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## OPEN MEETING COVER SHEET

**MEETING DATE:** January 27, 2004

**DATE DELIVERED:** January 21, 2004

**AGENDA ITEM NO.:** 4

**CAPTION:** Project No. 30634, *Activities Related to Implementation of the Recommendations from the Potomac Economics 2004 Report on the Operation of the ERCOT Wholesale Electricity Markets*

**ACTION REQUESTED:** Discussion and possible action.

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# Public Utility Commission of Texas


## Memorandum


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TO: Chairman Paul Hudson  
Commissioner Julie Parsley  
Commissioner Barry Smitherman

FROM: Parviz Adib, Director  
Richard Greffe   
Market Oversight Division

Patrick Sullivan   
Legal and Enforcement Division

DATE: January 21, 2005

SUBJ: January 27, 2005 Open Meeting, Agenda Item #4  
Project No. 30634, *Activities Related to Implementation of the Recommendations from the Potomac Economics 2004 Report on the Operation of the ERCOT Wholesale Electricity Markets*

Aside from its primary recommendation that ERCOT adopt the nodal electricity markets currently under consideration, the Potomac Economics report on the operation of the 2004 ERCOT wholesale electricity markets contains 14 recommendations for improvement (see attached list).<sup>1</sup> Both Commission Staff and ERCOT Staff reviewed and commented on the report while it was in draft form. We believe that each of the 14 recommendations would benefit the market, but we recognize that individual implementation decisions should be based on an evaluation of the expected benefit, system impact, market impact, time required, and cost. These determinations are especially important given the potential transition to a nodal market in ERCOT on October 1, 2006, as required by P.U.C. SUBST. R. 25.501(m).

The ERCOT Wholesale Market Subcommittee (WMS) has begun a review of the Potomac recommendations, and Staff has asked them to classify the recommendations according to the following categories:

1. Recommendations that could be done with minimum time and cost impacts to the system
2. Recommendations that should be implemented regardless of ERCOT's future market design
3. Recommendations that should not be implemented if the Commission decides to move to a nodal design in the near future

<sup>1</sup> "2004 Assessment of the Operation of the ERCOT Wholesale Electricity Markets," Potomac Economics, Ltd., November 2004, pp.26-29. <http://www.puc.state.tx.us/electric/projects/28500/28500.cfm>

The first category would include recommendations that could be easily and quickly implemented and would have benefit in the near term. The second includes recommendations that benefit the market whether we stay with a zonal market design or move to nodal. These could be either short-term or long-term implementation projects. The third category includes recommendations from which benefit would not be realized adequately if we move to a nodal market in the near future. The expected time required, level of effort, and cost for these projects as well as the expected date for a nodal market are key issues in this category. For example, some of the recommendations in this category may become beneficial if the full implementation of a nodal system is postponed significantly beyond October 1, 2006, while others would become beneficial if the Commission ultimately rejects adoption of the nodal design.

Rather than initiating a rulemaking or other formal Commission action at this time, we recommend that WMS complete the above classification and provide sufficient justification for its decision on each recommendation in terms of system impact, timeframe, cost, etc. by the end of March 2005.<sup>2</sup> In some cases, WMS may need to better define the actions that would be taken to implement the recommendation, and they have indicated that they will contact Dr. Patton of Potomac Economics to get a better understanding of at least two of the recommendations. A March 2005 deadline is relatively short, but WMS has already held a special task force meeting on January 19<sup>th</sup> to discuss the recommendations and another meeting is scheduled for January 26<sup>th</sup>. In addition, some issues relating to the 14 recommendations have been discussed previously by stakeholders in the ERCOT committees and through the PRR process.

Once the category 1 and 2 recommendations have been identified, stakeholders should initiate any necessary Protocol Revision Requests (PRRs) and ERCOT staff should schedule system changes and develop any changes to operating procedures. We recommend that all necessary PRRs be adopted by the end of June 2005. There are some currently pending PRRs that may address one or more of the recommendations and hopefully, they can be completed before that date.

Commission Staff will monitor the process and report to the Commission. If it appears that stakeholders do not have plan for timely implementation of a recommendation or do not have sufficient justification for not implementing a recommendation, we will advise the Commission and recommend appropriate action. It may be that a few of the recommendations will be most effectively handled through different means than was specifically contemplated in the recommendations. For example, recommendations #7 and #8 emphasize the importance of having reasonably accurate 15-minute energy schedules rather than the currently common practice of submitting energy schedules that do not vary over an hour. Recommendations #7 and #8 would address this problem through system changes that could aid QSEs in submitting reasonably accurate 15-minute schedules. However, Staff believes that the Protocols currently require QSEs to submit accurate schedules, which includes 15-minute scheduling, so this could be addressed as a compliance and enforcement issue. In another example, recommendation #14 calls for new procedures to

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<sup>2</sup> The March deadline would include review by the Technical Analysis Committee (TAC), ERCOT Board, and/or other ERCOT group as determined by ERCOT to be appropriate.

monitor whether QSEs are meeting their reserve obligations in real time. Staff believes the Protocols already require QSEs to meet their reserve obligations in real time, and it appears that ERCOT can ascertain compliance through after-the-fact review of data, without the necessity of a system change.

**Recommendations from the Potomac Economics Report on  
the Operation of the 2004 ERCOT Wholesale Electricity Markets**

**Zonal Congestion Management**

1. Improve the process for designating zones to minimize the effects of the simplifying zonal assumptions.
2. Improve the process for evaluating and revising CSC definitions.
3. Modify the calculation methodology of the zonal average shift factor to exclude generation whose output is generally fixed (e.g., nuclear units).
4. Provide ERCOT the operational flexibility to temporarily modify the definition of a CSC associated with topology changes.

**Local Congestion Management**

5. ERCOT (should) modify its multi-step balancing energy market optimization to recognize the interactions between its local congestion management and zonal balancing energy deployments to minimize the costs of both classes of deployments.

**Load Forecasting**

6. ERCOT (should) examine its load forecasting model to determine whether there are additional factors that could be considered or other changes to their model that would improve its accuracy.

**BES Market**

7. Allow QSEs to submit an energy schedule for the end of the next hour that would be used by ERCOT to produce 15-minute schedule quantities by interpolating across the hour.
8. Implement an optional capability for QSEs to automatically adjust their hourly balancing energy offers for the changes in their 15-minute schedules. This would help ensure that the participants' portfolio energy offers are consistent with their energy schedules when the energy schedules are changing each interval.

**Load Deviation**

9. Eliminate the load and generation plateau in the middle of the interval by changing the modeling approach for load and generation.

**SCE**

10. Require that QSEs submit physically feasible energy schedules. It would be difficult to automatically validate the schedules for feasibility since they can be submitted well before the operating hour. However, it could be monitored and enforced through ex post validation of compliance.

11. Implement uninstructed deviation charges that allocate a portion of the regulation costs to the QSEs exhibiting large SCEs in the periods during each hour with the largest regulation needs. In particular, we propose specific changes to PRR 356 that have been pending for more than two years.

**Portfolio Ramp Rate**

12. ERCOT stakeholders consider a specific modification of ERCOT's portfolio ramp rate methodology that would recognize the changes in energy schedules.

**Responsive Reserves**

13. Modify the limit on quantity of responsive reserves provided from a single unit to make it less binding on relative small units.
14. Institute procedures to monitor whether QSEs are meeting their reserve obligations in real time.