ERCOT

MINUTES OF THE BOARD OF DIRECTORS MEETING
OF ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.

Electric Reliability Council of Texas, Inc.
7620 Metro Center Drive, Room 206
February 19, 2008 at 10:00 a.m.

Pursuant to notice duly given, the meeting of the Board of Directors (Board) of Electric Reliability Council of Texas, Inc. (ERCOT) convened on the above-referenced date.

Meeting Attendance:

Board Members:

Director	Affiliation	Segment
Armentrout, Mark		Unaffiliated; Board Chairman
Ballard, Don	OPUC	Consumers/Residential & Small Commercial
Cox, Brad	Tenaska Power Services	Independent Power Marketers
Espinosa, Miguel		Unaffiliated
Fehrenbach, Nick	City of Dallas	Consumers/Commercial; Proxy for Andrew Dalton (Consumer/Industrial)
Gallagher, Carolyn Lewis		Unaffiliated
Gent, Michehl		Unaffiliated; Board Vice-Chairman
Helton, Bob	IPA	Independent Generators
Jenkins, Charles	Oncor Electric Delivery	Investor-Owned Utilities
Kahn, Bob	ERCOT President/CEO	
Karnei, Clifton	Brazos Electric Coop	Electric Cooperatives
Newton, Jan		Unaffiliated
Smitherman, Barry T.	PUCT Chairman	PUCT; not in attendance after lunch.
Thomas, Robert	Green Mountain Energy	Independent Retail Electric Providers
Wilkerson, Dan	Bryan Texas Utilities	Municipally-Owned Utilities

Staff and Guests:

Abernathy, Rick	Lehman Brothers
Ashley, Kristy	Exelon
Baumgartner, John	KPMG LLP
Bell, Wendell	TPPA
Bojorquez, Bill	ERCOT
Brandt, Adrianne	PUCT
Brewer, Todd	Texas Regional Entity
Brewster, Chris	City of Eastland
Bruce, Mark	FPL Energy
Burke, Tom	Luminant
Carlson, Trent	Reliant Energy
Cobos, Lori	ERCOT

Coffies, Timothy	Luminant
Crowder, Calvin	AEP
Day, Betty	ERCOT
DiFonzo, Pavna	NBU
Drost, Wendell	AREVA
Fleuty, Kevin	Oxford
Fournier, Margarita	Comp. Assets
Gage, Theresa	ERCOT
Goodman, Dale	ERCOT
Grable, Mike	ERCOT
Gresham, Kevin	Reliant Energy
Headrick, Bridget	Public Utility Commission of Texas (PUCT)
Jones, Dan	Potomac Economics
Jones, Liz	Oncor
King, Kelso	King Energy
Kolodzies, Eddie	Customized Energy Solutions
Leech, Bob	Citi
McDaniels, Mark	Stark Investments
Morris, Sandy	Lower Colorado River Authority (LCRA)
Moss, Steven	First Choice Power
Oldham, Phillip	TIEC
Orr, John	Constellation
Roark, Dottie	ERCOT
Ryall, Jean	Constellation
Seymour, Cesar	SUEZ
Skillern, Don	IBM
Spillman, Matt	Strategic Energy
Tipps, Mike	Oxford
Torrent, Gary	Torrent Consulting
Troxtell, David	ERCOT
Walker, DeAnn	CenterPoint Energy
Walker, Mark	NRG Texas (Board alternate – IG)
Wittmeyer, Bob	DME
Wullenjohn, Bill	ERCOT
Zlotnik, Marcie	StarTex

1.   Call to Order/Announcements

Mark Armentrout, Chairman, called the meeting to order at approximately 10:05 a.m., pointed out the Antitrust Admonition and determined a quorum was present.

2.   Consent Agenda

The following items were handled in the consent agenda:

- Protocol Revision Request (PRR) 749

- Nodal Protocol Revision Requests (NPRRs) 084, 085 and 088

Mr. Fehrenbach moved to approve the items on the Consent Agenda. Mr. Espinosa seconded the motion. The motion passed by unanimous voice vote with no abstentions.

3. Approval of Minutes

Messrs. Ballard and Gent suggested minor changes to the draft minutes. **Mr. Wilkerson moved to approve the minutes, as revised. Mr. Espinosa seconded the motion. The motion passed by unanimous voice vote with no abstentions.**

4. Chief Executive Officer Report

Bob Kahn, ERCOT President and Chief Executive Officer (CEO), reported that the Capacity, Demand and Reserve (CDR) numbers improved as of last month and have improved even further this month. The forecasted reserve margin for 2009 is now 13.3%. He also stated that ERCOT has recently received a significant number of interconnection requests, including 44,000 MWs of wind generation. He pointed out that additional information can be found in the system planning report.

He encouraged Market Participants to fill-out and return the bi-annual ERCOT satisfaction survey and mentioned that the April Board of Directors meeting will take place at the ERCOT facilities in Taylor, Texas.

Chairman Armentrout then pointed out the logistics of the Board Strategic Planning Session to take place at the Lakeway Resort tomorrow and Mr. Kahn briefly reviewed the agenda for that event.

5. Operating Reports

Chairman Armentrout invited comments or questions regarding the Financial Summary, Market Operations Report, System Planning Report, Grid Operations Report and Information Technology (IT) Report. No questions/issues were raised.

6. Nodal Update

Jerry Sullivan, Executive Director of the Texas Nodal Market Implementation Program (TNMIP), began by pointing out that there are only nine Board meetings and approximately two hundred days before the scheduled nodal "go-live" date (December 1, 2008). His presentation covered the following topics:

- Program Status
    - Scope is "green;" Quality is "amber;" Schedule is "amber;" and Cost is "red."
    - ERCOT readiness is considered "amber" at this time.
    - Market Participant readiness is considered "red" at this time; however, in the last week, quite a few Market Participants have met their readiness goals for

"Registration and Qualification" and "Engagement." Only fourteen Market Participants remain in "red" status for "Engagement" (down from twenty-one last week).

Chairman Smitherman asked what happens if Market Participants remain on the list. Mr. Sullivan stated that staff will continue to work with the Market Participants and, if necessary, take the issue through an escalation process.

- Recent Successes
    o Production of "reasonable" Locational Marginal Prices
    o Production of a power flow from the Transmission Network Analysis (TNA)
    o Recent information indicates the April 22nd delivery of Market Management System (MMS) will be of high quality
    o Energy Management System (EMS) development continues to improve
    o The first version of the MMS user interface was released to testing on January 21st
    o Posting of prototypes of Day-Ahead Market settlements
    o Market Participants can now interact with the Congestion Revenue Rights (CRR) system

- Key Risks
    o Lack of source systems and infrastructure limits
    o Uncertainty over the ability to integrate Common Information Models (CIMs)
    o Power, space and cooling limitations that limit the speed and scale of environment build-outs
    o The entry model go-live for Network Model Management System (NMMS) may go past the May 31st expected start date

- Quality
    o An issue has arisen in connection with the NMMS and EMS project regarding the number of defects encountered, although Mr. Sullivan believes that situation can be remedied
    o PRR727's market notice timeline requires teamwork from all stakeholders to achieve the scheduled "go-live" date

Chairman Armentrout asked Mr. Sullivan to provide a single-slide overview of defects in the May or June time period. Mr. Sullivan agreed to do so.

Mr. Cox stated that the likelihood of "go-live" on December 1st needs to be transparent so Market Participants can enter into bi-lateral power contracts for 2009.

Mr. Gent asked for the success rate on testing because it appears from the provided documentation that the success rate is approximately 60%. Mr. Sullivan stated that the "defect rate" is more important than the actual success rate. He does not recall the exact defect rates, but considers them "tolerable."

Mark Dreyfus, Technical Advisory Committee (TAC) Chairman, raised an issue regarding

whether the nodal systems being delivered match the Market Participants' expectations when they designed the market. He stated that the Market Participants would like to identify gaps as soon as possible. Chairman Armentrout agreed and asked Mr. Sullivan to provide a summary of those risks and identify if the problem exists for all Market Participants or only certain parties. He also wants to prevent a situation where Market Participants are not ready for "go-live" and then blame the TNMIP team. He asked Mr. Dreyfus to watch for that phenomenon. Mr. Dreyfus stated that ERCOT is going to have to contribute resources to this assessment and, in light of resource constraints, doing so may be difficult. Chairman Armentrout stated that some "fixes" may have to wait until after "go-live" and only items absolutely necessary for the market to work should be included in the "go-live" product. Mr. Dreyfus stated that many discussions have taken place on this subject and, in the next few weeks, Market Participants will create lists of items crucial for "go-live" versus those that could be implemented after "go-live." Chairman Armentrout stated that he does not want to risk the "go-live" date at this time. Even if Market Participants had expected a particular functionality that, for some reason, is not in the system by "go-live," he does not want to delay "go-live." Mr. Dreyfus stated that some stakeholders evaluate the "go-live" decision differently than Chairman Armentrout has described and, if an item is considered so fundamental that it is worth delaying "go-live," that position will be presented to the Board.

Mr. Fehrenbach stated that, recently, the nodal test system was generating Locational Marginal Price (LMPs) at the system-wide cap for most intervals. He asked if that situation persists. Mr. Sullivan said the recent LMPs are satisfactory and reasonable at this point and improvement continues.

- Schedule
  - Prior to September, nearly all systems and their integration will be independently checked and tested
  - The 168-hour test in September will be the final qualification test with nearly all functionality and the intended users of the systems will conduct that testing
  - Most Nodal projects have now frozen changes to functionality required for the 168-hour test and subsequent "go-live"

- Cost
  - If the team makes the "go-live" date, the program should stay within the current budget
  - Through November, the TNMIP was on budget
  - After December, the program is approximately $6 million over budget

In closing, Mr. Sullivan responded to several issues raised in the IBM review to be presented by Mr. Skillern.

7.   **IBM Update on Nodal**
Mr. Don Skillern of IBM updated the Directors on IBM's review of the TNMIP. Mr. Skillern stated that this is his fifth report on the TNMIP's controls and, overall, the system is operating as intended, but IBM has some recommendations.

Since the last report, some areas have developed concerns. For example, the scope must be monitored and controlled and the systems should include only items critical for "go-live."

Mr. Gent asked about the changes in status since the last report. Mr. Skillern stated that, because "go-live" is closer, some of the items have become more critical. Additionally, he pointed out that the worst status is "moderate improvements needed" and that status is not particularly troubling (as opposed to "significant improvements needed" or "unsatisfactory").

Two areas for improvement are transition plans/documents and staffing for transition. Additionally, Mr. Skillern pointed out that turnover typically increases in the later phases of a large project like the TNMIP.

Mr. Skillern stated that CIM integration, the MMS delivery schedule and schedule slippage are currently significant risks.

Chairman Armentrout thanked Mr. Skillern for his work in providing the Directors an objective perspective.

Ms. Gallagher asked if Mr. Skillern has confidence regarding the "go-live" date. Mr. Skillern stated that, at this time, the Directors should have confidence that "go-live" can occur as planned. He did, however, state that the issues discussed by Mr. Dreyfus and Chairman Armentrout earlier in this meeting are critical with respect to the "go-live" date.

Chairman Smitherman asked if there are any leading indicators that the TNMIP is not going as it should. He would like a presentation at the next meeting if any such indicators exist. Mr. Skillern stated that ERCOT's Internal Audit group raised the same issue and he will consider this question over the next month and provide a response.

Mr. Wilkerson asked when the Directors would have to make a "go-live" decision. Mr. Sullivan stated that he believes the vote must take place in early October. Chairman Armentrout stated that the decision must await completion of the 168-hour test, currently scheduled for September. Mr. Kahn pointed out that Transition Plan Task Force (TPTF), TAC and ERCOT staff must also concur on "go-live" pursuant to the previously-approved Transition Plan document.

Ms. Newton asked whether training may be an issue in light of the fact that the IBM presentation did not address training. Mr. Skillern stated that he has not reviewed Market Participant training metrics, but plans to do so for the next assessment. Mr. Sullivan stated that training will be critical to "go-live" and emphasis on training must dramatically increase.

8. TAC Report

Chairman Armentrout invited Mr. Dreyfus to report on recent TAC activities. Mr. Dreyfus pointed out that the following items were handled in the Consent Agenda: PRR749, NPRR084, NPRR085 and NPRR088.

a. Protocol Revision Requests (PRRs).

- **PRR750, Unannounced Generation Capacity Testing.** This PRR replaces the seasonal testing requirement with unannounced Generation Resource testing and adds a requirement for Qualified Scheduling Entities (QSEs) to seasonally update their Resources' High Sustainable Limits (HSLs). ERCOT posted PRR750 and its Impact Analysis on December 11, 2007. The submitter requested Urgent status due to the need to establish a method for ensuring the accuracy of reported HSLs to better reflect the capability of the ERCOT System. The submitter stated that Urgency would allow ERCOT to implement the unannounced generation capacity testing process as soon as possible and gather data allowing evaluation of the Reserve Discount Factor (RDF) calculation. On December 13, 2007, PRS granted Urgent status via email vote. On January 17, 2008, PRS voted to recommend approval of PRR750 as modified at PRS based on comments by and discussions with Luminant, LCRA, PRS and ERCOT Staff. The motion passed with one abstention (Municipally Owned Utility (MOU) Market Segment). On February 7, 2008, TAC voted to recommend approval of PRR750 as revised by TAC. The motion passed with one abstention (Independent Power Marketer Market Segment).

Mr. Gent moved to approve PRR750; Mr. Helton seconded the motion. Chairman Armentrout opened the floor for discussion.

Mr. Fehrenbach recommended changing certain language to "may" instead of "shall" with respect to suspending a test during an Emergency Electric Curtailment Plan (EECP) event. Mr. Dreyfus deferred this question to John Dumas of ERCOT's System Operations group. Mr. Dumas stated that, traditionally, all testing ceases during an EECP because, during an EECP event, ERCOT wants to avoid tripping Resources. However, he stated that Mr. Fehrenbach's recommendation makes sense. Mr. Kahn asked whether, during an EECP event, ERCOT would send different instructions to a Resource than sent during the test. Kent Saathoff, ERCOT V.P. of System Operations, stated that, typically, those instructions would not be different and, even as amended, the language would allow ERCOT discretion to suspend the test. Mr. Saathoff stated that System Operations would be comfortable with changing the language to "may." Mr. Helton stated that he does not expect this situation to arise very often.

Mr. Fehrenbach recommended changing the last sentence of the first full paragraph on page five of the TAC Recommendation Report to read, "If an unannounced Generation Resource test is underway when an Alert or EECP event commences, ERCOT may cancel the test." Messrs. Gent and Helton agreed to amend the motion accordingly. The amended motion passed by unanimous voice vote with no abstentions.

The meeting adjourned for lunch at 11:45 a.m. At approximately 1:00 p.m., the meeting reconvened and the TAC Report continued.

b.   **Nodal Protocol Revision Requests (NPRRs)**

- **NPRR090, Corrections of FIP-FOP in Energy Offers. Proposed effective date: upon implementation of the Texas nodal market.** This NPRR corrects the submission and use

of Fuel Index Price/Fuel Oil Price (FIP/FOP) percentages in Energy Offers. On December 05, 2007, ERCOT posted NPRR090. On December 13, 2007, PRS unanimously voted to recommend approval of NPRR090 as submitted. On January 17, 2008, PRS voted to recommend rejecting changes to Sections 4.4.9.2.1 and 4.4.9.4.2 and retaining the proposed changes to the four remaining sections that do not require a project for implementation, with the understanding that parties may submit a separate NPRR to address Sections 4.4.9.2.1 and 4.4.9.4.2 if necessary. The motion passed with one opposing vote (Investor Owned Utility (IOU) Market Segment) and one abstention (MOU segment). On February 7, 2008, TAC voted to recommend approval of NPRR090 as revised by ERCOT Staff comments. The motion passed with four opposing votes (Consumer Market Segment).

Chairman Armentrout asked for comments from consumer representatives regarding this NPRR. Mr. Fehrenbach stated that he was not at the TAC meeting, but understood that the Consumer representatives were attempting to follow instruction from the Board to avoid cost increases for Nodal projects.

Mr. Helton asked if this NPRR related to the Fuel Oil Index PRR the Board considered last year. Mr. Dreyfus stated that he believes this NPRR is slightly different.

Mr. Karnei moved to approve NPRR090; Mr. Cox seconded the motion. Chairman Armentrout opened the floor to discussion. Mr. Ballard questioned whether this NPRR constitutes a "necessary change" to the Nodal systems, in light of this morning's discussion. He stated he could support this NPRR if it would avoid higher costs if the change were implemented after "go-live." Troy Anderson of ERCOT's Program Management Office stated that this NPRR clarifies language in the Nodal Protocols and, therefore, is beneficial for system design.

The motion passed by unanimous voice vote with one abstention (Mr. Fehrenbach for Mr. Dalton).

c.   **Other Matters**

In additional to the foregoing, Mr. Dreyfus informed the Directors that the TAC had approved the following items:

- RMGRR059
- OGRR204
- OGRR206
- NOGRR002

Mr. Dreyfus also provided a summary of the TAC goals for 2008 and mentioned other issues of interest at TAC, including: credit work group governance; 2009 project prioritization review; nodal market readiness and a market update from the Independent Market Monitor.

9.   **Finance & Audit (F&A) Committee Report**

Mr. Karnei, F&A Committee Chair, stated that the committee met this morning and considered the following matters:

a. Forbearance Request Regarding Prior Protocol 16.2.8

Mr. Karnei stated that there is a template in the Board packet and the committee recommends approval of the proposal. Mr. Grable presented background regarding this item.

Mr. Karnei moved to approve the Resolution. Mr. Helton seconded the motion. Mr. Karnei stated that the committee admonished ERCOT credit staff to ensure that all credit-related Protocols are followed. **The motion passed by unanimous voice vote with no abstentions.**

b. Oliver Wyman – Credit Evaluation Project Results

Cheryl Yager, ERCOT Treasurer, provided some background information regarding this matter. She then introduced Robert Kopech and Michael Denton of Oliver Wyman to provide the results of their work.

Mr. Kopech provided the results of the credit practice review and described the design of the credit loss model. He explained that his team reviewed ERCOT's credit practices and determined that ERCOT's credit worthiness monitoring and reporting and workout and management practices are very solid, but have some areas for improvement (specifically, risk appetite; credit scoring; exposure measurement and monitoring; and loss reserve and capital).

He then reviewed the credit loss modeling performed by his firm and stated that the work focused on the level of losses considered "normal," the greatest expected loss and how changes to inputs affect potential losses. He also presented a table showing the historical default rates for firms at various Standard & Poor's credit ratings.

In conclusion, he stated that ERCOT has taken significant steps forward with the comprehensiveness and quality of risk management effected by ERCOT.

Mr. Karnei stated that the F&A Committee considered this report at a special meeting earlier this month and, as a result of that meeting, the committee decided to review the ERCOT Guarantee Agreement because ERCOT relies heavily on that document. The committee also intends to draft a "risk appetite statement." The Credit Working Group will undertake that work. The committee will seek input from TAC and the PUCT regarding their opinions on credit-related issues. Mr. Helton stated that he would like to see a cost/benefit analysis for any proposed changes to credit standards.

c. 2009 Budget Planning and Key Assumptions

Mr. Karnei stated that the committee considered this issue this morning and he invited Mike Petterson, ERCOT Controller, to the podium. Mr. Petterson provided the key dates associated with the budget process. On April 3rd, a special meeting of the F&A committee will take place to

consider the preliminary budget and, at its April meeting, the Board will review the proposed 2009 budget from the F&A committee.

Mr. Petterson stated that ERCOT is working the following assumptions:

- Cost-consciousness is key
- "Reliability is Job 1"
- ERCOT must implement the Nodal market design
- ERCOT will collect and remit the Electric Reliability Organization (ERO) Fee
- ERCOT will implement projects approved by the Board
- ERCOT will protect and maintain investments in facilities and systems
- ERCOT will continue the market-based employee compensation strategy approved in 2006

Mr. Petterson then stated that several new financial issues confront ERCOT, including:

- Updated TNMIP budget
- A comprehensive analysis of staffing requirements
- Updated evaluation of support and maintenance costs relating to technology assets acquired for the TNMIP
- Data center capacity constraints
- Expiration of the Met Center lease

In light of the foregoing, the System Administration Fee is experiencing significant upward pressure.

Mr. Dreyfus reiterated the discussion from this morning regarding the possible costs associated with implementing Nodal-related projects due to market design elements that are omitted from the market design in an attempt to honor the December 1st "go-live" date.

He presented a slide showing that, with the approved increase to the TNMIP budget, the fees ERCOT collects will be approximately $0.60/MWh. With additional potential expenses for additional Nodal-related headcount, additional technology support and maintenance and costs associated with the Met Center disposition project would bring the costs to approximately $0.73/MWh.

In conclusion, Mr. Karnei stated that the Internal Audit group lost two employees in the last month. They also reviewed EthicsPoint reports and how the Internal Audit department performed on its 2007 goals. The committee also received an update on TNMIP accounting and how the Texas Regional Entity (TRE) does its accounting. He also stated that, once the year-end financial audit is completed, the committee will seek input from the Board regarding what to do with any surplus.

10.   H.R. & Governance Committee

Jan Newton, the committee Chair, stated that the committee met this morning and considered the

following:

- The schedule for the Market Participant survey
- The committee self-evaluation survey responses
- A headcount staffing level
- Board Policies and Procedures
- Development of Director orientation materials for new Directors.

11. Review Board Policies and Procedures

Mr. Grable reviewed the background of this item. At the HR&G committee meeting, a proposed change to sections 2.9.1 and 2.9.2 was discussed and circulated to Directors at this meeting. Mr. Ballard discussed the reasons for the proposed changes. **Ms. Newton moved to approve the board Policies and Procedures previously circulated, with the proposed changes to Sections 2.9.1 and 2.9.2. Mr. Espinosa seconded the motion. The motion passed by unanimous voice vote with no abstentions.**

12. Compliance/Internal Control Update

Steve Byone, ERCOT Chief Financial Officer (CFO) made a presentation regarding internal audits and efforts to comply with issues raised by the audits. He stated that ERCOT experiences an average of thirty-five audits per year. Currently, approximately 60% of audits are yielding satisfactory results.

Mr. Byone provided a recap of recent audits and provided information regarding the decrease in items being monitored as a result of those audits.

Mr. Byone then provided information regarding ERCOT's Enterprise Risk Management activities.

13. Other Business

No other business was raised.

14. Future Agenda Items

Chairman Armentrout invited anyone to raise any items they wish to be addressed at future meetings.

- Update this list with Budget-related dates
- Fee case should be in May

15. Executive Session

Chairman Armentrout adjourned the meeting to Executive Session at approximately 2:40 p.m.

16.   Voting on Executive Session Items

Chairman Armentrout re-opened the open portion of the meeting when the Executive Session ended at approximately 3:35 p.m.
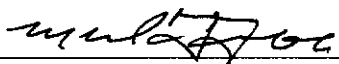
(1) MarkeTrak Project – **Mr. Gent moved to approve the Resolution attached to the Executive Session minutes as Attachment A; Mr. Espinosa seconded the motion. The motion passed by unanimous voice vote with no abstentions.**

(2) Met Center Project – **Mr. Kahn moved to approve Option 7a as proposed and set forth in the Resolution attached to the Executive Session minutes as Attachment B; Mr. Gent seconded the motion.** Mr. Ballard stated that the Board must balance security standards against the organization's future needs. **Chairman Armentrout requested to amend the Resolution to provide that the funds associated with the lease should be used only as needed. Messrs. Kahn and Gent accepted the amendment. The motion passed by voice vote with two Directors opposed (Messrs. Fehrenbach and Dalton).**

Adjournment

Chairman Armentrout adjourned the meeting at approximately 3:45 p.m.

Board materials and presentations from the meeting are available on ERCOT's website at
http://www.ercot.com/committees/board/index.html.

Michael G. Grable
General Counsel & Corporate Secretary