Submit Congestion Management Redesign Proposal, however, the longer-term congestion management redesign proposal must take into account the profound changes to the California wholesale electric markets since the end of 2000 as well as various efforts and initiatives being undertaken by the State to resolve the current crisis that confronts California and its electric consumers. The CAISO believes implementation of the Market Stabilization Plan and the related installation of optimization software will provide a solid basis for a longer-term congestion management redesign proposal. The CAISO also anticipates that such a proposal will still be able to take into account the significant work and stakeholder input that went into the CAISO's congestion management redesign efforts during the year 2000.

C. Examination of Natural Gas Prices

An underlying concern that pervades and underlies all of the issues at play in the California electricity market is the interplay and correlation between electricity prices and natural gas prices. Clearly, one of the factors exacerbating the high prices of electricity in California wholesale markets has been the increase in the price of natural gas, which is used as fuel by the majority of generating units in California. Indeed,

studies prepared by both the CAISO and the Commission have identified high gas prices as a major contributing factor to the recent California electricity price spikes.[32] Over the long-term, the CAISO recognizes that the State's heavy reliance on natural gas-fired generation must be reconsidered and reevaluated and a determination made as to whether, from a public policy perspective, the State may want to diversify its resource mix. In addition, the State may want to consider expanding gas pipeline and storage capabilities in the California. In the interim, however, the CAISO believes that the Commission must appropriately focus on activities related to and prices for natural gas transportation. The CAISO is encouraged by the Commission's actions to further examine allegations into the exercise of market power by certain gas transportation companies in the West. Therefore, when considering necessary reforms to the wholesale electric market in California and the West, the CAISO would urge that the Commission review its natural gas pricing policies, and take appropriate action in order to mitigate prices in those markets.

[32] See *Staff Report to the Federal Energy Regulatory Commission on Western Markets and the Causes of the Summer 2000 Price Abnormalities*, Docket Nos. ER00-95-000, et al. (Nov. 1, 2000) at 5-2, 5-3*; Report on California Energy market Issues and Performance: May-June, 2000*, filed in Docket Nos. ER00-95-000, et al. (August 10, 2000) at 1, 15-16.

VI. CONCLUSION

It is clear that the current electricity market in California is broken, producing unjust and unreasonable rates due to the rampant exercise of market power and the lack of truly competitive markets. Action must be taken swiftly to prevent severe problems before, during, and after the summer peak season. For these reasons, the CAISO believes that the Commission must adopt the measures proposed in the CAISO's Market Stabilization Plan as the appropriate market power mitigation plan for the period from May 2001 forward.

Respectfully submitted,

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Dated: April 6, 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, DC, this 6th day of April, 2001.

_____
Sean A. Atkins

April 6, 2001

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

Re: ***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*****,**
Docket No. EL00-95-012

Dear Secretary Boergers:

Enclosed please find an original and fourteen copies of the Proposed Market Stabilization Plan of the California Independent System Operator Corporation provided in response to the letter order issued by the Director, Office of Markets, Tariffs and Rates. Also enclosed are two extra copies of the filing to be time/date stamped and returned to us by the messenger. Thank you for your assistance.

Respectfully submitted,

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Counsel for the California
Independent System Operator Corporation

Enclosures

cc: Service List