Rebecca Klein
Chairman

Brett A. Perlman
Commissioner

Julie Parsley
Commissioner

W. Lane Lanford
Executive Director

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Public Utility Commission of Texas

TO: All Parties of Record

FROM: Policy Development Division

RE: Docket No. 24770 – Letter from Alcon Labs

DATE: May 1, 2003

The attached letter was received by Commissioner Parsley's office. Also, attached is the response provided by her office.

Q:opd\Share\Docket\Letters\24770 memo.doc

To: Commissioner Julie Parsley
Public Utility Commission of Texas
1701 N. Congress Avenue
PO Box 13326
Austin, TX 78711-3326

Alcon
LABORATORIES

ALCON LABORATORIES, INC.
6201 SOUTH FREEWAY
FORT WORTH, TEXAS 76134-2099
(817) 293-0450

We are a pharmaceutical company with plants in Fort Worth and Houston, with over 3,000 Texas employees. We are a large user of electricity, with a total annual consumption of about 160,000 mwh. We were a customer of Texas Commercial Energy prior to their recent bankruptcy filing. Soon after the filing our contract was rejected by the bankruptcy court and we have been forced to seek another supplier. The extra cost to our business will be over $1,500,000 this year.

We are very concerned about the events in the deregulated Texas electricity market, which precipitated Texas Commercial Energy's bankruptcy filing. It is clear that the company had adopted a risky strategy of supplying long term contracts with spot purchases. It is, however, equally clear that pricing in the spot market (specifically the Up Balancing Energy Service (UBES) market) drove Texas Commercial Energy to bankruptcy. Specifically "hockey stick pricing" that occurred in the UBES market caused artificially high prices from February 24 – 27, 2003.

It is clear that during the subject week, weather was severe. However, ERCOT has a duty to oversee the needs of the market. It is unclear how the ERCOT system operator could have missed the load forecast by 10% of the entire market such that needed units were not notified to be available, creating an artificial shortage. Similarly, after having missed the forecast by 10%, ERCOT compounded the error by missing the forecast by 11% the following day, causing additional market disruptions. ERCOT should be required to act reasonably and responsibly. The cold weather, though anomalous, was predicted well in advance of it reaching the ERCOT market.

The cost of energy to retailers who participated in that market rose in some time periods to $990 per megawatt hour and was accepted because ERCOT determined that the last MW of power, at a total cost to the market of over $17 million, was needed when ERCOT missed the load forecast by more than the size of the City of Dallas' load. This price was not related to the cost of producing the energy; in fact only a single megawatt was bid at this price. Other energy that was offered by the same supplier was priced much lower. When the $990 bid was accepted by ERCOT, however, it set the market price for all energy purchased in the UBES market during that time period.

The artificially high cost of energy raised the corresponding credit required by the ERCOT Protocols of the load serving entities. Our retail electric provider was unable to meet that requirement and was forced into bankruptcy in an attempt to keep their contracts. As stated above, the effort was not successful.

We have been significantly harmed by the events described above. We are vitally interested in assuring that similar events do not occur in the future. Toward that end, we make the following requests:

1. That ERCOT publicly account for the operations of the UBES market from February 24-27, 2003 specifically explaining the actions of bidders in this market.

2. That the PUC investigate alternatives available to compensate users such as ourselves who have suffered significant loss as a result of opportunistic bidding in the market on the days in question.

3. That ERCOT evaluate alternatives to acceptance of all bids, up to expected load, regardless of price and whether the grid truly needs the amount of power to function reliably, as the price for the margin of error is quite high. We do not believe that purchase of the last megawatt was required to maintain system integrity. Had this bid not been accepted, according to data published by ERCOT, at least $17 million would have been saved in the market. In our view, ERCOT must not only be cognizant of electrical system reliability, but also market economics. To do less is harmful to consumers statewide.

4. That you provide us with information on PUC Docket 24770, which apparently is ERCOT's proposal to eliminate "hockey stick" pricing.

5. Finally, that you, as the body with oversight of ERCOT, determine how ERCOT could have missed the load forecast by roughly 10% of the market's consumption on the first day of the ice storm and then again by an even greater margin, 11%, on the following day.

In conclusion, we believe we have been harmed by opportunistic "gaming" in the energy market, maintained and monitored by ERCOT, and by ERCOT's inability to act responsibly in estimating the usage during a predicted severe weather event. We believe this situation is a severe blemish on the face of deregulation in Texas and would ask that you take immediate strong action to prevent recurrences.

Very truly yours,

Donald L. Sparks

Donald L. Sparks
Director, Plant Engineering, Maintenance Operations
Alcon Laboratories

Rebecca Klein
Chairman
Brett A. Perlman
Commissioner
Julie Parsley
Commissioner
W. Lane Lanford
Executive Director

THE STATE OF TEXAS

Public Utility Commission of Texas

April 30, 2003

Mr. Donald L. Sparks
Director, Plant Engineering, Maintenance Operations
Alcon Laboratories
6201 South Freeway
Fort Worth, Texas 76134-2099

Dear Mr. Sparks:

Thank you for your correspondence to Commissioner Parsley concerning the price spikes that occurred in the ERCOT energy market during the extreme weather event of February 24-27. The Commission is likewise very concerned over the events surrounding those days. For your review and information, I am enclosing a preliminary report prepared by our Market Oversight Division (MOD) concerning their analysis of the balancing energy prices during that time. I anticipate that the final report on MOD's investigation will be filed by mid May for discussion and possible action at the Commission's May 22, 2003 open meeting. I will forward you a copy of that report when it is finalized.

You are correct to mention the load forecast errors that took place during late February, however, no forecast is perfect regardless of sincere efforts by forcasters. MOD's investigation shows that ERCOT reflected the abnormal weather condition in its load forecast. While the normal load for this time of the year was projected around 30,000 MW, the ERCOT forecast was around 38,000 MW, clearly reflecting much colder weather than normal. Unfortunately, the actual load turned out to be even higher than ERCOT projected under the abnormal weather condition. ERCOT has begun reviewing potential ways to improve its forecasting methods.

Please be advised that all documents filed in Docket No. 24770 are available to you for download without charge from our internet website at http://interchange.puc.state.tx.us. Because that docket is a contested case that is currently pending before the Commission, neither Commissioner Parsley nor I are allowed to discuss any of the proposals to eliminate "hockey stick" pricing with you at this time. I have, however, filed a copy of your correspondence in that proceeding so all parties will have the benefit of your comments. I am forwarding a copy of your correspondence to Dr. Parviz Adib, Director of MOD, for further consideration of the other points you mentioned. Should you have any additional questions or concerns, please contact Dr. Adib at (512) 936-7365 or Dr. David Hurlbut, a Senior Economist in MOD dealing with hockey stick bidding, at (512) 936-7387. In addition, please be advised that the Commission will hold an open and public technical conference in Docket No. 24770 on May 14 to discuss price mitigations.

Thank you for taking the time to express your concern and opinions on these issues. The Commission is committed to vigilant oversight of the electric market to ensure that all Texans will be able to receive the benefits of a robust competitive retail electric market.

Very truly yours,

Bridget Headrick

Bridget Headrick
Advisor to Commissioner Julie Parsley

cc: Parviz Adib
David Hurlbut

Public Utility Commission of Texas

Memorandum

TO: Chairman Rebecca Klein
Commissioner Brett Perlman
Commissioner Julie Caruthers Parsley
Lane Lanford, Executive Director
Paula Mueller, Deputy Executive Director

FROM: Parviz Adib, Division Director, Market Oversight Division P.A.

DATE: March 3, 2003

RE: Report on February 24-26, 2003 Balancing Energy Price Spikes

Attached is a report by the Market Oversight Division (MOD) on some of the wholesale price increases associated with last week's cold weather. This report primarily concerns the ERCOT balancing energy market, where the market clearing price for energy (MCPE) frequently reached $990 on February 24 and 25. MOD is continuing to investigate similar price spikes in the ancillary service markets and will report to you on that later this week.

While it is to be expected that the cold weather would cause some increase in wholesale power prices, MOD has found that hockey stick bidding (i.e., small portion of bid at high price) also contributed materially to the $990 spikes in Up Balancing Energy Service (UBES). MOD estimates that, had these instances of hockey stick bidding been mitigated, UBES costs to load would have been reduced by **at least $17 million**. The report describes how these bids affected the market and how similar behavior might be mitigated in the future. MOD has asked the QSEs who engaged in hockey stick bidding behavior during and prior to the price spikes to explain their actions, and we will report to you as soon as we have their responses.

In addition, MOD is investigating an apparent drop-off in the quantity of UBES available for use by ERCOT during the cold weather. For many of the intervals when the MCPE hit $990, the amount of UBES available to be procured by ERCOT was much less than what had been bid into the market. While natural gas curtailments and the subsequent de-rating of generation units may have caused this gap between what was originally bid and what was actually available at the time ERCOT needed it, MOD is also looking for any changes in bidding behavior that may indicate market manipulation. We expect to have more results for you later.

cc: Robby Abarca, Bridget Headrick, Tom Hunter, Charles Johnson, Brian Lloyd, Keith Rogas, Evan Rowe, Jess Totten, Pam Whittington

Public Utility Commission of Texas

Analysis of Balancing Energy Price Spikes during the Extreme Weather Event of February 24-26

Market Oversight Division Staff Report
David Hurlbut, Ph.D.
Julie Gauldin, M.Sc.
Tony Grasso, MBA

March 3, 2003

The recent arctic cold front caused significant price spikes in the ERCOT balancing energy and ancillary service markets. ERCOT estimates that the total cost of balancing energy and ancillary services from February 24-27 was around $114 million, all of which will be passed on to load serving entities. The markets hit by the most severe price spikes were Up Balancing Energy Service (UBES), Responsive Reserve Service (RRS), and Up Regulation Service (URS). Specifically:

- UBES prices hit $990 per MWh for a total of seven hours (28 fifteen-minute Intervals) on February 24 and 25, roughly 18 times the average price for the previous week.
- RRS reached $990 per MW or higher for 28 hours from the morning of February 26 through the morning of February 27, about 80 times the previous week's average price for this service.
- URS reached $990 per MW for eight hours February 26 and 27, about 45 times the previous week's average price for this service.

The PUC's Market Oversight Division (MOD) is investigating bid activity in the ERCOT markets during this period to determine whether any market participant exacerbated the price spikes. So far, MOD has determined that "hockey-stick" bidding was a major factor leading to the $990 UBES price spikes on February 24 and 25.[1] Hockey-stick bidding is when a market participant submits a small portion of its bid at an extremely high price. If ERCOT procures all

[1] While market manipulation is always a potential concern, it is too early to conclude that any particular market participant was actually involved in such behavior during February 24 and 25. As discussed later in this summary report, MOD is still looking at several other factors that could have caused price spikes in the ERCOT-administered markets.

available bids, including the tip of the "hockey stick," then the most expensive megawatt hour sets the market clearing price.

In the case of UBES, a market participant had bid a single megawatt hour at $990, while all other quantities in its bid curve were priced at $200 or lower. The second most expensive megawatt hour from all other bidders during the February 24 spikes was $350, while the next expensive MWh of energy on February 25 was $500. Consequently, the last megawatt-hour out of the some 4,100 MWh to 4,900 MWh procured by ERCOT during each price spike interval caused the MCPE to double or triple. **MOD estimates that the additional cost of this last megawatt-hour of UBES during the price spike intervals of February 24 and 25 was approximately $17 million.** The price-setting market participant will realize this additional revenue, along with all other UBES bidders, since the market-clearing price is paid uniformly for all MWhs procured by ERCOT.

The following market participants submitted balancing energy bids higher than $300 on the days of the UBES price spikes.[2]

February 24: Automated Power Exchange, Exelon Power Team, FPL Energy Power Marketing.

February 25: Automated Power Exchange, Calpine Power Management, Austin Energy, City of Garland, Dynegy Power Marketing, LCRA, Mirant Americas Energy Marketing, TXU Portfolio Management.

Although hockey-stick bidding pushed UBES prices to $990, some price increase was inevitable due to the shortage of natural gas and the resulting increase in fuel costs.[3] MOD estimates that the fuel costs for a typical gas turbine generator in Texas rose to around $250 per MWh during the cold weather. (This assumes complete reliance on the spot market for natural gas, with a $25 per MMBTU gas price[4] and a 10,000 MBTU per MWh heat rate.)

MOD is also investigating circumstances affecting the amount of UBES bids as well as the amount that ERCOT procured during the price spikes. Specifically,

- *Gap between total MWh bid and total MWh available to be procured.* Striking the most expensive megawatt hour implies that ERCOT procured the entire bid stack. However, during most of the $990 intervals the total amount of UBES available to be procured by ERCOT was less than the total bids submitted. MOD is looking into

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[2] Under a recent revision to Chapter 1 of the ERCOT protocols, all entities who submit balancing energy bids greater than $300 (for UBES) or less than -$300 (for Down Balancing Energy Service) are identified on the ERCOT web site the following operating day. (See http://www.ercot.com/Participants/PublicMarketInfo/PublicMarketInformation.htm.)

[3] Gas supplies were severely drained by the unexpected demand for electricity on Monday, February 24. (ERCOT projected peak demand was 37,811 MW; actual peak demand was 42,029 MW.) Gas price officially were in the $25-33 per MMBtu. When gas supplies reached emergency limits, the gas supplies to the generators were cut short. While most generators were capable of switching to alternative fuels, others were not. The lack of generation created dramatic frequency swings and prompted complete deployment of the balancing up energy bid stack on many intervals.

[4] Houston Ship Channel price estimate obtained from *Megawatt Daily* and corroborated by MOD staff through conversations with market participants.

what happened to the cheaper bids that were not procured, and whether there was an unusually large proportion of bids that were invalid or otherwise withdrawn.

- *Discrepancies between resource plans and bids.* Another indication of the gap between bid and the amount available to be procured in MWh is that the amount of potential supply suggested by UBES bids was higher than the amount of generation shown as being available in QSEs' resource plans. Thus some UBES bids may not have been backed by actual generation reflected in a resource plan. This week, ERCOT began to track and report on resource plan accuracy.[5]

- *De-rating of generation resources.* Curtailments of natural gas supplies forced some generating plants to switch to alternative fuel such as oil. Others were forced to operate at reduced capacity. MOD is determining the extent to which unanticipated de-ratings may have affected resource plans and the information available to ERCOT operations staff at the time interval UBES procurements were made.

- *Frequency drops.* MOD is also looking into whether a drop in frequency caused ERCOT to increase its procurement of UBES at the specific times the price spikes occurred.

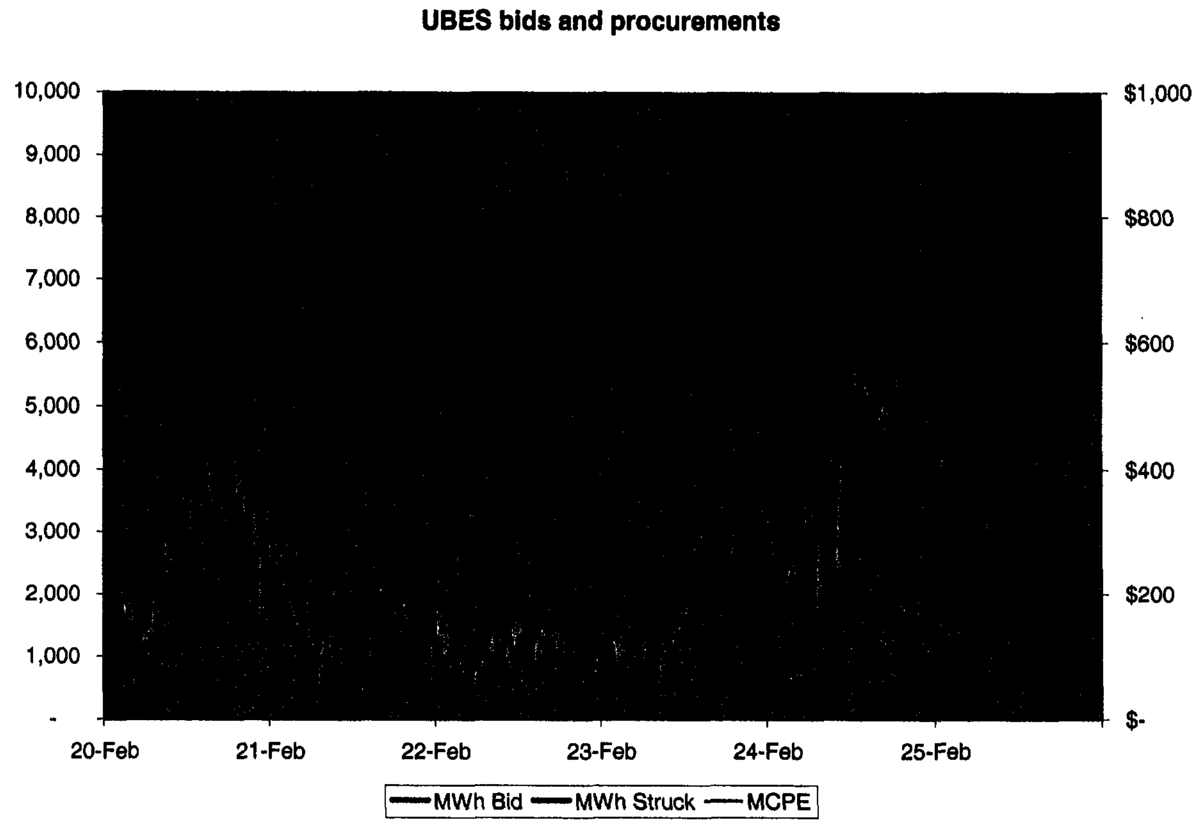
- *Reliance on UBES to supply retail customers.* MOD is also examining the effect that relaxed balanced schedules may have had both on the amount of UBES required by ERCOT and on the degree to which load serving entities were exposed to high UBES prices. In some cases, retailers were procuring most or all of their supplies from the balancing energy markets rather than under direct bilateral contracts with suppliers. This practice exposed these retailers to balancing energy price volatility with little or no risk hedging opportunities. MOD is investigating whether collusion or any other anticompetitive behavior on the part of suppliers forced some retailers to rely on the balancing energy market beyond what would have been otherwise reasonably prudent.

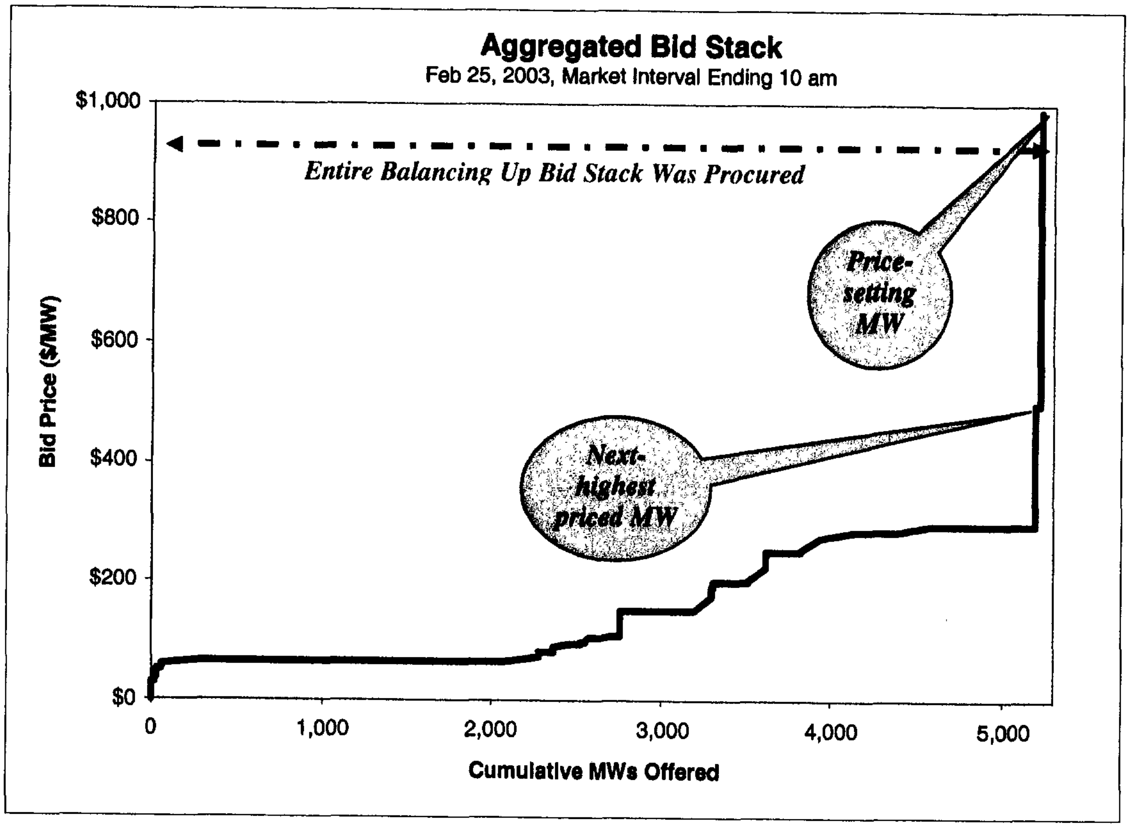
- *Decrease in MWhs bid for BES after the first UBES price-spike.* As the following figure shows, the volume of MWhs bid into the UBES market during the February 24th price spike is qualitatively comparable to the level of bid stacks in the preceding days. However, the volume of MWhs bid seems to have decreased following the February 24th price spike. Given the presence of hockey stick bidding, shrinking the bid stack would have increased the likelihood of a price spike in the event the bid stack was exhausted. MOD is examining the data to determine whether the smaller bid stack was due to market manipulation or to exogenous events such as natural gas curtailments.

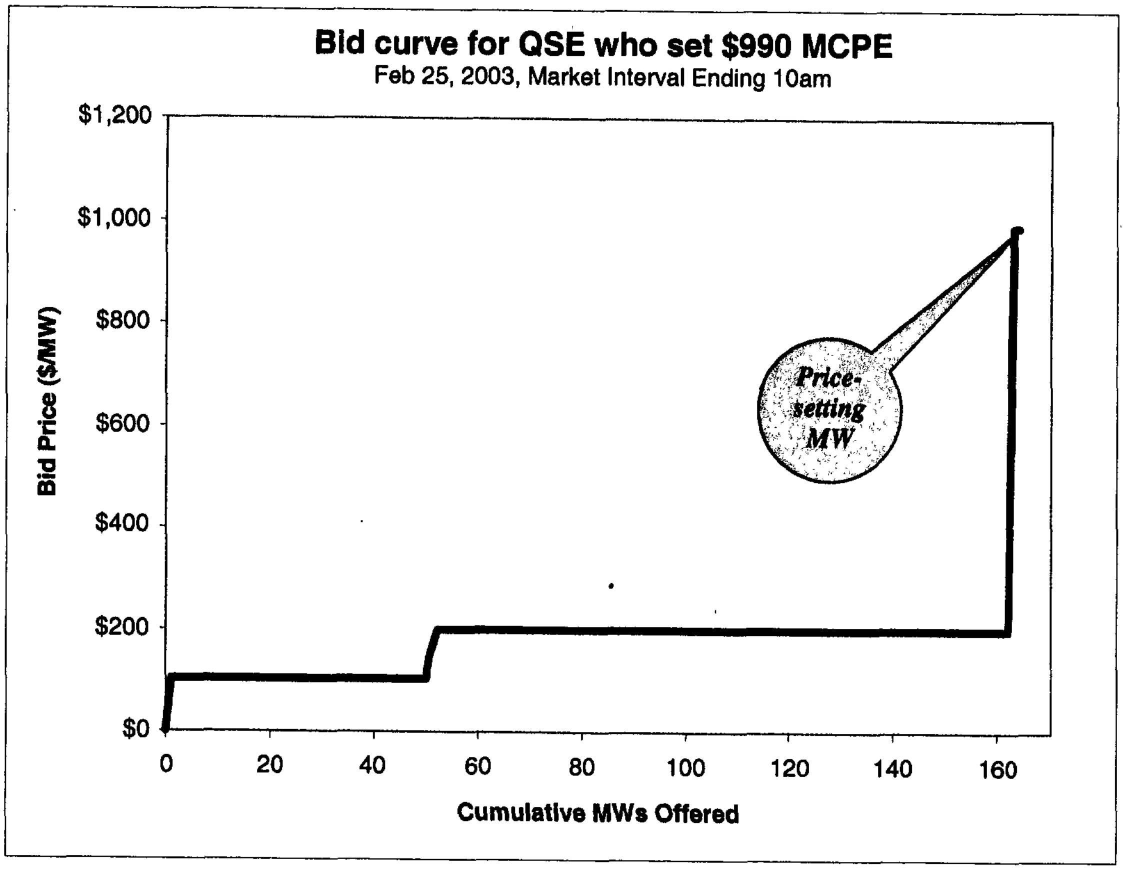
- *Ancillary services.* The price spikes in the ancillary service capacity markets trailed the spikes in UBES by a day, due mostly to the fact that ancillary service markets are cleared – and prices set – in the day-ahead market while UBES is procured close to real-time. MOD has not yet examined the data for the ancillary service price spikes, but will do so this week.

[5] ERCOT issued an EECP stage 1 (emergency operation) and required QSEs to update their resource plans. ERCOT relied heavily on verbal dispatch instructions (VDIs) to maintain the frequency and reliability of the electrical power grid. In the course of the two days, ERCOT staff issued more than 20 VDIs.

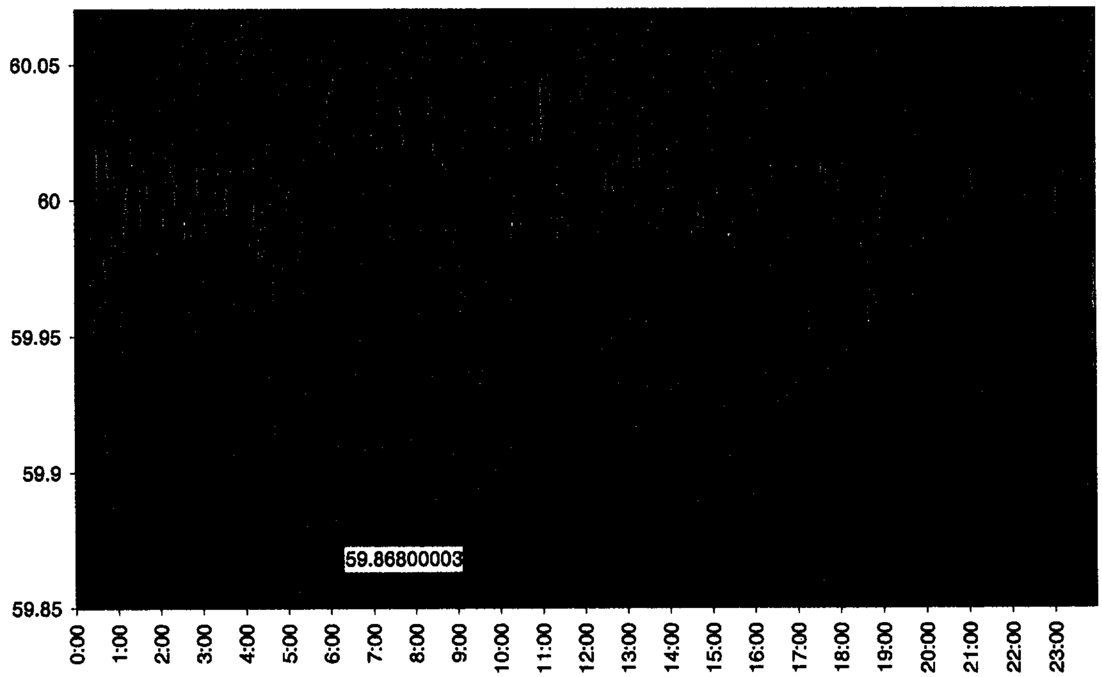
Hockey stick bidding as described here, while allowed under the ERCOT market rules, does not usually lead to market outcomes that are indicative of the cost of the service being provided. Rather, this strategy provides a near-zero risk opportunity for bidders to occasionally "hit the jackpot" and realize huge profits while load serving entities are unexpectedly hit with expenses that are orders of magnitude in excess of those typically seen. In pending Docket No. 24770, Staff has proposed its Competitive Solution Method to mitigate the effects of hockey stick bidding.



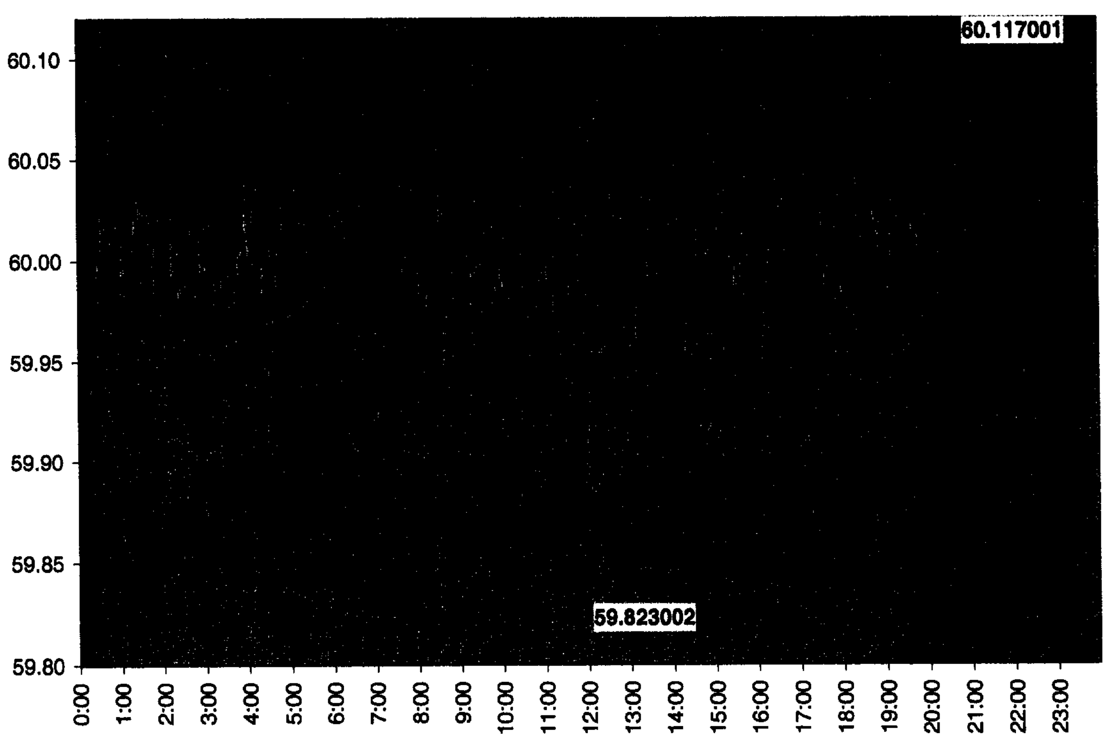

Aggregated Bid Stack
Feb 25, 2003, Market Interval Ending 10 am
$1,000
$800
$600
$400
$200
$0
Bid Price ($/MW)
0
1,000
2,000
3,000
4,000
5,000
Cumulative MWs Offered
Entire Balancing Up Bid Stack Was Procured
Price-setting MW
Next-highest priced MW


Bid curve for QSE who set $990 MCPE
Feb 25, 2003, Market Interval Ending 10am
$1,200
$1,000
$800
$600
$400
$200
$0
Bid Price ($/MW)
0
20
40
60
80
100
120
140
160
Cumulative MWs Offered
Price-setting MW

ERCOT system frequency, Feb. 24



ERCOT system frequency, Feb. 25



Hourly market clearing prices for ancillary services