

Public Utility Commission of Texas

Memorandum

TO: Chairman Donna L. Nelson
Commissioner Brandy Marty Marquez

FROM: Commissioner Kenneth W. Anderson, Jr.

DATE: October 7, 2015

RE: **Open Meeting of October 8, 2015, Project No. 40000; Agenda Item No. 23 – Commission Proceeding to Ensure Resource Adequacy in Texas**

For the last sixteen months, the Operating Reserve Demand Curve (ORDC) has been a component of the wholesale market in the Electric Reliability Council of Texas (ERCOT). Overall, I believe that the inclusion of the ORDC has been a positive development because, among other factors, it has improved operational reliability by incenting the correct behavior of both resources and load. However, during the second half of this summer I also saw results that seemed somewhat unexpected.¹ Also interesting is how resource bidding behavior has adapted to the ORDC and other modifications made to the market as part of its implementation.²

In asking for information from ERCOT, I discovered that its staff also noted some of the same issues and had commenced an internal review of the results of the ORDC and related issues. ERCOT is studying potential modifications to the ORDC, as well as physical responsive capacity (PRC) and resulting associated operator actions with a view to making recommendations to market participants to improve market efficiency, particularly in the area of scarcity pricing. I commend the staff at ERCOT for their proactive approach to this issue.

I believe that now is the time for the Commission to review the ORDC in order to examine how it has functioned and whether there is a need for minor adjustments to improve its efficiency. Among the ORDC parameters that can be reviewed are:

- The level of X used in the ORDC formula, which is 2,000 MW of operating reserves, selected to represent a level below which ERCOT operators cease relying on the market and begin to take out-of-market actions.

¹ For example, on August 13, 2015, the ORDC adder did not seem to reflect appropriately the reduction in physical responsive capacity (PRC) that occurred. A low level of PRC can drive ERCOT grid operators to take out-of-market actions, including implementing Energy Emergency Alerts (EEA) and related procedures.

² As part of the changes, the bid floor for non-spinning reserves was lowered to \$75 MWh. This seems to have created something of a de facto floor on energy prices on some days when one might have expected higher LMP from quick start units, as previous behavior tended to result in much higher bids in the first dispatch intervals reflecting full recovery of startup costs.

- The number of standard deviations used to formulate of the loss of load probability curve in the ORDC.
- The value of lost load (VOLL) used in the ORDC, which currently is \$9,000 MWh (and whether \$9,000 MWh should remain as the effective price cap even if the VOLL is increased).³
- Should operating reserves counted in ORDC become more closely correlated to PRC, and if so, how?
- Are the current inputs used to calculate the loss of load probability (LOLP) for any given period a sufficiently reasonable approximation or should the method and inputs be reevaluated? I ask the question because at certain hours of certain days last summer the price adder resulting from the ORDC seem to suggest LOLP of well under 1% even though ERCOT was considering making conservation appeals.

The foregoing list is not intended to be exhaustive and market participants can suggest other areas of inquiry. Commission Staff can coordinate with ERCOT staff so as not to duplicate efforts. On the more technical aspects we can of course rely on ERCOT's excellent work.

I look forward to discussing all of these issues with you at the open meeting.

³At a \$9,000 VOLL (which also happens to be the current system wide offer cap), the ORDC adder can jump vertically from approximately \$4,500/MWh to \$9,000/MWh. Therefore, a mere 1 MW change in the operating reserves can cause this price jump to the system wide offer cap. Increasing the VOLL while leaving the current system wide offer cap in place permits the ORDC price adder to increase in such a way as to avoid the vertical jump in the adder, thereby reducing price volatility while improving scarcity pricing.