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# ENERGY MARKETS

# Results of FERC Outage Study and Other Market Power Studies

Statement of Jim Wells, Director
Natural Resources and Environment







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Mr. Chairman and Members of the Subcommittee:

We are pleased to be here today to discuss the role of the Federal Energy Regulatory Commission (FERC) in monitoring electricity and other markets. As you know, the electricity industry is in transition, from cost-of-service regulation to a less regulated market in which competition plays a greater role in determining the price of electricity. In FERC's March 2000 report entitled "State of the Markets 2000," FERC acknowledged that the rapid change in energy markets has caused the commission to fundamentally alter its activities. Among its evolving duties, FERC seeks to protect consumers from the exercise of market power by individual energy suppliers seeking to affect the price of electricity or natural gas. To protect consumers from the effects of market power, FERC recognizes that it must continue to develop better tools and procedures to understand markets and identify and address market power issues.

The importance of FERC's monitoring role is illustrated by the situation in California. Wholesale electricity prices in California rose sharply in May 2000 and have remained high. In addition, there were disruptions in service—blackouts—this winter and spring. A number of factors have likely contributed to these high prices and service disruptions, including rapid demand growth since 1995 accompanied by slow growth in supply, higher-than-normal natural gas prices, and flaws in the design and structure of California's electricity market. In addition to these factors, state officials and others have attributed the problems, at least in part, to market power exercised by individual electricity-generating companies. In response to concerns about high prices and short supplies of electricity in California, FERC undertook a study, released in February 2001, to determine whether generators were using plant outages to physically withhold power and drive up prices of electricity in California. FERC's overall conclusion to this study was that the generators it audited had not physically withheld electricity supplies to influence prices. One generating company concluded that FERC's study affirmed the company's operating procedures in the face of "incorrect and inflammatory allegations that we have somehow been withholding power from our four plants in California." Notwithstanding this interpretation, officials of the state of California and other parties insist that market power has indeed been used to drive up electricity prices and have demanded that FERC require generators to pay refunds to the state.

In the context of these high electricity prices and the surrounding controversy, Congressmen Jay Inslee and Peter DeFazio asked us to review FERC's outage study and two other studies that examined possible

exercise of market power in California's electricity industry.[1] Our testimony is based largely on the results of our review of these studies.[2]

In summary, we found the following:

- FERC's study was not thorough enough to support its overall conclusion that audited generators were not physically withholding electricity supply to influence prices. FERC's study was largely focussed on determining whether or not the outages that occurred were caused by actual physical problems—such as leaks in cooling tubes—requiring maintenance or repairs. However, it is practically impossible to accurately determine whether such outages are orchestrated or not because plants frequently run with physical problems and the timing of repairs and maintenance is often a judgment call on the part of plant owners or operators.

- FERC's overall conclusion differs from that of the other two studies we examined, which found evidence that electricity generators exercised market power to increase electricity prices in California. These studies looked for broader evidence of the exercise of market power in the entire market by comparing wholesale electricity prices to the estimated costs of producing electricity. In doing so, they found that prices were higher than would be expected if the generators were acting competitively.

- None of the studies was thorough enough to determine the precise extent to which market power versus other factors caused the high electricity prices in California since May 2000. A thorough study of market power would combine the market-wide approach of the other two studies with a quantification of the extent to which outages, or other supply disruptions, were caused by factors other than generators' attempts to drive up prices. Such factors may include the operating and

[1] *Report on Plant Outages in the State of California*, prepared by the Office of the General Counsel, Market Oversight & Enforcement and the Office of Markets, Tariffs and Rates, Division of Energy Markets, Federal Energy Regulatory Commission, February 1, 2001; *Diagnosing Market Power in California's Restructured Wholesale Electricity Market*, Severin Borenstein, James Bushnell, and Frank Wolak, August 2000 [unpublished]; and *A Quantitative Analysis of Pricing Behavior in California's Wholesale Electricity Market During Summer 2000*, Paul Joskow and Edward Kahn, January 2001 [unpublished].

[2] See *Energy Markets: Results of Studies Assessing High Electricity Prices in California*, (GAO-01-857, June 29, 2001).

maintenance history of existing power plants; constraints on the number of hours certain plants can be run; and financial problems of utilities, which led to suspension of payments to some generators.

## FERC's Study Not Thorough Enough to Support Its Conclusion

While FERC's study was an initial step to more closely monitor generators' activities, it was not thorough enough to support its overall conclusion that the audited companies did not physically withhold electricity supplies to influence prices. This study largely focused on determining whether or not there were actual physical problems—such as leaks in cooling tubes—in generating units experiencing outages. Under this approach, if FERC found that there were physical problems with downed generating plants and that repairs or maintenance was performed, it concluded that the outages were legitimate and not orchestrated to reduce supply and push up prices. In this context, FERC determined that most of one company's generating plants were old and suffered from mechanical problems. In addition, FERC found that many of these plants had run at higher-than-usual rates in the summer and fall of 2000, prior to their shutting down for repairs or maintenance.

These facts could certainly offer a rationale for higher-than-normal levels of outages later in the year. However, the industry experts we spoke with generally agreed that it is practically impossible to accurately determine whether outages are legitimate or not, because plants frequently run with physical problems, and the timing of maintenance or repairs is often a judgment call on the part of plant owners or operators. Another weakness in the FERC study—or any study that seeks to determine whether specific outages are legitimate—is the lack of data for past outages to use as a benchmark with which to compare the number, type, and duration of outages during the study period. In discussions with FERC, officials told us that accurate outage data do not exist for the years prior to their study. Without a baseline comparison, it is not possible to conclude that observed outages are above normal in number, type, and duration. Finally, strategic use of plant outages is not the only way that a generating company could exercise market power, and FERC's methodology did not look at other ways. As FERC acknowledged in its report, the agency did not analyze whether companies were using other techniques to influence prices, such as not offering bids to sell some capacity, or bidding at prices high enough to practically ensure exclusion from the market.

FERC officials acknowledge that simply looking at outages and maintenance records of generators is not sufficient to determine whether generating companies are exercising market power. Accordingly, they told us that FERC has recently implemented a more comprehensive plan for

monitoring the exercise of market power. Under this plan, FERC will continue to look at outages to determine if the number, type, and duration are warranted. In addition, FERC will monitor generators' bids and try to detect bidding behavior that is designed to exclude generating capacity from the market. FERC officials also said they have notified electricity generators that their ability to earn unregulated market prices for electricity will be in jeopardy if they are found to be withholding power in order to drive up prices.

## Two Other Studies Reached Different Conclusions From FERC's

In contrast to FERC's study, the other two studies found evidence that market power had been used to raise prices. The authors reached this conclusion after looking for evidence of the existence and exercise of market power in the entire market, rather than focusing on particular instances of generator outages. The first of these two studies, dated August 2000, concluded that from June 1998 to September 1999, prices were 16 percent higher than they would have been had generators behaved competitively. One of the study's authors told us that while their study provides strong evidence of market power, it does not necessarily suggest any illegal activity on the part of electricity-generating companies. He believes that individual companies are sometimes able to exercise unilateral market power to raise prices without violating antitrust laws.

The second study, dated January 2001, also concluded that there was strong evidence that market power was exercised to raise prices in summer 2000. While the authors found that higher electricity prices were caused in part by higher natural gas prices and other factors, they also found that prices in summer 2000 were greater than they would have been had the market behaved competitively. In addition, they concluded that the level of outages experienced during June 2000 cannot be explained by reasonable expectations about repairs or maintenance requirements, or by the need to hold power in reserve to ensure the reliability of the power system.

## A More Thorough Study Still Needed

Niether FERC's study nor the other two studies covered the entire period of high prices, nor did they evaluate all the factors that could have led to greater-than-normal levels of generator outages. Therefore, their results are inconclusive about the precise extent to which market power versus these other factors explains high electricity prices in California since May 2000. We believe that a thorough and conclusive study of market power in California since May 2000 must combine the market-wide approach of the two market-power studies, with a quantification of the extent to which

outages or other supply disruptions were caused by factors other than companies' attempts to drive up prices. In its study, FERC pointed out two such factors that could lead to higher-than-normal levels of outages: (1) some plants had been run at above-normal rates prior to being shut down for repairs or maintenance, and (2) many plants that were shut down were older. A third factor, suggested by other industry sources, is that a number of companies were simply refusing to operate their generators at various times during 2000 because they had not been paid for electricity they had previously sold to California's utilities. While the precise extent to which high prices were the result of market power has not been conclusively determined, the authors of the August 2000 and January 2001 studies believe that there is enough evidence that market power exists to warrant a policy response from FERC and the state of California.

In conclusion, we believe that, as the federal government's market-monitoring entity, FERC has an important responsibility to fully investigate the potential exercise of market power and clearly report the results of its investigations. In light of changes in the electricity industry, we recognize that FERC's role in overseeing this industry is evolving and that FERC's outage report was simply one part of its ongoing effort. We encourage FERC to continue to improve its market-monitoring capabilities. In this regard, we are currently conducting an analysis of the electricity market in California to determine whether the design of the market has facilitated the exercise of market power. In addition, we have begun work on a review of FERC's monitoring and oversight roles and responsibilities with respect to energy markets. This work will include a broad-based review of FERC's management practices and internal organization. We will report to Congress with the results of these studies in early 2002.

I would be happy to respond to any questions that you or other Members of the Subcommittee may have at this time.

**Contact and Acknowledgements**

For further information, please contact Jim Wells on (202) 512-3841. Individuals making key contributions to this testimony were Dan Haas and Frank Rusco.

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