

ENERGY DEREGULATION

The Benefits of Competition Were Undermined by Structural Flaws in the Market, Unsuccessful Oversight, and Uncontrollable Competitive Forces

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Independent System Operator's response as of May 2002

Audit Highlights . . .

Deregulation of California's electricity market has failed, not as the result of any single cause, but, rather of a complex combination of factors, including:

- Deficiencies in the rules governing the power markets that were created, such as the requirement that investor-owned utilities sell all of the power they generated themselves and purchase all of their electricity through sequential short-term markets.*
 - The existence of sequential short-term markets that have encouraged some market participants to engage in strategic bidding, which has contributed to higher wholesale prices.*
 - Misjudgments on the part of regulators as to the efficacy of their corrective actions, including decisions made by the Federal Energy Regulatory Commission and the California Public Utilities Commission.*
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At the request of the Joint Legislative Audit Committee, we assessed the Power Exchange's (PX) and the Independent System Operator's (ISO) structure, operations, and overall functionality and the extent to which the activities of the two contributed to the rising cost of wholesale electricity in California. Based on our review, we found the following:

Finding #1: The multiple sequential markets operated by the PX and ISO resulted in strategic bidding.

AB 1890, the legislation requiring the deregulation of California's electrical market, included provisions for creating two nonprofit institutions: the PX¹, intended to provide an open, competitive commodity market for buying and selling wholesale electricity; and the ISO, intended to centrally manage and control the State's transmission grid. However, the relationship between the PX and ISO was over-designed. Rather than creating one market or entity through which the purchasing and selling of wholesale electricity took place, the two organizations were structured to operate several markets in sequence.

Market participants soon recognized the potential for strategic bidding and adopted various tactics to manipulate wholesale electricity prices. Both buyers and sellers appear to have bid strategically. The market participants' strategic bidding had the result of driving energy sales and purchases out of the PX's primary market and into the ISO's secondary market, which was designed to accommodate only 3 percent to 5 percent of the State's electricity needs. The use of the ISO as a primary market is one factor that contributed significantly to high energy prices and crisis operations.

¹ On January 31, 2001, the PX suspended trading and filed for bankruptcy shortly thereafter.

To reduce market participants' opportunity for strategic bidding through underscheduling, we recommended that the ISO:

- Cease conducting real-time markets. To fulfill its real-time energy needs, the ISO should undertake to execute forward contracts with generators to provide imbalance energy and reserves for reliability services.
- Consider penalizing scheduling coordinators that submit schedules that do not reflect real-time demand and supply conditions. Penalties would be shared amongst buyers and sellers.

In addition, we recommended that the ISO cease purchasing ancillary services in the spot market and instead:

- Make purchases through secret bids for most of its forecasted ancillary services requirements and significantly reduce its use of spot markets to purchase energy.
- Purchase any short-term ancillary services requirements at individually determined prices, as opposed to paying one price for all such purchases at any point in time.
- Consider the option of contracting for generation capacity. If contracted supply exceeds demand the ISO should be allowed to sell unneeded capacity at cost plus an administrative fee to others through the PX or similar markets.

ISO Action: Partial corrective action taken.

The ISO noted that it believes that none of these options necessarily addresses the underlying source of the market's underscheduling and strategic bidding problems; however, underscheduling and strategic bidding have diminished due to a combination of different market conditions such as lower demand for electricity, the Department of Water Resources making significant forward power purchases, and the Federal Energy Regulatory Commission (FERC) establishing more effective market power mitigation measures.

The ISO also stated that the issue of whether it is an appropriate entity to be entering into long-term contracts is under question and is being addressed as a matter of state policy and as a part of a market redesign process currently underway. The ISO reported that the Department of Water Resources has entered into long-term contracts in a way that

is consistent with several of the recommendations we made including paying on an as-bid basis, maintaining a higher degree of confidentiality about purchase prices, and selling back unneeded energy. The ISO also noted that the new State Power Authority has broad powers that may include forward contracting for energy supplies.

Finally, the ISO stated that its current market redesign, scheduled for implementation on October 1, 2002, contains three key provisions addressing underscheduling and strategic bidding. For example, the ISO is proposing that in order to better plan their future needs, load serving entities bear the responsibility for procuring sufficient resources and reserves for the load they serve.

Finding #2: The imposition of price caps may have contributed to escalating prices.

Both the ISO and FERC have used price caps in an effort to control the prices paid in the California market, with mixed success. First, even when demand in the PX was low, the ISO price cap became the minimum bid in some peak demand hours. Additionally, in times of high demand, it is unclear whether any price cap is effective, simply because sellers can bid into the ISO's market through out-of-market transactions, which are not subject to the price cap. The result is higher energy prices, despite the effort to control them.

We recommended that if the ISO is unsuccessful in limiting spot market purchases to very small amounts, it should use price caps only if markets are found to be noncompetitive and supply is being withheld to force prices higher.

ISO Action: Corrective action taken.

The ISO reported that the FERC approved its Market Stabilization Plan, which includes new forward energy markets and resource-based bid caps tied to the cost of specific generation resources. However, in the event the mitigation measures FERC approved expire on September 30, 2002, as stated in FERC's June 16, 2001 order, the ISO noted that its market redesign proposal includes two key market power mitigation measures. Specifically, the ISO's proposal calls for mitigating bids that exceed an explicit threshold and/or have a significant impact on projected market clearing prices. In addition, the proposal calls for enhanced mitigation if prices exceed a cumulative 12-month Market Competitiveness Index.

Finding #3: The ISO lacks authority to effectively schedule power plant outages.

Another weakness in the structure of the State's power market involves the ISO's lack of authority over generator behavior with respect to scheduled plant outages for maintenance. In light of the evidence that the market is not yet workably competitive, it is unreasonable to grant generators full autonomy concerning the scheduling of plant outages. In fact, despite the ISO arguing that it needed to control scheduled plant maintenance outages in order to be able to effectively balance the system's reliability; the plant owners were allowed to maintain control over such outages. The ISO's lack of authority in this area contributed to the problems in the winter of 2000, as scheduled plant outages coincided with high demand, decreasing supplies, and unscheduled outages due to problems with equipment. If the ISO had some control over the scheduled outages, as do the independent system operators for PJM, New York, and New England, it could have coordinated the scheduled outages more effectively to help alleviate problems with shortages in supply.

We recommended that the ISO coordinate with power generators in scheduling outages for plant maintenance over the next two to three years, or until a competitive market is established. This may not necessarily require that the ISO determine outage schedules, but it will at a minimum require generator participation in scheduling known outages well in advance and in keeping to the schedule established.

ISO Action: Corrective action taken.

The ISO reported that it filed a Tariff amendment with the FERC requesting authority to manage power plant maintenance and outages; on October 23, 2001, the FERC approved the ISO's Tariff amendment. In addition, on April 25, 2002, the governor signed Senate Bill 39, Second Extraordinary Session (Chapter 19, Statutes of 2002). This bill, among other things, gave the California Public Utilities Commission authority to examine certain generating plants to ensure that the operators comply with maintenance and operating standards.

Finding #4: Data published on the PX and ISO Web sites may adversely affect competitive markets.

Within the California market, specific bidding data are confidential; nevertheless, the ISO and, when it was operating, the PX, periodically published market-clearing price and quantity data on their respective Web sites. The PX also published its market models and gave market participants access to data that would enable them to formulate their own econometric models, such as data on market prices and volume.

Some argue that it was necessary for the ISO and the PX to publish as much data on price and volumes as possible so as to encourage new entry into the market. Although the data have been published only after the fact, when coupled with the published PX pricing model, this meant that predicting market-clearing prices became increasingly easy. Even using stale data, market participants could begin to develop their own models and bidding strategies, and to check their bidding strategy assumptions and adjust them where necessary. With respect to the PX, this point is moot, because the PX has ceased trading in its markets; the ISO, however, is still operating.

We recommended that the ISO:

- Avoid making available to the public any new oversight and market-monitoring models developed.
- Delay making public for at least one year, data for bidding and winning bids. This is especially critical for information concerning long-term contracts the ISO might enter into to meet its ancillary services needs.

ISO Action: Corrective action taken.

The ISO stated that pursuant to the FERC's April 26, 2001, Order, it has submitted to the FERC confidential reports examining potential anti-competitive bidding practices. In addition, although we recommended a one-year delay before publishing bidding data, the ISO reports that the FERC has established as appropriate a six-month delay. The ISO also noted that as of May 2001 it ceased making certain real-time market information available on its Web site.

