

2002 Performance Review of Electric Power Markets

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EXECUTIVE SUMMARY

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EXECUTIVE SUMMARY

News of Enron's accounting improprieties and subsequent collapse have been part of the continued eventful last two years for the electric supply industry. Shortly after the skyrocketing prices in California and the West of 2000 and 2001 had subsided, the Enron developments began to come to light in late 2001. This has led to investigations by several federal agencies and revelations of improper trading and reporting practices of other energy companies. As a result of this and reduced demand for electricity, the industry has been hit by a "credit crunch" as investors have become more wary and has forced many energy companies to cut back on trading activities, sell assets, and reduce future investments in order to improve their balance sheets. In the face of all the industry turmoil, while many retail markets remain relatively inactive, particularly for smaller residential customers, overall market activity has increased from last year. Wholesale markets since California settled down, continue in general to function well from an operational standpoint, however, there continues to be strong evidence that significant market power is being exercised in all markets that have been examined.

Currently, 17 states and the District of Columbia allow retail access. Four states that passed an electric restructuring law, however, have opted to delay restructuring. Arkansas, New Mexico, Oklahoma, and West Virginia have decided to delay or postpone retail access at this time, either pending further investigation or other action. West Virginia had planned a long transition period to full retail access, but has not proceeded to implement its restructuring law and is not expected to soon. Nevada and Oregon allow retail access for large customers only and California, which of course allowed retail access at one time, suspended its program in September of 2001. Of the remaining states, eight states continue to study retail restructuring and 18 states have dropped consideration of restructuring at this time. None of these states appears to be near or working toward passage of restructuring legislation at this time. No state has passed restructuring legislation since the California meltdown began during the summer of 2000. However, several states that passed legislation prior to the California crisis did proceed with implementation. This included Arizona and Ohio in January 2001 and, along with Virginia, Michigan and Texas in January of this year.

The performance of retail markets is considered in terms of what can be observed, that is, offers being made to residential customers, the potential savings opportunities these offers present, the number of suppliers in the area, the type of offers being made, and the percent of customers that have selected an alternative supplier, among other factors. As Figure ES1 shows, there has been a considerable increase in residential offers since last year. Most of this increase is due to Texas beginning its full retail program. However, while the total number of residential offers below the price to compare increased from nine in July of 2001 to 44 in May of 2002, 29 of those offers were in Texas alone. Excluding Texas, the number of offers increased from nine in July of 2001 to 15 in

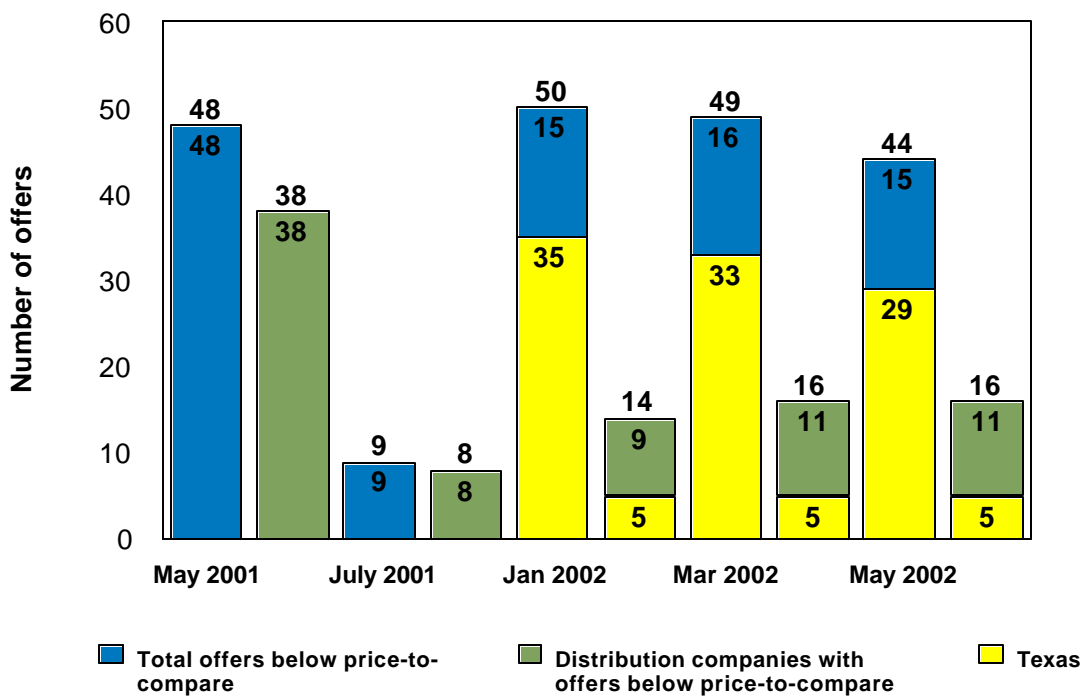


Figure ES1. Summary of residential offers nationwide

Source: www.wattagemonitor.com

May of 2002 and the number of distribution company service territories with offers below the price to compare increased from eight to 11 during the same period.

Table ES1 breaks the May of 2002 residential offers down for the seven states and the District of Columbia that have offers below the price-to-compare. Again most of the activity is in Texas where five of the six distribution companies have offers in their service territories that were below the price-to-compare and, for the state as a whole, 29 of the state’s 45 offers are below the price-to-compare. It should be noted, however, that 20 of those 29 offers below the price-to-compare in Texas were from affiliates of other utilities in the state. Pennsylvania has the next highest number of total offers at 33, but only three are below the price-to-compare and all are in one distribution company (PECO Energy’s service territory). New York and Ohio each have three distribution companies with offers below the price-to-compare. The remaining three states and the District of Columbia all have one distribution company with at least one offer below the price-to-compare (D.C., of course, only has one distribution company).

Table ES1. Summary of residential offers for states with offers below the price-to-compare.

State	Total Number of Distribution Companies in the State	Number of Distribution Companies with offers below price to compare	Total Number of Offers in the State	Total Number of Offers below the price to compare in the State
Connecticut	2	1	8	1
District of Columbia	1	1	1	1
Maine	3	1	1	1
Maryland	4	1	4	2
New York	6	3	7	4
Ohio	8	3	3	3
Pennsylvania	8	1	33	3
Texas	6	5	45	29

Source: Compiled from data from www.wattagemonitor.com.

Table ES2 summarizes the statewide percentages of customers and loads that have switched to an alternative supplier. These are states that report statewide percentages or provide sufficient information to calculate them on a statewide basis. Of these ten states, Ohio has the highest percentage of customers that have switched statewide. This is likely due to the high participation rate among residential customers in the state's aggregation program, where about 80 percent of the residential customer switching was from aggregation participation. The three highest percentage of load switching is in the District of Columbia (48.6 percent), Maine (37 percent), and Massachusetts (31.3 percent); this was primarily due to commercial and industrial customer switching to alternative suppliers. The apparent early success in Texas, which began only last January, was likely assisted by the required sale of fifteen percent of the utilities' generation capacity.

Table ES2. Summary of statewide customer and load switching.

State	Percentage Customers Switched	Percentage Load/ Usage/ Peak load Switched	Date of information
District of Columbia	7.4%	48.6%	Jun-02
Maine	1.3%	37.0%	Jul 1, 2002
Maryland	3.4%	16.6%	Jun 28, 2002
Massachusetts	3.2%	31.3%	Jun-02
New Jersey	0.2%	1.6%	Jun 26, 2002
New York	5.2%	18.9%	May 31, 2002
Ohio	13.8%	11.8%	Mar 31, 2002
Pennsylvania	5.5%	7.9%	Jul 1, 2002
Rhode Island	0.58%	12.9%	Jun-02
Texas	7.3%	19.2%	May-2002 for load and July-2002 for customers

Source: From various state sources cited in text.

Retail market performance is highly dependant on prices in the wholesale market. Most retail markets have overall price constraints and thus, seldom fluctuate along with changing conditions in the wholesale market or only do so after a considerable adjustment period. The retail standard offer, or the “price to compare,” is the price for generation service paid by a retail customer who does not select a competitive supplier. These customers continue to receive power supplied by the distribution company that still owns generation, an affiliated generation owner, an unaffiliated supplier or suppliers, or some combination of all of these generation sources.

The standard offer or price to compare is the benchmark or “price to beat” not only to inform customers to allow them to make a choice, but is also an indicator for use by competitive suppliers considering entry into a retail market. The effect of the retail price constraints depends on the amount of the available “headroom,” which is the difference

between the generation “price to compare” and the cost to procure power to serve retail customers.

If there is sufficient headroom, suppliers are able to offer customers an opportunity to save and can entice customers away from the price to compare. However, the headroom may be too small to cover all the costs of supplying the retail customers, may be nonexistent, or even negative—that is, where the cost of securing and delivering power to the retail customer exceeds the retail price charged by the distribution company. Assuming alternative suppliers do not want to operate at a loss for too long, they will not enter or will leave a market under these conditions. In general, of the relative factors of retail price for generation and the wholesale cost of power, the wholesale cost is more volatile. Price fluctuations and volatility, or the future threat of it, can increase the cost to alternative suppliers and be a determining factor in a decision to participate or continue to participate in a market.

Obviously, if the beginning-regulated rate is lower to start with, the amount of available overall headroom (that is, what is available for all the price components of generation, transmission, distribution, and other customer charges) will be relatively low when compared with a higher-rate distribution company. Also, if wholesale prices are relatively high compared to what customers are paying for the price-to-compare, then fewer suppliers will enter the market. A lack of headroom is the primary reason that many retail markets currently have very little activity. Where there is market activity, as seen in Table ES2 above, it is primarily in states or distribution companies that were relatively higher cost before restructuring began.

On the wholesale side, in the past year the electric supply industry has been beset by a series of disturbing revelations and scandals that began with Enron Corporation’s collapse in late 2001. The effect of Enron’s collapse on the electric supply industry was twofold. First, Enron claimed to be the largest energy trader in the country, so its disappearance should have had an immediate effect on power markets. It appears, however, that other energy market participants were able to quickly absorb the loss of Enron’s presence and markets showed no immediate impacts. A reason for this may be due to Enron’s own exaggeration of its trading volume and activity in wholesale power markets and the type of trades Enron was involved in.

Questions began to be raised about the trading practices of other power traders and marketers as well and in May of 2002, the Federal Energy Regulatory Commission (FERC) ordered 150 power traders to disclose details of any “round trip,” “wash,” or “sell/buyback” trades these companies may have engaged in the western markets during 2000 and 2001. In these types of trades, a company sells power to another company or to its subsidiary with a simultaneous purchase of the same product at the same price to artificially inflate revenue and trading volume. The FERC investigation revealed that a number of other companies were engaging in these transactions as well. The Securities

and Exchange Commission and the Commodity Futures Trading Commission have been investigating this issue along with FERC.

A second major impact from the Enron collapse stems from the revelation of manipulation of trading rules in California during the crisis of 2000 and 2001. Details of how Enron was able to do this was revealed in three memos (these are the memos that outlined Enron's strategies with colorful names such as "Death Star," "Get Shorty," "Ricochet," and "Fat Boy") released in May of 2002 by FERC as part of its investigation of the western market power crisis. While there is evidence that these transactions were only a small portion of the overall price runup in California and the West, they have garnered a large share of the media attention and have raised questions about the efficacy of restructured markets. A FERC staff investigation report notes that "[w]hile the exact economic impact of the Enron trading strategies is difficult to determine precisely, Staff concludes that these now infamous trading strategies have adversely affected the confidence of markets far beyond their dollar impact on spot prices."

The recent disclosures of wholesale market improprieties and a moderating of wholesale prices (largely from softer demand due to a slower economy) have resulted in declining credit ratings and falling share prices for many energy companies. This "credit crunch" has impacted the ability of suppliers to raise capital and forced companies to cut back on their energy trading operations and plant investments. By one estimate merchant energy companies have lost over two-thirds of their equity value over a 18-month period. Some energy companies have had their corporate ratings reduced below an investment grade (that is, to "junk" status).

An important possible future impact for consumers is that this has also led to a cut back in investment in future generating capacity. By one estimate, since the beginning of 2002, about one-third of the proposed new capacity in the country has been shelved or postponed, nearly 92,000 megawatts. This means less future supply overall and fewer new suppliers to compete with the existing suppliers. This will either preserve the existing market power of current suppliers or increase the potential for the exercise of market power by existing suppliers in the future. Given the long lead-time to permit, site, and build new power plants, this could also mean that power markets could be slow to react to another California-style price runup.

The performance of wholesale markets is based on the ability of a supplier or group of suppliers to raise and maintain the price above what would occur in a competitive market, that is, their market power. Market power is the degree of price leveraging ability a supplier or group of suppliers has for "price making" ability, rather than being the price takers of the perfectly competitive market. The more a firm can charge a price that exceeds the marginal cost and exert its influence upon the price, the greater the firm's degree of market power.

A recent analysis of the California market by Borenstein, Bushnell, and Wolak estimated supplier economic rents (what was paid to producers beyond what would have been the minimum amount required to have them continue to generate electricity) due to the exercise of market power in California. They estimate that between the summers of 1998 and 2000, “oligopoly rents,” increased more than ten fold, from \$425 million in 1998 to \$4.45 *billion* in 2000 (the 1999 estimate was \$382 million). They note that while a substantial portion of the rise in the wholesale cost of power, from \$1.67 billion to \$8.98 billion, was due to rising input costs and reduced imports, this also increased the amount of the market power exercised by suppliers as well.

In PJM, the Market Monitoring Unit concluded that there was an exercise of market power in PJM’s capacity credit markets (the “ICAP” market) during the first quarter of 2001. All Load Serving Entities in PJM must have either their own capacity or purchase capacity credits from a supplier that does own capacity. If a Load Serving Entity does not have their own capacity or the capacity credits, then they must pay a Capacity Deficiency Rate of \$177.30 per MW-day. During the summer of 2000 and early in 2001, prices in the daily capacity credit market jumped from zero or near zero to about \$177, the Capacity Deficiency Rate, as shown in Figure 10. During this time, there were also price spikes to \$354 per MW-day—since market rules require the capacity deficient party to pay twice the Capacity Deficiency Rate on a day when the overall market is deficient. The MMU concluded that one supplier (“Entity 1”) was unilaterally able to exercise undue market power during the first quarter of 2001 through the use of economic withholding, that is, withholding capacity by offering the capacity at prices greater than the Capacity Deficiency Rate. The MMU points out that this company held more net capacity than the total excess capacity in the market. The MMU stated that it believed because of changes in the underlying market conditions, actions by market participants, and rule changes proposed by PJM and approved by FERC, prices in the daily, monthly, and multi-monthly markets have declined.

In an “Investigation Report,” the Pennsylvania Public Utility Commission concluded “that there is reason to believe that anticompetitive or discriminatory conduct including the unlawful exercise of market power and the threat of future recurrences of similar conduct is preventing the retail customers in this Commonwealth from obtaining the benefits of a properly functioning and workable competitive retail electricity market.” The Commission noted that 36 licensed electric suppliers have exited the Pennsylvania market by surrendering their licenses and only seven have entered.

The capacity credit market’s problems combined with the energy market prices in early 2001 clearly caused the drop off in retail market activity in Pennsylvania and other PJM states. The highest “shopping credit” or price to compare for generation service in Pennsylvania at that time was in PECO Energy’s territory, at 5.67 cents/kWh. When energy prices are more than \$50/MWh, as it averaged during December of 2000 and

again in August of 2001, adding \$10/MWh for capacity¹ would place the total cost more than \$60/MWh or six cents/kWh, well above the fixed PECO Energy price to compare. Alternative suppliers that need to secure capacity to serve a retail load in PJM would face a loss of at least 0.33 cents/kWh for each kilowatt-hour sold. Even when energy prices are in the \$30 to \$40/MWh range as they averaged from January through May of 2001, the margin for a gain would be very thin and risky given the price volatility in both the energy and capacity markets. This also leaves very little room for marketing costs, administrative costs, cost of risk management, or an adequate profit.

¹The PJM Market Monitoring Unit in its 2000 market report (issued in 2001), states that “[a] maximum capacity market price of \$160/MW-day is equivalent to a net energy price differential of \$10/MWh for a 16-hour forward market standard energy contract.”